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**GENERAL
CORRESPONDENCE**

YEAR(S):

1991



OIL CONSERVATION DIVISION
RECEIVED

'91 JUN 13 AM 9 23

June 11, 1991

**ENSR Consulting
and Engineering**

12201 Merit Drive, Suite 900
Dallas, Texas 75251

(214) 960-6855

(214) 960-7140 (FAX)

Mr. Roger Anderson
New Mexico Oil Conservation Division
State Land Office Building
P. O. Box 2088
Santa Fe, New Mexico 87054-2088

RE: Nonhazardous Waste Disposal Approval Request for HOMCO International, Inc., Odessa,
Texas - Facility No. 133

Dear Mr. Anderson:

Attached you will find the Waste Code Classification Request submitted by HOMCO to the Texas Water Commission (TWC) and the TWC response/classification for the following waste streams at the HOMCO facility in Odessa, Texas.

- 1) oily wastewater discharge (sludge and liquid phases) associated with interconnected sumps, underground holding tanks, and industrial/sanitary leachfield
- 2) on-site soils mixed with total petroleum hydrocarbons (TPH) taken from miscellaneous stained areas
- 3) on-site leachfield soils mixed with oily (TPH) wastewater discharge

The attached letter to the TWC provides the following information regarding the subject facility and waste streams:

- facility background
- a description of the industrial process that generated each waste stream
- waste description
- a description of the sampling and analyses performed on the waste
- Attachment 1 - Completed TWC-0757 form
- Attachment 2 - Summary of Analytical Data
- Attachment 3 - TWC Waste Code Classification - Response to TWC-0757 Form dated April 25, 1991
- Attachment 4 - Analytical Data Packages

A review of the industrial process at HOMCO's Odessa, Texas facility and the attached analytical data indicate that the three waste streams generated at this facility are nonhazardous. ENSR/HOMCO requests that the NM-OCD review the attached documentation and provide verbal/written authorizations and approvals as necessary to facilitate transportation and disposal of the three referenced waste streams at Controlled Recovery, Inc. (CRI) of Halfway, New Mexico.



Mr. Roger Anderson
June 11, 1991
Page 2

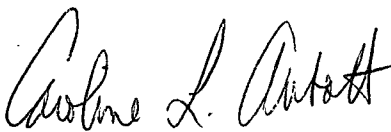
ENSR is copying this correspondence to Ken Marsh of CRI.

Your timely response to this request is appreciated. Should you have questions regarding this request, please contact Caroline Abbott at (214) 960-6855 or Scott Laidlaw at (713) 520-9900. Darlene Venable will be out of town for 7 weeks beginning on May 30, 1991. Please forward all official correspondence for appropriate routing during her absence to:

Caroline L. Abbott
ENSR Consulting and Engineering
12201 Merit Drive, Suite 900
Dallas, Texas 75251
FAX: (214) 960-7140

Sincerely,


Caroline L. Abbott
Project Specialist


for Scott Laidlaw
Director, Project Management and
Administration

CLA/SL/smb

Attachments

WASTE CODE CLASSIFICATION REQUEST LETTER TO TWC



Formerly ERT

April 25, 1991

Dr. Hygie Reynolds
Head of Notification Unit
Hazardous and Solid Waste Division
Texas Water Commission
1700 North Congress Avenue
Austin, TX 78701

ENSR Consulting
and Engineering
3000 Richmond Avenue
Houston, Texas 77098
(713) 520-9900
(713) 520-6802 (FAX)

Attn: Ms. Joy McGee

Subject: Waste Code Classification Request (One-Time Use) for HOMCO International, Inc.
Odessa, Texas Facility

Dear Ms. McGee:

ENSR Consulting and Engineering, as HOMCO International, Inc.'s (HOMCO) consultant, is presenting this letter and two attachments to request a Waste Code Classification (one-time use) for wastes that have been generated at a HOMCO facility in Odessa, Texas. There are three waste streams at the facility that have been identified and sampled for disposal. These are:

- 1) oily wastewater discharge (sludges and liquid phases) associated with interconnected sumps and underground holding tanks
- 2) on-site soils mixed with total petroleum hydrocarbons (TPH) - miscellaneous stains
- 3) on-site leachfield soils mixed with TPH

This letter provides the following information:

- a brief description of the industrial process that generated the waste,
- a waste description,
- a description of the sampling and analysis performed on the waste,
- Attachment 1 - Completed TWC-0757 form, and
- Attachment 2 - Summary of the analytical data.

Facility Background and Industrial Process

HOMCO has operated an oilfield equipment rental and servicing facility at 2122 Maurice Road, Odessa, Texas from 1988 to 1991. The facility was constructed around 1978 and was formerly occupied by a similar type of oilfield service company.



Ms. Joy McGee
April 25, 1991
Page 2

Current site operations include the servicing and cleaning of oilfield equipment subsequent to each rental usage. Cleaning procedures use water and soap to remove residual soils, crude oil and drilling fluids from the rental equipment resulting in an oily industrial wastewater discharge.

The HOMCO Odessa, TX facility industrial wastewaters originally flowed into a series of floor drains and three interconnected concrete-lined settling sumps. Phased separation occurred and the resulting liquid phase discharged via underground piping to two underground holding tanks and into an industrial/sanitary leachfield.

In response to the Texas Water Commission's Underground Injection Control Program, HOMCO has registered the industrial/sanitary leachfield as a possible 5x28 disposal well (ENSR correspondence TWC dated March 18, 1991). HOMCO has plugged the industrial discharge piping to the leachfield and is temporarily discharging the facility's industrial wastewaters into an aboveground 500 barrel (bbl) frac tank at a rate of approximately 50 bbls a day.

HOMCO has purchased a closed-loop aboveground industrial wastewater treatment system and plans to begin installation and construction activities during the week of April 15, 1991.

In light of the current industrial wastewater discharge rate, the economics involved in storing large quantities of wastewaters and the extreme criticality of wastewater discharge associated with the facility's operations, ENSR requests that HOMCO be issued multiple "one-time" waste classification codes for this oily wastewater waste stream. ENSR discussed this situation by telephone with Mr. Jesse Boltinghouse of the TWC on March 28, 1991 and was informed by Mr. Boltinghouse that multiple "one-time" waste codes could, under these "special" circumstances, be issued to an operational facility in the process of complying with TWC requirements.

ENSR also requests that a waste code classification "one-time use" be issued to facilitate appropriate disposal of the miscellaneous oily stained soils and leachfield soils.

As part of remediation activities for the facility, HOMCO plans to remove the temporarily stored oily wastewater from the frac tank(s) for appropriate disposal. Also, any affected soils associated with the sumps, underground tank/leachfield, underground piping, and miscellaneous oily stained areas at the facility will be excavated and disposed at a permitted disposal facility according to Texas Water Commission (TWC) regulations.



Ms. Joy McGee
April 25, 1991
Page 3

Identified Waste Streams (Sampling and Analysis)

Three waste streams or sources have been identified and sampled at HOMCO's Odessa, Texas facility. These are:

- 1) oily wastewater discharge - interconnected sumps and underground holding tanks (sludges and liquid phases)
- 2) on-site soils mixed with total petroleum hydrocarbons (TPH) - miscellaneous stains
- 3) on-site leachfield soils mixed with TPH

Discrete samples were separately obtained from the sludge and liquid phases of each chamber of one sump and were analyzed for the following:

Analyses	EPA SW-846 Method
Total Petroleum Hydrocarbons	SM503D, 418.1, 9071
EP Tox Metals	ICP; AA; 7760, 7061; 6010; 7470; 7741

Composite samples were separately obtained from the sludge and liquid phase of the two underground holding tanks. Also, composite samples were separately obtained from the most visibly miscellaneous stained areas of the subject site and from the leachfield soils.



Ms. Joy McGee
April 25, 1991
Page 4

The analysis performed on each of the four samples consisted of:

Analysis	EPA SW-846 Method
Total Petroleum Hydrocarbons	SM 503D, 418:1, 9071
TCLP Metals	AA;CF;ICP;7470; 6010; 7740; 7060; 7760 Cold Vapor
TCLP Semi-volatiles	3520, 8270, LLE, GC/MS
TCLP Volatiles	8240 GC/MS
pH	9045
Corrosivity	1110
Ignitability	1010
Reactivity	9030, 9010

All analyses were performed by AnalytiKEM Laboratories in Houston, Texas. These tests were performed in accordance with TWC accepted Standard Methods. Attachment 2 provides a summary of the results in Tables 1 and 2.

A review of the industrial process at HOMCO's Odessa, Texas facility and the attached analytical data indicate that the three waste streams generated at this facility are non-hazardous. We request that the three waste streams be classified as Class I - Nonhazardous, in accordance with the TWC Technical Guide No. 1 - Waste Evaluation/Classification. TWC Form 0757 (Rev. 03-20-90) is submitted because the waste to be transported off-site for disposal will occur during one phase of activity and will not be a continuing process. Please be advised that the oily wastewater waste stream may need multiple "one-time" waste codes issued until the construction of the industrial wastewater treatment system is complete.



Ms. Joy McGee
April 25, 1991
Page 5

HOMCO/ENSR is in the process of registering the Odessa, Texas facility with the TWC as an industrial solid waste generator.

If you have any questions with regard to these waste classification requests, please contact either me or Scott Laidlaw at (713) 520-9900.

Sincerely,

A handwritten signature in cursive script that reads 'H. Darlene Venable'.

H. Darlene Venable
Staff Geologist

JB:mm:3519-006-138

Attachments

cc: Jesse Boltinghouse - TWC
Grace Montgomery - TWC
Bob Medler - HOMCO
Scott Laidlaw - ENSR

ATTACHMENT 1

REQUEST FOR TEXAS WASTE CODE AND AUTHORIZATION FOR SHIPMENT OF
CLASS I WASTE (FORM 0757)

TEXAS WATER COMMISSION

REQUEST FOR TEXAS WASTE CODE AND AUTHORIZATION FOR SHIPMENT OF CLASS I AND/OR EPA HAZARDOUS WASTE

2:15-2:26
5-16-91

*Telecon from
Jay McBee -
requesting clarification
as shown and
provided the TWC # below*
HW

Due to the generator notification requirements of 31 TAC Section 335.6, the generator of a solid waste is required to provide the TWC detailed written information pertaining to the composition and characteristics of the waste.

Please type or print legibly:

Mr. Robert Medler
Director, Environmental and Safety
HOMCO International, Inc.
4710 Bellaire Blvd., Suite 200
Bellaire, TX 77401

GENERATOR CONTACT PERSON
GENERATOR COMPANY NAME
GENERATOR MAILING ADDRESS
CITY, STATE, ZIP CODE
PHONE NO. (713) 663 - 5533

Registration No. XXX10 U. S. EPA Identification No. _____
(Leave blank if not registered)

Shipping Site Location HOMCO - 2122 Maurice Road, Odessa, Texas 79763

Shipped Treatment, Storage, and/or Disposal Facility Name and Address Controlled Recovery, Inc.
Carlsbad Highway, Halfway, New Mexico (P.O. Box 369, Hobbs, New Mexico 88241)

Type of Waste
(do not use DOT description)

Is the Waste a Hazardous
Waste/40 CFR 262.11
(Yes/No) EPA Code

For TWC Assign-
ment of Texas
Waste Code Number

1. Oily wastewaters - liquids and sludges
2. Onsite soils mixed with oily wastes -- miscellaneous
stained areas and industrial/sanitary leachfield soils.
3. _____
- _____
- _____

NO		(TWC USE ONLY)
NO		109760
No		179360
No		179360

I certify that the above information is correct to the best of my knowledge.

Darlene Venable

(NAME, Please Print)

I am employed by ENSR Consulting and Engineering

(COMPANY NAME)

3000 Richmond Avenue, Houston, TX 77098

(MAILING ADDRESS)

I am authorized to sign this certification for _____

HOMCO International, Inc.

(COMPANY NAME)

TWC Waste Code(s) authorized for:

☐ One-time Only ☐ For Continued Use

Processed Date: _____

Approved: _____

TWC District _____ Office

Mail to: Texas Water Commission
Compliance Assistance Unit
P.O. Box 13087
Austin, Texas 78711-3087
Phone: (512) 463-7781
FAX: (512) 475-2215

713 , 520-9900

(PHONE NUMBER)

(SIGNATURE)

(DATE)

ATTACHMENT 2
SUMMARY OF ANALYTICAL DATA

TABLE 1

**Summary of Analytical Data for Wastewater Wastestream Classification
HOMCO Location No. 133 - Odessa, Texas Facility**

Sample I.D.	Regulatory Threshold Limit	Underground Holding Tanks Sludge (Composite)		Underground Holding Tanks Liquids (Composite)	
Analytical Parameter					
TCLP Metals (mg/l)		<u>Level Detected</u>	<u>Detection Limit</u>	<u>Level Detected</u>	<u>Detection Limit</u>
Arsenic	5.0	ND	0.005	0.006	0.005
Barium	100.0	0.7	0.02	0.2	0.02
Cadmium	1.0	ND	0.010	ND	0.010
Chromium	5.0	ND	0.02	ND	0.02
Lead	5.0	ND	0.001	ND	0.001
Mercury	0.2	ND	0.025	ND	0.025
Selenium	1.0	ND	0.005	ND	0.005
Silver	5.0	ND	0.01	ND	0.01
TCLP Volatiles (µg/l)					
Pyridine	5,000	ND	130	ND	50
Vinyl Chloride	200	ND	25	7	≈7
1,1-Dichloroethene	700	ND	13	ND	5
Chloroform	6,000	ND	13	ND	5
1,2-Dichloroethane	500	ND	13	ND	5
Methyl Ethyl Ketone	200,000	ND	25	ND	10
Carbon Tetrachloride	500	ND	13	ND	5
Trichloroethene	500	ND	13	9	5
Benzene	500	ND	13	ND	5
Tetrachloroethene	700	ND	13	ND	5
Chlorobenzene	100,000	ND	13	ND	5
ND - Not Detected for minimum attainable detection limit (shown). ** - Unable to analyze due to matrix. *** - Regulatory Limit for Class I Nonhazardous Waste in TWC Closure Guidance Document No. 4. ≈ - Reported value is less than detection limit.					

TABLE 1

Summary of Analytical Data for Wastewater Wastestream Classification
HOMCO Location No. 133 - Odessa, Texas Facility

Sample I.D.	Regulatory Threshold Limit	Underground Holding Tanks Sludge (Composite)		Underground Holding Tanks Liquids (Composite)	
		Level Detected	Detection Limit	Level Detected	Detection Limit
TCLP Semi-volatiles (µg/l)					
1,4-Dichlorobenzene	7,500	ND	40	ND	67
2-Methylphenol	200,000	ND	40	100	67
4-Methylphenol	200,000	ND	40	100	67
3-Methylphenol	200,000	ND	40	ND	67
Hexachloroethane	3,000	ND	40	ND	67
Nitrobenzene	2,000	ND	40	ND	67
Hexachlorobutadiene	500	ND	40	ND	67
2,4,6-Trichlorophenol	2,000	ND	40	ND	67
2,4,5-Trichlorophenol	400,000	ND	200	ND	330
2,4-Dinitrotoluene	130	ND	40	ND	67
Hexachlorobenzene	130	ND	40	ND	67
Pentachlorophenol	100,000	ND	200	ND	330
RCRA Characteristics					
pH	2 < pH < 12.5	7.4 units	0.1 units	7.3 units	0.1 units
Corrosivity	> 6.35 MMPY	< 6.35 MMPY	6.35 MMPY	< 6.35 MMPY	6.35 MMPY
Ignitability	< 140°F	> 180°F	—	> 150°F	—
Reactivity - HCN - H ₂ S	250 mg/kg 500 mg/kg	< 89 mg/kg < 89 mg/kg	89 mg/kg 89 mg/kg	< 50 mg/kg < 50 mg/kg	50 mg/kg 50 mg/kg
Total Petroleum Hydrocarbons	50,000*** mg/kg	12%	0.91%	41 mg/kg	4 mg/kg
ND - Not Detected for minimum attainable detection limit (shown). ** - Unable to analyze due to matrix. *** - Regulatory Limit for Class I Nonhazardous Waste in TWC Closure Guidance Document No. 4. = - Reported value is less than detection limit.					

TABLE 1

Summary of Analytical Data for Wastewater Waste Stream Classification

HOMCO Location No. 133 - Odessa, Texas Facility

Sample I.D.	Regulatory Threshold Limit	HSMP-1-L1 Sump Liquid Chamber 1 (Composite)		HSMP-1-L2 Sump Liquid Chamber 2 (Composite)	
Analytical Parameter					
EP Tox Metals (mg/l)		<u>Level Detected</u>	<u>Detection Limit</u>	<u>Level Detected</u>	<u>Detection Limit</u>
Arsenic	5.0	0.003	0.002	0.03	0.007
Barium	100.0	0.08	0.02	0.07	0.02
Cadmium	1.0	ND	0.010	0.013	0.010
Chromium	5.0	ND	0.02	0.1	0.02
Lead	5.0	ND	0.02	0.8	0.02
Mercury	0.2	ND	0.001	ND	0.001
Selenium	1.0	0.008	0.002	0.008	0.002
Silver	5.0	ND	0.01	ND	0.01
Total Petroleum Hydrocarbons	50,000*** mg/kg	1,200 mg/l	80 mg/l	750 mg/l	40 mg/l
ND - Not Detected for minimum attainable detection limit (shown). *** - Unable to analyze due to matrix. *** - Regulatory Limit for Class I Nonhazardous Waste in TWC Closure Guidance Document No. 4. ≈ - Reported value is less than detection limit.					



TABLE 1
(Continued)
Summary of Analytical Data for Wastewater Waste Stream Classification
HOMCO Location No. 133 - Odessa, Texas Facility

Sample I.D.	Regulatory Threshold Limit	HSMP-1-S1 Sump Sludge Chamber 1 (Composite)		HSMP-1-S2 Sump Sludge Chamber 2 (Composite)	
Analytical Parameter					
EP Tox Metals (mg/l)		Level Detected	Detection Limit	Level Detected	Detection Limit
Arsenic	5.0	0.01	0.008	0.01	0.008
Barium	100.0	0.2	0.02	0.2	0.02
Cadmium	1.0	ND	0.010	0.010	0.010
Chromium	5.0	0.09	0.02	0.04	0.02
Lead	5.0	0.1	0.02	ND	0.02
Mercury	0.2	ND	0.001	ND	0.001
Selenium	1.0	ND	0.01	ND	0.01
Silver	5.0	ND	0.01	ND	0.01
*Total Petroleum Hydrocarbons	50,000 *** mg/kg	31%	2.8%	12%	0.60%
ND - Not Detected for minimum attainable detection limit (shown). ** - Unable to analyze due to matrix. *** - Regulatory Limit for Class I Nonhazardous Waste in TWC Closure Guidance Document No. 4. ≈ - Reported value is less than detection limit.					

TABLE 2
Summary of Analytical Data for Miscellaneous Stained Soils and Leachfield
Soils Waste Code Classification
HOMCO Location No. 133 - Odessa, Texas Facility

Sample I.D.	Regulatory Threshold Limit	LF-WDA-C1 (Composite of leachfield soils)		HSA-C1-WDA (Composite of stained soils)	
Analytical Parameter					
TCLP Metals (mg/l)		<u>Level Detected</u>	<u>Detection Limit</u>	<u>Level Detected</u>	<u>Detection Limit</u>
Arsenic	5.0	0.02	0.005	0.02	0.002
Barium	100.0	0.6	0.02	0.8	0.02
Cadmium	1.0	ND	0.010	ND	0.010
Chromium	5.0	ND	0.02	ND	0.02
Lead	5.0	ND	0.025	0.1	0.025
Mercury	0.2	ND	0.001	ND	0.001
Selenium	1.0	ND	0.005	ND	0.005
Silver	5.0	ND	0.01	ND	0.01
TCLP Volatiles (µg/l)					
Pyridine	5,000	ND	25	ND	50
Vinyl Chloride	200	ND	10	ND	10
1,1-Dichloroethene	700	ND	5	ND	5
Chloroform	6,000	ND	5	ND	5
1,2-Dichloroethane	500	ND	5	ND	5
Methyl Ethyl Ketone	200,000	ND	10	ND	10
Carbon Tetrachloride	500	ND	5	ND	5
Trichloroethene	500	ND	5	ND	5
Benzene	500	ND	5	ND	5
Tetrachloroethene	700	ND	5	7	5
Chlorobenzene	100,000	ND	5	ND	5
ND - Not Detected for minimum attainable detection limit (shown). ** - Unable to analyze due to matrix. *** - Regulatory Limit for Class I Nonhazardous Waste in TWC Closure Guidance Document No.4. ≈ - Reported value is less than detection limit.					



TABLE 2
Summary of Analytical Data for Miscellaneous Stained Soils and Leachfield
Soils Waste Code Classification
HOMCO Location No. 133 - Odessa, Texas Facility

Sample I.D.	Regulatory Threshold Limit	LF-WDA-C1 (Composite of leachfield soils)		HSA-C1-WDA (Composite of stained soils)	
		Level Detected	Detection Limit	Level Detected	Detection Limit
TCLP Semi-volatiles (µg/l)					
1,4-Dichlorobenzene	7,500	ND	10	ND	10
2-Methylphenol	200,000	ND	10	ND	10
4-Methylphenol	200,000	ND	10	ND	10
3-Methylphenol	200,000	ND	10	ND	10
Hexachloroethane	3,000	ND	10	ND	10
Nitrobenzene	2,000	ND	10	ND	10
Hexachlorobutadiene	500	ND	10	ND	10
2,4,6-Trichlorophenol	2,000	ND	10	ND	10
2,4,5-Trichlorophenol	400,000	ND	51	ND	52
2,4-Dinitrotoluene	130	ND	10	ND	10
Hexachlorobenzene	130	ND	10	ND	10
Pentachlorophenol	100,000	ND	51	ND	52
RCRA Characteristics					
pH	2 < pH < 12.5	8.35 units	0.01 units	7.6 units	0.01 units
Corrosivity	> 6.35 MMPY	(**)		(**)	
Ignitability	< 140°F	> 180°F	---	> 180°F	---
Reactivity - HCN - H ₂ S	250 mg/kg 500 mg/kg	< 60 mg/kg < 60 mg/kg	< 60 mg/kg < 60 mg/kg	< 54 mg/kg < 54 mg/kg	54 mg/kg 54 mg/kg
Total Petroleum Hydrocarbons	50,000*** mg/kg	500 mg/kg	40 mg/kg	6400 mg/kg	370 mg/kg
ND - Not Detected for minimum attainable detection limit (shown). ** - Unable to analyze due to matrix. *** - Regulatory Limit for Class I Nonhazardous Waste in TWC Closure Guidance Document No. 4. ~ - Reported value is less than detection limit.					

ATTACHMENT 3

TWC WASTE CODE CLASSIFICATION RESPONSE TO
TWC-0757 FORM DATED APRIL 25, 1991

TEXAS WATER COMMISSION
REQUEST FOR TEXAS WASTE CODE
AND AUTHORIZATION FOR SHIPMENT OF
CLASS I AND/OR EPA HAZARDOUS WASTE

Due to the generator notification requirements of 31 TAC Section 335.6, the generator of a solid waste is required to submit to the TWC detailed written information pertaining to the composition and characteristics of the waste.

Please type or print legibly:

Mr. Robert Medler
 Director, Environmental and Safety
 HOMCO International, Inc.
 4710 Bellaire Blvd., Suite 200
 Bellaire, TX 77401

GENERATOR CONTACT PERSON
GENERATOR COMPANY NAME
GENERATOR MAILING ADDRESS
CITY, STATE, ZIP CODE
PHONE NO. (713) 663 - 5533

Registration No. XXX10 U. S. EPA Identification No. _____

(Leave blank if not registered)

Ground Site Location HOMCO - 2122 Maurice Road, Odessa, Texas 79763

Designated Treatment, Storage, and/or Disposal Facility Name and Address Controlled Recovery, Inc.
Carlsbad Highway, Halfway, New Mexico (P.O. Box 369, Hobbs, New Mexico 88241)

Type of Waste
 (do not use DOT description)

Is the Waste a Hazardous
 Waste/40 CFR 262.11
 (Yes/No) EPA Code

For TWC Assign-
 ment of Texas
 Waste Code Number

1. Oily wastewaters - liquids and sludges
2. Onsite soils mixed with oily wastes -- miscellaneous stained areas
3. INDUSTRIAL/SANITARY Leach Field Soils

NO	
No	
NO	

(TWC USE ONLY)	
109760	
179360	
179360	

I certify that the above information is correct to the best of my knowledge.

Darlene Venable

(NAME, Please Print)

I am employed by ENSR Consulting and Engineering

(COMPANY NAME)

3000 Richmond Avenue, Houston, TX 77098

(MAILING ADDRESS)

and am authorized to sign this certification for _____

HOMCO International, Inc.

(COMPANY NAME)

TWC Waste Code(s) authorized for:

☒ One-time Only ☐ For Continued Use

Processed Date: 5-16-91

Approved: [Signature]

TWC District 10 Office

Mail to: Texas Water Commission
 Compliance Assistance Unit
 P.O. Box 13087
 Austin, Texas 78711-3087
 Phone: (512) 463-7781
 FAX: (512) 478-2215

(SIGNATURE)

(DATE)

(713) 520-9900

(PHONE NUMBER)

ATTACHMENT 4
ANALYTICAL DATA PACKAGES



Formerly ERT

DATE: 10/19/90

TO: Jim Baker

FROM: Bo Blankfield, Laboratory Director

PROJ. NO.: 3519-003-133 LAB NO.: A4774

ENSR Consulting
and Engineering

3000 Richmond Avenue
Houston, Texas 77098
(713) 520-9900

Attached are reports of chemical analyses of samples received
August 30, 1990. These analyses are:

Count	Test Code	Test Name	Test Method	Sampled	Matrix
2	Ag - -TCL-HOU	TCLP SILVER	EPA SW-846: 7760, ATOMIC ABSORPTION		TCLP EXT
2	As - -TCL-HOU	TCLP ARSENIC	EPA SW-846: 7060, GRAPHITE FURNACE		TCLP EXT
2	BNA - - -HOU	SEMIVOLATILE ORGANICS	EPA SW-846: 3520,8270, LLE,GC/MS		TCLP EXT
2	Ba - -TCL-HOU	TCLP BARIUM	EPA SW-846: 6010, ICP		TCLP EXT
1	CORR - - -HOU	CORROSIVITY	SW-846: 1110, NACE STEEL COUPON	08/28/90	LIQUID
1	CORR -S- -HOU	CORROSIVITY ON SOLID	EPA SW-846: 1110, NACE STEEL COUPON	08/28/90	SLUDGE
2	Cd - -TCL-HOU	TCLP CADMIUM	EPA SW-846: 6010, ICP		TCLP EXT
2	Cr - -TCL-HOU	TCLP CHROMIUM	EPA SW-846: 6010, ICP		TCLP EXT
1	FP - - -HOU	IGNITABILITY (FLASH POINT)	EPA SW-846: 1010 PENSKEY-MARTIN	08/28/90	LIQUID
1	FP -S- -AKM	IGNITABILITY ON SOLID	EPA SW-846: 1010, PENSKEY MARTIN	08/28/90	SLUDGE
1	H2S - -REA-AKM	HYDROGEN SULFIDE, REACTIVE	EPA SW-846: 7.3.4.2, 9030	08/28/90	LIQUID
1	H2S -S-REA-AKM	HYDROGEN SULFIDE, REACTIVE/SLD	EPA SW-846: 7.3.4.2, 9030	08/28/90	SLUDGE
1	HCN - -REA-AKM	HYDROCYANIC ACID, REACTIVE	EPA SW-846: 7.3.3.2, 9010	08/28/90	LIQUID
1	HCN -S-REA-AKM	HYDROCYANIC ACID, REACTIVE/SLD	EPA SW-846: 7.3.3.2, 9010	08/28/90	SLUDGE
2	Hg - -TCL-HOU	TCLP MERCURY	EPA SW-846: 7470, COLD VAPOR		TCLP EXT
2	Pb - -TCL-HOU	TCLP LEAD	EPA SW-846: 6010, ICP		TCLP EXT
2	Se - -TCL-HOU	TCLP SELENIUM	EPA SW-846: 7740, GRAPHITE FURNACE		TCLP EXT
1	TPH - - -HOU	TOTAL PETROLEUM HYDROCARBONS	EPA 600: 418.1	08/28/90	LIQUID
1	TPH -S- -HOU	TOTAL PET. HYDROCARBONS/SOLID	EPA 600:418.1, SW-846:9071	08/28/90	SLUDGE
3	VOA - - -HOU	VOLATILE ORGANIC ANALYSES	EPA SW-846: 8240, GC/MS	08/28/90	LIQUID
					TCLP EXT
1	pH - -COR-HOU	pH CORROSION	EPA SW-846: 9040, ELECTRODE	08/28/90	LIQUID
1	pH -S-COR-HOU	pH CORROSION ON SOLID	EPA SW-846: 9045	08/28/90	SLUDGE

Data contained in this report reflect a full quality control review and have met all applicable standards established by ENSR. ENSR quality assurance protocols are in accordance with EPA guidelines.

Should you have any questions, do not hesitate to contact me at (713) 520-9900.

ENSR

CONSULTING AND ENGINEERING
2925 RICHMOND AVENUE HOUSTON, TX 77098 (713) 520-1495

LABORATORIES © Analysis Request and Chain of Custody Record

Page

1 of 4

Project no. 3519003 133		Client/Project Name HOMCO			Project Location Odessa, Texas	
Lab ID No	Field Sample No./ Identification	Date and Time	Grab	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative
1	UHT-112-SI-WDA	8-28-90 12:00	X	8oz AWM	SLUDGE	4°C
1	UHT-112-SI-WDA		X	32oz AWM		
1	UHT-112-SI-WDA		X	32oz AWM		
1	UHT-112-SI-WDA		X	32oz AWM		
1	UHT-112-SI-WDA		X	16oz SSWM		
1	UHT-112-SI-WDA		X	4oz Tall x 2		
1	UHT-112-SI-WDA		X	4oz Plastic		
1	UHT-112-SI-WDA		X	16oz SSWM		
1	UHT-112-SI-WDA		X	16oz SSWM		
1	UHT-112-SI-WDA		X	32oz AWM		
1	UHT-112-SI-WDA		X	32oz AWM		
1	UHT-112-SI-WDA		X	32oz AWM		
Remarks:		Reactivity - HCN, H₂S TECP Semivolatiles (BNA) TECP Metals TPH ZHE Volatiles Ignitability TECP Preliminary Corrosion pH, Corrosivity HOLD - in case of breakage HOLD - in case of breakage				
Signatures:		Relinquished by: [Signature] Date: 8-28-90 Time: 4:25 Relinquished by: [Signature] Date: [] Time: [] Relinquished by: [Signature] Date: [] Time: []				
REMARKS:		Received by: [Signature] Date: 8-30-90 Time: 10:10 Received by: [Signature] Date: [] Time: [] Received by: [Signature] Date: [] Time: []				
Laboratory No.		COC Seal No. 37815 37814				

Analysis Request and Chain of Custody Record

Project no.			Client/Project Name			Project Location			
3519 003 133			HOMEC			Odessa Texas			
Lab ID No	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preser- valve	ANALYSIS REQUESTED	LABORATORY REMARKS
2	UHT-i2-11-WDA	8-28-90 12:00		X	52oz ALUM	Liquid	4°C	TECP Prelim	
2	UHT-i2-11-WDA			X	32oz ALUM			TECP Semivolatiles (B/M)	sample lost upon receipt 8/23/91
2	UHT-i2-11-WDA			X	32oz Plastic			concreteness, Condenser pH	
2	UHT-i2-11-WDA			X	32oz Plastic			TECP Metals	
2	UHT-i2-11-WDA			X	8oz ALUM			Reactivity - HCN, H ₂ S	
2	UHT-i2-11-WDA			X	4oz ALUM		4°C	ZHE Volatiles (TECP)	
2	UHT-i2-11-WDA			X	8oz Amber		HC1	TPH	
2	UHT-i2-11-WDA			X	4oz Plastic			Ignitability	
Samplers: (Signature)			Relinquished by: (Signature)			Date: 8-28-90 Time: 4:25			COC Seal No. 37815
John Simpson			Alvin Jerald						37814
Affiliation			Relinquished by: (Signature)			Date: Time:			
ENTSR			Relinquished by: (Signature)			Date: 8-30 Time: 10:40			
REMARKS:			Data Results To:			Laboratory No.			
A ² HSMPS - CIL-WDA			ZHE volatiles			1			

Analysis Request and Chain of Custody Record

Analysis Request and Chain of Custody Record

Project no.			Client/Project Name			Project Location		
3519-003-133			HOMED			Adena, Texas		
Lab ID No	Field Sample No./ Identification	Date Rec'd Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative	LABORATORY REMARKS
4	HSMPS-1-L	8-28-90 16:30		X	32oz AWM	Liquid	70C	Hold all samples per Dallas Urnicle. 8/31/90
4	HSMPS-1-L-1			X	32oz AWM			
4	HSMPS-1-L-2			X	8oz AWM		70C	
4	HSMPS-1-L-3			X	8oz AWM		70C	
4	HSMPS-1-L-4			X	40ml box		70C	
4	HSMPS-1-L-5			X	40ml box		70C	
4	HSMPS-1-L-6			X	40ml box		70C	
4	HSMPS-1-L-7			X	40ml box		70C	
4	HSMPS-1-L-8			X	40ml box		70C	
4	HSMPS-1-L-9			X	40ml box		70C	
4	HSMPS-1-L-10			X	40ml box		70C	
4	HSMPS-1-L-11			X	40ml box		70C	
4	HSMPS-1-L-12			X	40ml box		70C	
4	HSMPS-1-L-13			X	40ml box		70C	
4	HSMPS-1-L-14			X	40ml box		70C	
4	HSMPS-1-L-15			X	40ml box		70C	
4	HSMPS-1-L-16			X	40ml box		70C	
4	HSMPS-1-L-17			X	40ml box		70C	
4	HSMPS-1-L-18			X	40ml box		70C	
4	HSMPS-1-L-19			X	40ml box		70C	
4	HSMPS-1-L-20			X	40ml box		70C	
4	HSMPS-1-L-21			X	40ml box		70C	
4	HSMPS-1-L-22			X	40ml box		70C	
4	HSMPS-1-L-23			X	40ml box		70C	
4	HSMPS-1-L-24			X	40ml box		70C	
4	HSMPS-1-L-25			X	40ml box		70C	
4	HSMPS-1-L-26			X	40ml box		70C	
4	HSMPS-1-L-27			X	40ml box		70C	
4	HSMPS-1-L-28			X	40ml box		70C	
4	HSMPS-1-L-29			X	40ml box		70C	
4	HSMPS-1-L-30			X	40ml box		70C	
4	HSMPS-1-L-31			X	40ml box		70C	
4	HSMPS-1-L-32			X	40ml box		70C	
4	HSMPS-1-L-33			X	40ml box		70C	
4	HSMPS-1-L-34			X	40ml box		70C	
4	HSMPS-1-L-35			X	40ml box		70C	
4	HSMPS-1-L-36			X	40ml box		70C	
4	HSMPS-1-L-37			X	40ml box		70C	
4	HSMPS-1-L-38			X	40ml box		70C	
4	HSMPS-1-L-39			X	40ml box		70C	
4	HSMPS-1-L-40			X	40ml box		70C	
4	HSMPS-1-L-41			X	40ml box		70C	
4	HSMPS-1-L-42			X	40ml box		70C	
4	HSMPS-1-L-43			X	40ml box		70C	
4	HSMPS-1-L-44			X	40ml box		70C	
4	HSMPS-1-L-45			X	40ml box		70C	
4	HSMPS-1-L-46			X	40ml box		70C	
4	HSMPS-1-L-47			X	40ml box		70C	
4	HSMPS-1-L-48			X	40ml box		70C	
4	HSMPS-1-L-49			X	40ml box		70C	
4	HSMPS-1-L-50			X	40ml box		70C	
4	HSMPS-1-L-51			X	40ml box		70C	
4	HSMPS-1-L-52			X	40ml box		70C	
4	HSMPS-1-L-53			X	40ml box		70C	
4	HSMPS-1-L-54			X	40ml box		70C	
4	HSMPS-1-L-55			X	40ml box		70C	
4	HSMPS-1-L-56			X	40ml box		70C	
4	HSMPS-1-L-57			X	40ml box		70C	
4	HSMPS-1-L-58			X	40ml box		70C	
4	HSMPS-1-L-59			X	40ml box		70C	
4	HSMPS-1-L-60			X	40ml box		70C	
4	HSMPS-1-L-61			X	40ml box		70C	
4	HSMPS-1-L-62			X	40ml box		70C	
4	HSMPS-1-L-63			X	40ml box		70C	



ENSR LABORATORIES ©
SAMPLE RECEIPT CHECKLIST

Client Homco Project Number 3519-003-133 Laboratory Number A4774

- 1 ☒ Shipped Notes: Fedex - 7750662015
☐ Hand Delivered
- 2 ☒ COC Present on Receipt Notes: _____
☐ No COC
- 3 ☒ COC Tape on Shipping Container Notes: 37815, 37814, 37816, 52
☐ No COC Tape on Shipping Container Notes: _____
- 4 ☒ Samples Broken/Leaking Notes: Sample 14T-1#2-L1-WDA
☐ Sample Intact on Receipt was broken upon receipt
☐ Other (See Notes)
- 5 ☐ Ambient on Receipt Notes: _____
☒ Chilled on Receipt
- 6 ☒ Samples Preserved Correctly Notes: _____
☐ Improper Preservatives
☐ N/A (None Recommended)
☐ Other (See Notes)
- 7 ☒ Received Within Holding Time Notes: _____
☐ Not Received Within Holding Time
☐ N/A (None Recommended)
☐ Other (See Notes)
- 8 ☐ COC Tapes on Samples Notes: _____
☒ No COC Tapes on Samples
- 9 ☒ Discrepancies Between COC and Sample Labels Notes: See Additional Comments
☐ No Discrepancies Noted
☐ N/A (No COC Received)

Additional Comments: Sample 14SNP-C15-WDA stated TELP Pichm.
twice for this same sample. Determined one of the
samples was for TELP Metals due to sample label.
Received two spare samples, neither sample matched
field IDs to the sample received broken.

Inspected and Logged in by: Giselle H. H. H. Date/Time 8-30-90
1240

ENSR Labs-Houston

Analytical Summary

10/19/90 13:07

Lab Number: A4774 Project: 3519-003-133 Homco-Odessa, TX					
Lab ID Field ID Test /Matrix	1 UHT-1&2- S1-WDA SLUDGE	2 UHT-1&2- L1-WDA LIQUID	5 TRIP BLANK LIQUID	1T UHT-1&2- S1-WDA* TCLP EXT	2T UHT-1&2- L1-WDA* TCLP EXT
Ag - -TCL-HOU (MDL)	--	--	--	<0.01 MG/L (0.01)	<0.01 MG/L (0.01)
As - -TCL-HOU (MDL)	--	--	--	<0.005 MG/L (0.005)	0.006 MG/L (0.005)
BNA - - -HOU (MDL)	--	--	--	ATTACHED UG/L (*)	ATTACHED UG/L (*)
Ba - -TCL-HOU (MDL)	--	--	--	0.7 MG/L (0.02)	0.2 MG/L (0.02)
CORR - - -HOU (MDL)	--	<6.35 MMPY (6.35)	--	--	--
CORR -S- -HOU (MDL)	<6.35 MMPY (6.35)	--	--	--	--
Cd - -TCL-HOU (MDL)	--	--	--	<0.010 MG/L (0.010)	<0.010 MG/L (0.010)
Cr - -TCL-HOU (MDL)	--	--	--	<0.02 MG/L (0.02)	<0.02 MG/L (0.02)
FP - - -HOU (MDL)	--	>150 °F ()	--	--	--

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: Gamm + base Date: 10/19/90 Bond P. Bask Date: 11/4/90

***** CONTINUED *****

ENSR

ENSR Labs-Houston

Analytical Summary

10/19/90 13:08

Lab Number: A4774 Project: 3519-003-133 Homco-Odessa, TX					
Lab ID Field ID Test /Matrix	1 UHT-1&2- S1-WDA SLUDGE	2 UHT-1&2- L1-WDA LIQUID	5 TRIP BLANK LIQUID	1T UHT-1&2- S1-WDA* TCLP EXT	2T UHT-1&2- L1-WDA* TCLP EXT
FP -S- -AKM (MDL)	>180 °F ()	--	--	--	--
H2S - -REA-AKM (MDL)	--	<50 MG/KG* (50)*	--	--	--
H2S -S-REA-AKM (MDL)	<89 MG/KG* (89)*	--	--	--	--
HCN - -REA-AKM (MDL)	--	<50 MG/KG* (50)*	--	--	--
HCN -S-REA-AKM (MDL)	<89 MG/KG* (89)*	--	--	--	--
Hg - -TCL-HOU (MDL)	--	--	--	<0.001 MG/L (0.001)	<0.001 MG/L (0.001)
Pb - -TCL-HOU (MDL)	--	--	--	<0.025 MG/L (0.025)	<0.025 MG/L (0.025)
Se - -TCL-HOU (MDL)	--	--	--	<0.005 MG/L (0.005)	<0.005 MG/L (0.005)
TPH - - -HOU (MDL)	--	41 MG/L (4)	--	--	--

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: [Signature]Date: 10/19/90 [Signature]Date: 11/4/90

***** CONTINUED *****

ENSR

ENSR Labs-Houston

Analytical Summary
10/19/90 13:08

Lab Number: A4774 Project: 3519-003-133 Homco-Odessa, TX					
Lab ID Field ID Test /Matrix	1 UHT-1&2- S1-WDA SLUDGE	2 UHT-1&2- L1-WDA LIQUID	5 TRIP BLANK LIQUID	1T UHT-1&2- S1-WDA* TCLP EXT	2T UHT-1&2- L1-WDA* TCLP EXT
TPH -S- -HOU (MDL)	12 PERCENT (0.91)	--	--	--	--
VOA - - -HOU (MDL)	--	--	ATTACHED UG/L (*)	ATTACHED UG/L (*)	ATTACHED UG/L (*)
pH - -COR-HOU (MDL)	--	7.3 UNITS (0.1)*	--	--	--
pH -S-COR-HOU (MDL)	7.4 UNITS (0.1)	--	--	--	--

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: Guan M. Vase Date: 10/19/90 Donald B. Balle Date: 11/4/90

ENSR

ENSR Labs-Houston

Analytical Report

10/19/90 13:06

Homco-Odessa, TX		Field ID: UHT-1&2-S1-WDA	Date Sampled: 08/28/90	
Proj. No.: 3519-003-133		Lab ID: 1	Time Sampled: 1200	
Lab No.: A4774		Matrix: SLUDGE (COMPOSITE)	Date Received:08/30/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
CORR -S- -HOU CORROSIVITY ON SOLID EPA SW-846: 1110, NACE STEEL COUPON	<6.35	MMPY	6.35	09/10/90 1600
FP -S- -AKM IGNITABILITY ON SOLID EPA SW-846: 1010, PENSKEY MARTIN	>180	°F		09/13/90
H2S -S-REA-AKM HYDROGEN SULFIDE, REACTIVE/SLD EPA SW-846: 7.3.4.2, 9030	<89 *1	MG/KG*	89	09/06/90
HCN -S-REA-AKM HYDROCYANIC ACID, REACTIVE/SLD EPA SW-846: 7.3.3.2, 9010	<89 *2	MG/KG*	89	09/06/90
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	12	PERCENT	0.91	09/12/90 1000
pH -S-COR-HOU pH CORROSION ON SOLID EPA SW-846: 9045	7.4	UNITS	0.1	08/31/90 1345

*1 *TOTAL AVAILABLE H2S

*2 *TOTAL AVAILABLE HCN

ENSR

ENSR Labs-Houston

Analytical Report
10/19/90 13:06

Homco-Odessa, TX		Field ID: UHT-1&2-L1-WDA	Date Sampled: 08/28/90	
Proj. No.: 3519-003-133		Lab ID: 2	Time Sampled: 1200	
Lab No.: A4774		Matrix: LIQUID (COMPOSITE)	Date Received:08/30/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
CORR - - -HOU CORROSIVITY SW-846: 1110, NACE STEEL COUPON	<6.35	MMPY	6.35	09/10/90 1600
FP - - -HOU IGNITABILITY (FLASH POINT) EPA SW-846: 1010 PENSKEY-MARTIN	>150	° F		09/04/90 900
H2S - -REA-AKM HYDROGEN SULFIDE, REACTIVE EPA SW-846: 7.3.4.2, 9030	<50 *1	MG/KG*	50	09/06/90
HCN - -REA-AKM HYDROCYANIC ACID, REACTIVE EPA SW-846: 7.3.3.2, 9010	<50 *2	MG/KG*	50	09/06/90
TPH - - -HOU TOTAL PETROLEUM HYDROCARBONS EPA 600: 418.1	41	MG/L	4	09/12/90 1000
pH - -COR-HOU pH CORROSION EPA SW-846: 9040, ELECTRODE	7.3 *3	UNITS	0.1	08/31/90 1345

*1 *TOTAL AVAILABLE H2S

*2 *TOTAL AVAILABLE HCN

*3 HOLDING TIME EXPIRED BEFORE RECEIPT

ENSR Labs-Houston

Analytical Report
10/19/90 13:07

Homco-Odessa, TX		Field ID: TRIP BLANK	Date Sampled: 08/28/90	
Proj. No.: 3519-003-133		Lab ID: 5	Time Sampled: 1630	
Lab No.: A4774		Matrix: LIQUID (COMPOSITE)	Date Received:08/30/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS	ATTACHED *1	UG/L		09/04/90

*1 SEE ENSR ID #A4774-5

ENSR Labs-Houston

Analytical Report

10/19/90 13:07

Homco-Odessa, TX Proj. No.: 3519-003-133 Lab No.: A4774		Field ID: UHT-1&2-S1-WDA* Lab ID: 1T Matrix: TCLP EXT		Date Sampled: / / Time Sampled: Date Received: 08/30/90
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Ag - -TCL-HOU TCLP SILVER EPA SW-846: 7760, ATOMIC ABSORPTION	<0.01	MG/L	0.01	09/25/90 1330
As - -TCL-HOU TCLP ARSENIC EPA SW-846: 7060, GRAPHITE FURNACE	<0.005	MG/L	0.005	10/03/90 947
BNA - - -HOU SEMIVOLATILE ORGANICS EPA SW-846: 3520,8270, LLE,GC/MS	ATTACHED *1	UG/L		Ext.: 09/20/90 Anal.: 10/10/90
Ba - -TCL-HOU TCLP BARIUM EPA SW-846: 6010, ICP	0.7	MG/L	0.02	09/25/90 854
Cd - -TCL-HOU TCLP CADMIUM EPA SW-846: 6010, ICP	<0.010	MG/L	0.010	09/25/90 854
Cr - -TCL-HOU TCLP CHROMIUM EPA SW-846: 6010, ICP	<0.02	MG/L	0.02	09/25/90 854
Hg - -TCL-HOU TCLP MERCURY EPA SW-846: 7470, COLD VAPOR	<0.001	MG/L	0.001	09/26/90 1045
Pb - -TCL-HOU TCLP LEAD EPA SW-846: 6010, ICP	<0.025	MG/L	0.025	09/25/90 854
Se - -TCL-HOU TCLP SELENIUM EPA SW-846: 7740, GRAPHITE FURNACE	<0.005	MG/L	0.005	10/09/90 937

*1 SEE ENSR ID #A4774-1T

***** CONTINUED *****

ENSR

ENSR Labs-Houston

Analytical Report
10/19/90 13:07

Homco-Odessa, TX		Field ID: UHT-1&2-S1-WDA*	Date Sampled: / /	
Proj. No.: 3519-003-133		Lab ID: 1T	Time Sampled:	
Lab No.: A4774		Matrix: TCLP EXT	Date Received:08/30/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS	ATTACHED *1	UG/L		09/25/90

*1 SEE ENSR ID #A4774-1T

ENSR Labs-Houston

Analytical Report
10/19/90 13:07

Homco-Odessa, TX
 Proj. No.: 3519-003-133
 Lab No.: A4774

Field ID: UHT-1&2-L1-WDA*
 Lab ID: 2T
 Matrix: TCLP EXT

Date Sampled: / /
 Time Sampled:
 Date Received: 08/30/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Ag - -TCL-HOU TCLP SILVER EPA SW-846: 7760, ATOMIC ABSORPTION	<0.01	MG/L	0.01	09/25/90 1330
As - -TCL-HOU TCLP ARSENIC EPA SW-846: 7060, GRAPHITE FURNACE	0.006	MG/L	0.005	10/03/90 947
BNA - - -HOU SEMIVOLATILE ORGANICS EPA SW-846: 3520,8270, LLE,GC/MS	ATTACHED *1	UG/L		Ext.: 09/20/90 Anal.: 10/10/90
Ba - -TCL-HOU TCLP BARIUM EPA SW-846: 6010, ICP	0.2	MG/L	0.02	09/25/90 854
Cd - -TCL-HOU TCLP CADMIUM EPA SW-846: 6010, ICP	<0.010	MG/L	0.010	09/25/90 854
Cr - -TCL-HOU TCLP CHROMIUM EPA SW-846: 6010, ICP	<0.02	MG/L	0.02	09/25/90 854
Hg - -TCL-HOU TCLP MERCURY EPA SW-846: 7470, COLD VAPOR	<0.001	MG/L	0.001	09/26/90 1045
Pb - -TCL-HOU TCLP LEAD EPA SW-846: 6010, ICP	<0.025	MG/L	0.025	09/25/90 854
Se - -TCL-HOU TCLP SELENIUM EPA SW-846: 7740, GRAPHITE FURNACE	<0.005	MG/L	0.005	10/09/90 937

*1 SEE ENSR ID #A4774-2T

ENSR Labs-Houston

Analytical Report

10/19/90 13:07

Homco-Odessa, TX		Field ID: UHT-1&2-L1-WDA*	Date Sampled: / /		
Proj. No.: 3519-003-133		Lab ID: 2T	Time Sampled:		
Lab No.: A4774		Matrix: TCLP EXT	Date Received:08/30/90		
(Test Code) Parameter (Test Name) (Test Method)		Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS		ATTACHED *1	UG/L		09/20/90

*1 SEE ENSR ID #A4774-2T

ENSR Labs-Houston

QUALITY CONTROL LOG

Parameter: Silver Ag

Page: 1 of 2

Method of Analysis: SW846-7760 AA

Matrix: TCLP

Date/Time: 25 Sept 90/1330

Lab Numbers	Detection Limits
A4906-16T	0.01 mg/l
A4734-4T	
A4776-1,2,3T	
A4889-1,2T	
A4859-1T	
A4782-1,3,4T	
A4774-1,2T	↓

Calibration Stds./Blk	Absorbance/Conc.
R1AN/c	0.000 0.001
0.500 ppm	0.014 0.510
1.00 ppm	0.027 0.996
2.00 ppm	0.056 2.003
Correlation Coefficient:	

Comments:

Check Standards	Concentration Found/True
Sample Blank	ppm
Method Blank	0.000 ppm
P.E. Std. EXH #2	1.030 1.000 ppm
CCUS Internal Std.	0.729 0.750 ppm
0.04 ppm	0.037 0.040

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A4906-1T	20.01	—	—	—	0.880	*	50% ± 2.00	88
A4906-2T					0.950	*		95
A4906-3T					0.951	*		95
A4906-4T		↓	↓	↓	0.910	*		91
A4906-5T		20.01	*	*	1.038	*		104
A4734-4T	↓	—	—	—	1.003	*	↓	100

Analyst: James Mathew

QA/QC Approval: DeAnna M. Senegal

**ENSR LABS-HOUSTON
QUALITY CONTROL LOG**

PARAMETER: Silver Ag DATE/TIME: 25 Sep 90/1330 PAGE 2 OF 2
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO. - SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVER
A4734-5T	<0.001	————	————	————	1.044	*	50% of 2.00	104
A4776-1T		20.01	*	*	0.942	*		94
A4776-2T		————	————	————	0.855	*		86
A4776-3T		↓	↓	↓	0.831	*		83
A4776-5T		↓	↓	↓	0.902	*		90
A4889-1T		20.01	*	*	0.873	*		87
A4889-2T		————	————	————	1.028	*		102
A4859-1T					1.036	*		104
A4782-1T					1.024	*		102
A4782-2T		↓	↓	↓	1.055	*		106
A4782-4T		20.01	*	*	1.038	*		104
A4782-5T		————	————	————	1.050	*		105
A4774-1T		↓	↓	↓	1.024	*		102
A4774-2T	↓	<0.01	*	*	1.026	*	↓	102

ANALYST: Lamar M. Talton

QA/QC APPROVAL: DeAnna M. Senes

ENSR Labs-Houston

QUALITY CONTROL LOG

Parameter: Arsenic - As

Page: 1 of 2

Method of Analysis: SW-846; 7060 GFAA

Matrix: TCLP, WATER, EPTOX

Date/Time: 3 OCT 93/0947

Lab Numbers	Detection Limits	Calibration Stds./Blk	Absorbance/Conc.	Check Standards	Concentration Found/True
A4857-179	0.005 mg/L	BLANK	-0.002 / 0.0009	Sample Blank	ppm
A4774-T, 2T		0.010 ppm	0.055 / 0.0097	Method Blank	ppm
A4871-1710		0.020 ppm	0.111 / 0.0180	P.E. Std. ICA-19	0.0226 / 0.020 ppm
A4940-6		0.050 ppm	0.250 / 0.0483	Internal Std. CCV	0.0229 / 0.0250 ppm
A4937-1T				0.100 ppm	0.1051 / 0.100
A4829-2T				0.005 ppm	0.0049 / 0.005
A4871-1710	✓	Correlation Coefficient:			
		Comments:			

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A4857-BLK	<0.005	—	—	—	0.0422	*	0.04	106
A4857-7	↓	<0.005	*	*	0.0274	*	50% 0.035	110
A4774-1T	↓	—	—	—	0.0416	*	0.04	104
A4774-2T	0.0061	0.0068	0.0007	10.8	0.0423	0.0061	↓	90
A4871-7	0.0277	0.0293	0.0016	5.61	0.0580	0.0277	↓	76
A4940-6	<0.005	<0.005	*	*	0.0347	*	↓	87

Analyst:

Lee R. McKelvey, TMM QA/QC Approval: Gramm: Dese

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Arsenic - As DATE/TIME: 3 Oct 90 / 0947 PAGE 2 OF 2
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

[illegible]

ANALYST: Jed R. McKelvey/TM

QA/QC APPROVAL: Juan Y. Diaz

ENSR LABORATORIES

1 of 5 pgs.

Date: 25 SEP 90

Time: 0854

ICAP Quality Control Logs

Method SW-846-3rd Ed., #6010

Calibration, Standard and Blank Information

Parameter		Zn	Pb	Cd	Ni	Fe	Cr	Se	Cu	Ba	
MDL @ 100-725		0.02	0.025	0.010	0.02	0.02	0.02	0.02	0.02	0.02	
CALIBRATION	BLANK	0.000	0.001	-0.000	-0.000	-0.001	-0.000	-0.000	-0.000	-0.000	
	0.04 ppm	—	—	0.042	—	—	—	—	—	—	
	0.08 ppm	0.087	—	0.086	0.081	0.080	0.085	0.084	0.085	0.081	
	0.1 ppm	—	0.104	—	—	—	—	—	—	—	
	1.00 ppm	1.04	1.06	1.03	1.05	1.03	1.03	1.03	1.00	1.00	
	5.00 ppm	4.97	4.97	4.99	5.04	5.02	5.07	5.08	5.01	5.01	
STANDARD & BLANK	50.0 ppm	—	—	—	—	—	—	—	—	53.1	

QC CHECK STD	ERA-3	0.910 1.00	0.957 1.00	0.921 1.00	0.937 1.00	9.58 10.0	0.958 1.00	0.972 1.00	0.980 1.00	0.950 1.00	FOUND TRUE

SLIP	A4906-BLK	—	0.013	0.001	—	—	0.002	—	—	0.001	

Analyst:

LEOR. MCKELVEY

QAQC Approval:

Delinna M. Senegal

ENSR LABORATORIES

2 of 5 pgs.

Date: 25JEP90

Time: 0854

ICAP Quality Control Logs Method SW-846-3rd Ed., #6010 Duplicate and Spike Information

Parameter MDL 0.15 → 2.5	Pb 0.05	Cd 0.012	Cr 0.02	Ba 0.02						
A4906-BK	0.013	0.001	0.002	0.001						
Duplicate										
% RPD										
Spike	0.982	0.097	0.207	1.95						
% Recovery	98	97	104	98						
A4906-1	0.018	0.002	0.013	0.755						
Duplicate										
% RPD										
Spike	0.920	0.082	0.192	4.92						
% Recovery	92	82	96	95						
A4906-2	0.004	0.001	0.006	1.02						
Duplicate										
% RPD										
Spike	0.945	0.084	0.190	5.80						
% Recovery	94	84	95	86						
A4906-3	0.016	0.001	0.009	1.63						
Duplicate										
% RPD										
Spike	0.945	0.084	0.190	8.11						
% Recovery	94	84	95	80						
A4906-4	0.007	0.000	0.008	1.12						
Duplicate										
% RPD										
Spike	0.842	0.082	0.195	6.34						
% Recovery	84	82	98	93						

Analyst: John McKelvey

QA/QC Approval: DeAnna M. Senegal

ENSR LABORATORIES

3 of 5 pgs.

Date: 25SEP90

Time: 0854

ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010
Duplicate and Spike Information

Parameter MDL 0.10-725	Zn 0.02	Pb 0.025	Cd 0.010	Ni 0.02	Fe 0.02	Cr 0.02	Cu 0.02	Ba 0.02		
A4906-5	—	0.001	0.001	—	—	0.003	—	1.36		
Duplicate		0.015	0.003			0.006		1.19		
% RPD		*	*			*		13.3		
Spike		0.832	0.080			0.181		2.47		
% Recovery		83	80			90		102		
A4906-6		0.018	0.000			0.003		0.779		
Duplicate		—	—			—		—		
% RPD		—	—			—		—		
Spike		0.916	0.084			0.169		4.89		
% Recovery	—	92	84	—	—	84	—	89		
A4869-1	0.444	—	—	0.076	0.042	—	0.024	—		
Duplicate	0.461			0.077	0.038		0.023			
% RPD	3.76			1.30	10		4.26			
Spike	2.74			1.34	1.14		0.284			
% Recovery	96			104	97		94			
A4869-2	0.594			0.063	0.627		0.023			
Duplicate	0.570			0.058	0.637		0.021			
% RPD	2.06			8.26	1.58		9.09			
Spike	3.35			1.09	3.53		0.267			
% Recovery	97	—	—	84	102	—	88	—		
A4889-1T	—	0.639	0.017	—	—	0.003	—	0.876		
Duplicate		0.698	0.017			0.003		0.901		
% RPD		8.82	0			*		2.81		
Spike		3.43	0.163			0.182		5.55		
% Recovery	—	87	95	—	—	91	—	102		

Analyst:

Jessie R. [Signature]

QAQC Approval:

DeAnna M. Senegal

ENSR LABORATORIES

4 of 5 pgs.

Date: 25 SEP 90

Time: 0854

ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010
Duplicate and Spike Information

Parameter MDL G100-715	Pb 0.025	Cd 0.010	Cr 0.02	Ba 0.22						
A4889-2T	0.091	0.0026	0.002	0.620						
Duplicate										
% RPD										
Spike	1.17	0.097	0.158	4.23						
% Recovery	81	97	79	88						
A4859-1T	0.506	0.013	0.002	1.07						
Duplicate	0.486	0.012	0.002	1.07						
% RPD	4.03	80	*	0						
Spike	2.80	0.152	0.166	6.09						
% Recovery	78	100	83	90						
A4782-1T	0.010	0.015	0.019	0.295						
Duplicate										
% RPD										
Spike	0.818	0.140	0.233	2.99						
% Recovery	82	80	78	90						
A4782-3T	0.010	0.017	0.022	0.294						
Duplicate										
% RPD										
Spike	0.744	0.155	0.259	3.00						
% Recovery	74	87	86	91						
A4782-4T	0.012	0.000	0.001	0.011						
Duplicate	0.000	0.000	0.001	0.011						
% RPD	*	*	*	*						
Spike	0.971	0.096	0.200	2.02						
% Recovery	97	96	100	101						

Analyst:

[Signature]

QAQC Approval:

[Signature]

Date: 25 SEP 90Time: 0854ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010
Duplicate and Spike Information

* Below Ml

Parameter MDL 0.10-0.25	Pb 0.025	Cd 0.010	Cu 0.02	Ba 0.02						
A4782-JT	0.012	0.003	0.004	0.208						
Duplicate										
% RPD										
Spike	0.884	0.095	0.189	2.73						
% Recovery	88	95	94	95						
A4774-IT	0.006	0.002	0.002	0.686						
Duplicate										
% RPD										
Spike	0.759	0.074	0.156	4.32						
% Recovery	76	74	78	79						
A4774-JT	0.003	0.001	0.003	0.194						
Duplicate	0.001	0.001	0.002	0.193						
% RPD	*	*	*	0.52						
Spike	0.815	0.084	0.174	2.47						
% Recovery	82	84	87	85						
Duplicate										
% RPD										
Spike										
% Recovery										
Duplicate										
% RPD										
Spike										
% Recovery										

Analyst: Jessie M. McCallQAQC Approval: Delinna M. Senegal

QUALITY CONTROL LOG

Method of Analysis: SW-846: 1110

Matrix: *Luxia*

Date/Time: 9-10-90/1600

[illegible]

Analyst:

QA/QC Approval:

QA/QC Approval: DeAnna M. Senegal

QUALITY CONTROL LOG

Parameter: Consistency

Method of Analysis: SW-546-1110

Page: 1 of 1

Matrix: Quinn

Date/Time: 9-10-90/1500

[illegible]

* Below MDL

[illegible]

Analyst: Lawrence Nyall

QA/QC Approval: DeAnna M. Senegal

Page: 1 of 1

Matrix: Liquid

Date/Time: 9-4-90/0900

[illegible]

Analyst:

QA/QC Approval

QA/QC Approval: DeAnna M. Seneca

ENSR Labs-Houston

QUALITY CONTROL LOG

Parameter: Mercury Hg

Method of Analysis: SW846-7470 AA

Page: 1 of 4

Matrix: TCLP, Water, Soil

Date/Time: 26 Sept 90/1045

Lab Numbers	Detection Limits	Calibration Stds./Blk	Absorbance/Conc.	Check Standards	Concentration Found/True
A4852-2,3	0.001mg/2	Blank	0.000 0.0000	Sample Blank	ppm
A4844-1,5		0.002 PPM	0.019 0.0020	Method Blank	0.0000 ppm
A4851-1		0.005 PPM	0.044 0.0047	P.E. Std. 481-2	0.0082 0.0087 ppm
A4859-1T		0.010 PPM	0.087 0.0150	CCVS Internal Std.	0.0074 0.0075 ppm
A4889-1T, 2T				0.001 PPM	0.0009 0.0010
A4776					
A4810-11T, 12T		Correlation Coefficient:			
A4829-1T, 4T, 5T		Comments:			
A4861-1T, 2T, 5T					
A4852-1T, 4T, 5T					
A4782-1T, 3T, 5T					
A4774-1T, 2T	✓				

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
Blank	0.0000	—	—	—	0.0047	*	0.005	94
A4852-3	<0.001	<0.001	*	*	0.0044	*	0.005	88
A4844-5	<0.001	<0.001	*	*	0.0043	*	0.005	86
A4851-1					0.0042		0.005	84
A4859-1T					0.0042		0.005	84
A4889-1T	↓	↓	↓	↓	0.0043	↓	0.005	86

Analyst: James Math

QA/QC Approval: DeAnna M. Senegal

ENSR Labs-Houston
QUALITY CONTROL LOG

Parameter: Mercury Hg
Method of Analysis: SW 846-7470 AH

Page: 2 of 4
Matrix: TCLP Water Soil
Date/Time: 26 Sep 90/1045

Lab Numbers	Detection Limits
A4857-1-9	0.001mg/L
A4814-67973T	0.002mg/L
A4820-21T	0.001mg/L
A4844-9	0.05mg/kg
A4843-1	1 mg/kg
A4861-3T	0.001mg/L
A4906-7	5mg/kg

Calibration Stds./Blk	Absorbance/Conc.
Correlation Coefficient:	

Comments:

Check Standards	Concentration Found/True
Sample Blank	ppm
Method Blank	ppm
P.E. Std.	ppm
Internal Std.	ppm

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery

Analyst: Juan M. Alth

QA/QC Approval: Deanna M. Senegal

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Mercury Hg DATE/TIME: 26 Sept 90/1045 PAGE 3 OF 4
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO. - SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVER
A4889-2T	LO.001	————	—	—	0.0044	*	50% of 0.01	88
A4776-1T					0.0042	*	0.005	84
A4776-2T					0.0044	*	50% of 0.01	88
A4776-3T		LO.001	*	*	0.0044	*	50% of 0.01	88
A4776-5T		————	—	—	0.0046	*	0.005	92
A4810-11T		LO.001	*	*	0.0043	*	0.005	86
A4810-12T		————	—	—	0.0046	*	0.005	92
A4829-1T					0.0045	*	50% of 0.01	90
A4829-4T					0.0046	*	50% of 0.01	92
A4829-5T		LO.001	*	*	0.0043	*	0.005	86
A4861-1T		————	—	—	0.0043	*	0.005	86
A4861-2T					0.0045	*	50% of 0.01	90
A4861-4T					0.0047	*	0.005	94
A4861-5T					0.0047	*	50% of 0.01	94
A4852-1T					0.0043	*	0.005	86
A4852-4T					0.0044	*	0.005	88
A4852-6T		LO.001	*	*	0.0045	*	50% of 0.01	90
A4852-8T		————	—	—	0.0047	*	0.005	94
A4782-1T		————	—	—	0.0048	*	0.005	96
A4782-3T		LO.001	*	*	0.0046	*	0.005	92

ANALYST:

James M. Allen

QA/QC APPROVAL:

DeAnne M. Sen

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Mercury Hg DATE/TIME: 26 SEPT 90 / 1445 PAGE 4 OF 4
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO. - SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVER
A4852-7T	LO.001	————	—	—	0.0045	*	0.005	90
A4782-9T		↓	↓	↓	0.0046	*	0.005	92
A4782-5T		↓	↓	↓	0.0048	*	0.005	96
A4774-1T		LO.001	*	*	0.0044	*	0.005	88
A4774-2T		————	—	—	0.0046	*	50% of 0.01	92
A4857-7	↓	LO.001	*	*	0.0048	*	0.005	96
A4814-6T	LO.002	————	—	—	0.0041	*	0.005	82
A4814-9T		————	—	—	0.0047	*	0.005	94
A4814-10T		————	—	—	0.0047	*	0.005	94
A4814-11T		LO.002	*	*	0.0047	*	0.005	94
A4814-12T		————	—	—	0.0047	*	0.005	94
A4814-13T	↓	————	—	—	0.0048	*	0.005	96
A4820-1T	LO.001	LO.001	*	*	0.0044	*	0.005	88
A4844-9	0.0048	0.0046	0.0002	4.26	0.00	0.0024	50% of 0.01	98
A4843-1	0.0019	0.0021	0.0002	10.0	0.0061	0.0019	50% of 0.01	102
A4861-3T	LO.001	LO.001	*	*	0.0055	*	0.005	110
A4906-7	0.0070	————	—	—	0.0080	0.0070	50% of 0.01	90

ANALYST:

James Math

QA/QC APPROVAL:

Dolores Y. Perez

QUALITY CONTROL LOG

Parameter: Selenium SePage: 1 of 2Method of Analysis: SW846-7740 GFAAMatrix: Water, TCLPDate/Time: 09 OCT 90/0937

Lab Numbers	Detection Limits
A4871-1-10	0.005 mg/L
^{Diss} A4858-2,3	
^D A4858-1,23	
A4774-1T, 2T	
A4859-1T	

Calibration Stds./Blk	Absorbance/Conc.
Blanks	0.000 0.0006
0.01 ppm	0.023 0.0108
0.02 ppm	0.041 0.0182
0.05 ppm	0.101 0.0488
Correlation Coefficient:	

Comments:

Check Standards	Concentration Found/True
Sample Blank	ppm
Method Blank	ppm
P.E. Std EPA 7619	0.0256 0.0250 ppm
CCVS Internal Std.	0.0257 0.025 ppm
0.005 ppm	0.0051 0.005

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A4871-BIK	LO.005				0.0193	*	0.02	97
A4871-7	LO.005	LO.005	*	*	0.0234	*	50% of 0.05 ppm	94
^{Diss} A4858-3			*	*	0.0216	*	50% of 0.05 ppm	86
^D A4858-2			*	*	0.0209	*	50% of 0.05 ppm	84
A4774-1T					0.0182	*	50% of 0.05 ppm	73
A4774-2T		LO.005	*	*	0.0217	*	50% of 0.05 ppm	87

Analyst: James MathisQA/QC Approval: DeAnna M. Senegal

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Selenium Se DATE/TIME: 09 OCT 90/0937 PAGE 2 OF 2
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

[illegible]

ANALYST:

QA/QC APPROVAL:

DeAnna M. Senega

ENSR Labs-Houston
QUALITY CONTROL LOG

Parameter: Total Petroleum Hydrocarbons Water

Method of Analysis: EPA 600/419.1

Page: 1 of 1

Matrix: Liquid

Date/Time: 9-12-90/1000

Lab Numbers	Detection Limits
A4766-1	4 mg/l
A4774-2	↓
A4802-1	↓

Calibration Stds./Blk	Absorbance/Conc.
2.1	0.0741/2.16
4.2	0.0930/3.58
8.5	0.1524/8.06
17.0	0.2883/18.3
42.5	0.6030/42.0
IS 21.3	0.3472/22.7
Correlation Coefficient: 0.9998	

Comments:
Insufficient sample for further OC.
Dms 9/13

Check Standards	Concentration Found/True
Sample Blank	
Method Blank	Abs. 0.0026
P.E. Std.	
Internal Std.	22.7/21.3
IS 21.3	22.6/21.3

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result (mg)	Sample Result (mg)	Spike Added (mg)	Percent Recovery (mg)
Water Spk					20.9	42	21.3	98%
Water Spk					20.9	42	21.3	98%
Water Spk	20.9	20.9	0	0				

Analyst: Ernie M. Edwards

QA/QC Approval: DeAnna M. Jeneval

ENSR Labs-Houston
QUALITY CONTROL LOG

Parameter: Total Petroleum Hydrocarbon Soil

Page: 1 of 1

Method of Analysis: EPA600:418.1 SW846:9071

Matrix: Soil

Date/Time: 9-12-90 1000

Lab Numbers	Detection Limits
A4774-1	0.91%
A4786(1-3,5)	40 ^{ms} /kg
A4786-8	80 ^{ms} /kg
A4786-10	0.94%
A4793-1	370 ^{ms} /kg
A4793(17,18)	40 ^{ms} /kg
A4800(6,10)	80 ^{ms} /kg
A4800(7,11,13,15,17)	40 ^{ms} /kg
A4800(9,16)	390 ^{ms} /kg
A4800-9	760 ^{ms} /kg
A4800(12,38)	380 ^{ms} /kg
A4800-14	750 ^{ms} /kg

Calibration Stds./Blk	Absorbance/Conc.
2.1	0.0741/2.16
4.2	0.0930/3.58
8.5	0.1524/9.06
17.0	0.2893/19.3
42.5	0.6030/42.0
IS21.3	0.3472/22.7
Correlation Coefficient: 0.9988	

Comments:

Check Standards	Concentration Found/True
Sample Blank	
Method Blank	Abs. 0.0214
P.E. Std.	
Internal Std.	22.7/21.3
IS21.3	22.5/21.3

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result (mg)	Sample Result (mg)	Spike Added (mg)	Percent Recovery (mg)
A4774-1	123540	120254	3286	2.7%	←	Diluted out	→	
A4786-10	172187	169913	2274	1.3%	←	Diluted out	→	
A4793-18	<40	<40	*	*	9.9	<2	8.5	116%
A4800-12	6467	6314	153	2.4%	←	Diluted out	→	
A4800-16	7090	6791	299	4.3%	←	Diluted out	→	

Analyst:

Erickson Eduardo

QA/QC Approval:

Jeanna M. Senegle

ENSR Labs-Houston
QUALITY CONTROL LOG

Parameter: pH Corrosion
Method of Analysis: EPA SW-846 9040

Page: 1 of 1
Matrix: liquid
Date/Time: 8-31-90/1345

Lab Numbers	Detection Limits	Calibration Stds./Blk	^{units} Absorbance/Conc.	Check Standards	Concentration Found/True
A4774-2	C.Limits	Buffer 10.0	10.0	Sample Blank	FFM
-4	↓	" 4.0	4.0	Method Blank	FFM
				P.E. Std.	FFM
				Internal Std.	FFM
				T.C. Check.	T.C. 7.0 units
		Correlation Coefficient:			
		Comments:			

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A4774-2	7.3	7.3	0	0	—	—	—	—

Analyst: Norman Webb

QA/QC Approval: DeAnna M. Senec

V. Analytical Results

Reactivity

The observations for Reactivity were as follows:

- The sample(s) did not undergo violent changes under normal conditions.
- The sample(s) did not react violently or form a potentially explosive mixture with water.
- The sample(s) did not appear readily capable of detonation, explosive decomposition or reaction at standard temperature or pressure.
- The sample(s) did not generate toxic gases, vapors or fumes when exposed to pH conditions between 2 and 12.5.
- The results for reactive sulfide and cyanide are as follows:

<u>Parameter</u>	<u>Method</u> <u>Blank</u>	<u>Sample Designation</u>	
		A22734-1 A4774-1 UHT- 1&2 S1 WDA	A22734-2 A4774-2 UHT- 1&2 L1 WDA
Reactivity-Sulfide	<50	<89	<50
Reactivity-Cyanide	<50	<89	<50
Units	(mg/kg)	(mg/kg dw)	(mg/l)

General Chemistry

<u>Parameter</u>	<u>Method</u> <u>Blank</u>	<u>Sample Designation</u>
		A22734-1 A4774-1 UHT- 1&2 S1 WDA
Flashpoint, closed cup, °F	--	>180
Total Solids, %	0.1 U	56

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-HOU
 Lab Sample ID: A4774-1T
 Client Sample ID: UHT-1 2-S1-WD

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/20/90
 Date Analyzed: 10/10/90
 Dilution Factor: 4.0

TCLP SEMIVOLATILES

CAS Number		UG/L		CAS Number		UG/L	
110-86-1	Pyridine	200	<	98-95-3	Nitrobenzene	40	<
106-46-7	1,4-Dichlorobenzene . . .	40	<	87-68-3	Hexachlorobutadiene . . .	40	<
95-48-7	2-Methylphenol	40	<	88-06-2	2,4,6-Trichlorophenol . .	40	<
106-44-5	4-Methylphenol	40	<	95-95-4	2,4,5-Trichlorophenol . .	200	<
108-39-4	3-Methylphenol	40	<	121-14-2	2,4-Dinitrotoluene	40	<
57-72-1	Hexachloroethane	40	<	118-74-1	Hexachlorobenzene	40	<
				87-86-5	Pentachlorophenol	200	<

The Lab ID for data on this page is A47741T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC

10/10/90 12:05:00

SAMPLE: UHT-1&2-S1-WDA

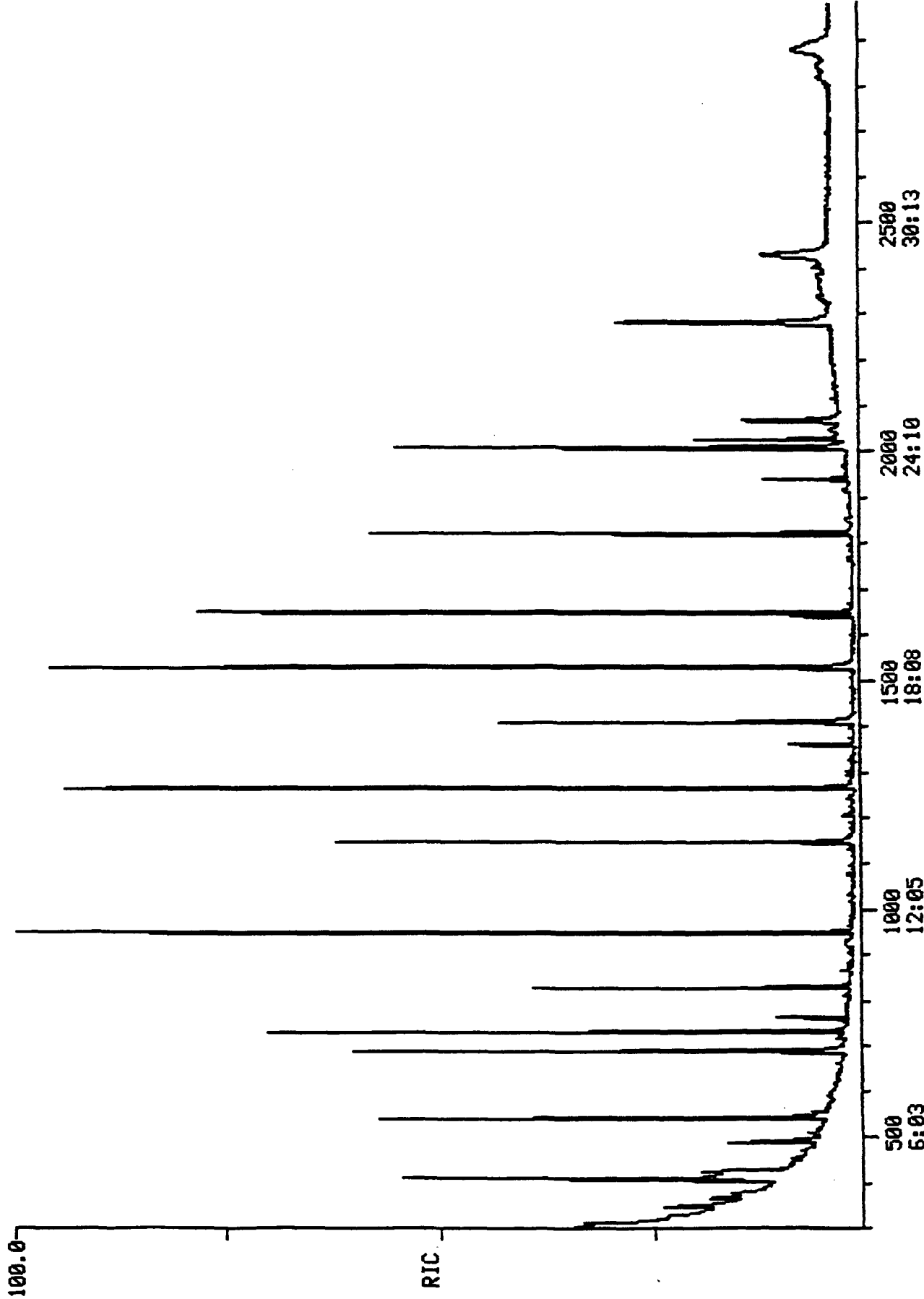
CONDS.: 1508

RANGE: G 1.2987 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: A4774IT #1
CALI: A4774IT #3

SCANS 300 TO 2987

75008.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-HOU
 Lab Sample ID: A4774 2T
 Client Sample ID: UHT-1 2-L1-WD

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/20/90
 Date Analyzed: 10/10/90
 Dilution Factor: 6.7

TCLP SEMIVOLATILES

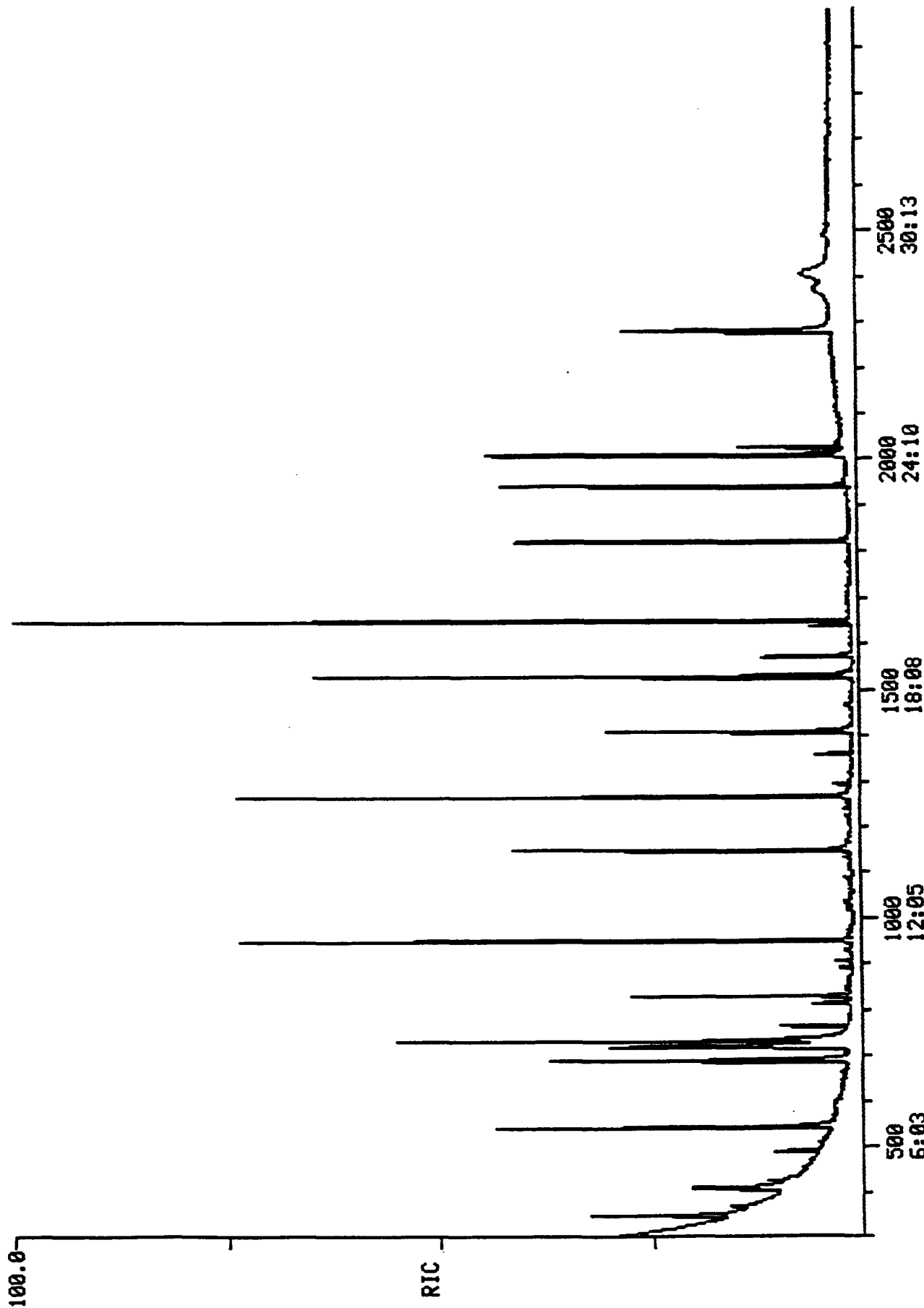
CAS Number		UG/L		CAS Number		UG/L
110-86-1	Pyridine	330	<	98-95-3	Nitrobenzene	67 <
106-46-7	1,4-Dichlorobenzene	67	<	87-68-3	Hexachlorobutadiene	67 <
95-48-7	2-Methylphenol	100		88-06-2	2,4,6-Trichlorophenol . . .	67 <
106-44-5	4-Methylphenol	100		95-95-4	2,4,5-Trichlorophenol . . .	330 <
108-39-4	3-Methylphenol	67	<	121-14-2	2,4-Dinitrotoluene	67 <
67-72-1	Hexachloroethane	67	<	118-74-1	Hexachlorobenzene	67 <
				87-86-5	Pentachlorophenol	330 <

The Lab ID for data on this page is A47742T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC
10/10/90 12:45:00
SAMPLE: UHT-1&2-L1-WDA
CONDS.: I508
RANGE: G 1,2987 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: A47742T #1
CALI: A47742T #3
SCANS 300 TO 2987

88576.



Mass List

10/10/90 10:21:00 + 7:52

Sample: DFTPP CALIBRAITON 50 NG

Conds.: 150B

Data: DF101090B1 # 651

Cali: DF101090B1 # 3

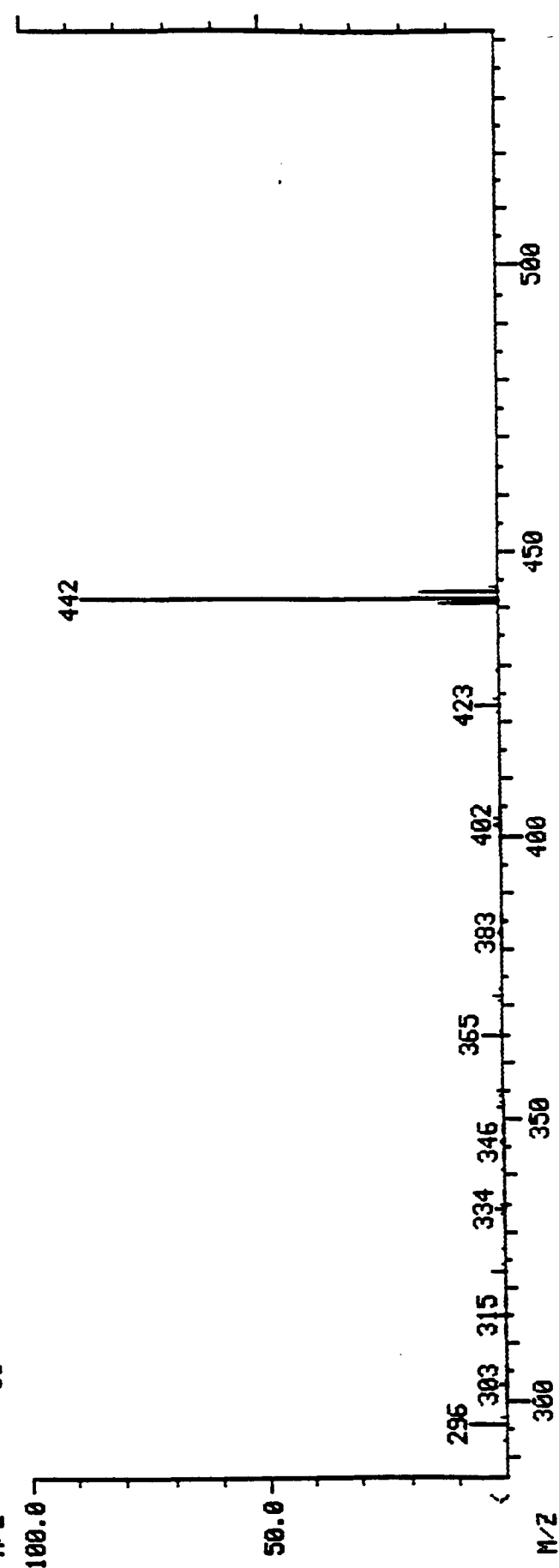
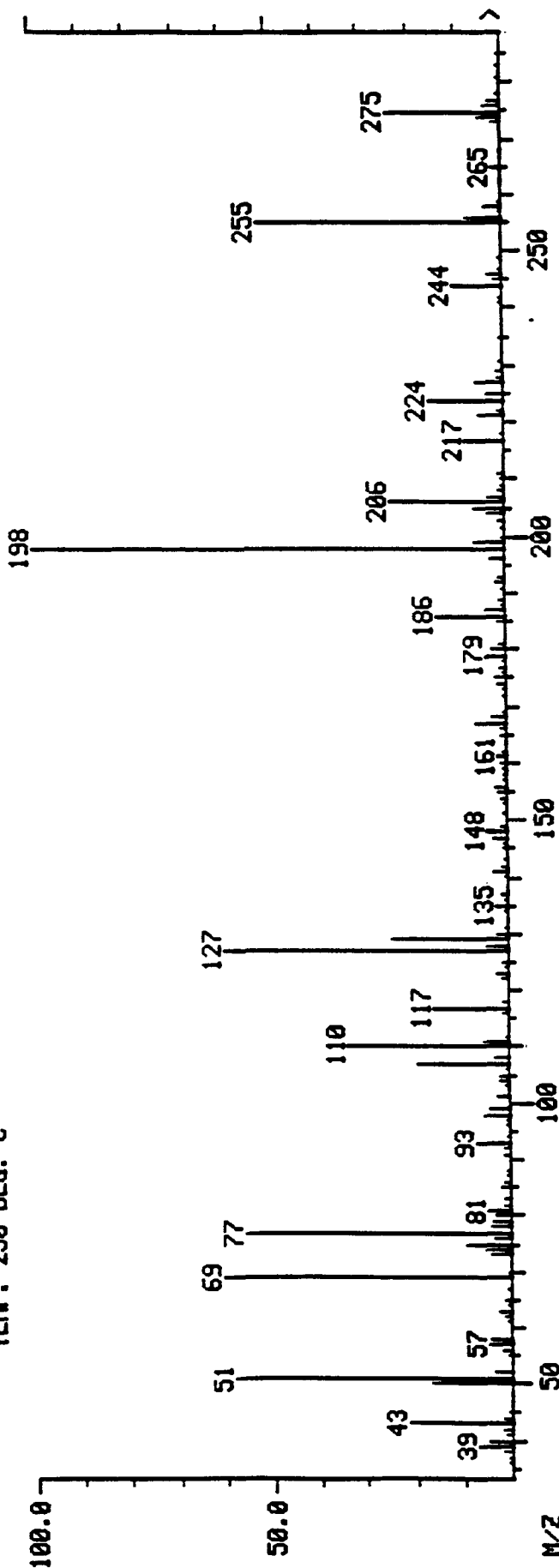
Base m/z: 198

RIC: 93952.

36 444 Mass	0.00 % RA	0. Inten.	Minima Maxima Mass	Min #	Inten: 0 % RA	116. Inten.
38?	1.78	158.	161		1.60	142.
39?	6.73	598.	167 F		6.35	564.
40?	4.62	410.	168 F		2.95	262.
41?	1.37	122.	174 F		1.49	132.
42?F	1.87	166.	175 F		2.61	232.
43?F	21.62	1920.	177		1.35	120.
44?	1.55	138.	179 F		4.30	382.
50?F	16.98	1508.	180 F		2.82	250.
51?F	57.93	5144.	181		1.33	118.
52?F	3.22	286.	185 F		1.96	174.
56?	1.85	164.	186 F		14.64	1300.
57?	4.46	396.	187 F		4.23	376.
58?	4.21	374.	192		1.60	142.
63?	2.21	196.	193		1.40	124.
69	60.36	5360.	196		3.09	274.
73 F	3.83	340.	198 F		100.00	8880.
74 F	5.41	480.	199 F		6.58	584.
75 F	9.08	806.	204 F		3.51	312.
76 F	3.45	306.	205 F		6.42	570.
77 F	55.95	4948.	206 F		24.10	2140.
78	3.96	352.	207 F		3.47	308.
79	3.67	326.	211		1.44	128.
80	3.06	272.	217		8.33	740.
81	4.62	410.	221 F		5.41	480.
82	1.44	128.	222 F		1.37	122.
85	1.82	162.	224 F		15.52	1378.
92	1.37	122.	225 F		3.67	326.
93	6.87	610.	227		6.06	538.
98	5.11	454.	229		1.35	120.
99	4.28	380.	244 F		10.45	928.
101	2.57	228.	245 F		1.49	132.
104	1.73	154.	246 F		2.64	234.
105	2.00	178.	255 F		51.80	4600.
107	19.05	1692.	256 F		7.48	664.
108	3.00	266.	258		3.74	332.
110 F	33.56	2980.	265		1.58	140.
111 F	5.36	476.	273 F		1.78	158.
117 F	15.68	1392.	274 F		4.75	422.
123	2.27	202.	275 F		23.92	2124.
127 F	60.00	5328.	276 F		3.31	294.
128 F	4.89	434.	277 F		2.57	228.
129 F	24.68	2192.	296		7.41	658.
130 F	2.39	212.	323		2.91	258.
135	2.30	204.	334		1.85	164.
137	1.35	120.	365		3.96	352.
141	3.09	274.	372		1.51	134.
142	1.31	116.	423		4.64	412.
147 F	3.20	284.	441 F		12.07	1072.
148 F	3.83	340.	442 F		88.02	7816.
155	1.78	158.	443 F		16.28	1446.

MASS SPECTRUM
10/10/90 10:21:00 + 7:52
SAMPLE: DFTPP CALIBRATION 50 NG
CONDS.: 1508
TEMP: 250 DEG. C

DATA: DF101090B1 #651
CALI: DF101090B1 #3
BASE M/Z: 198
RIC: 93952.



177	384.	0.0	3.0	7.0	178	0.0	PASS
275	2124.	23.9	10.0	30.0	198	23.9	PASS
365	352.	4.0	1.0	—	198	4.0	PASS
441	1072.	12.1	—	100.0	443	74.1	PASS
442	7816.	88.0	40.0	—	198	88.0	PASS
443	1446.	16.3	17.0	23.0	442	18.5	PASS

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS
 (Page 1)

Case No: <u>CALIB</u>	Region: _____	Calibration Date: <u>10/10/90</u>
Contractor: <u>ENSR LAB-HOU</u>		Time: <u>10:36</u>
Contract No: _____		Laboratory ID: <u>CC101090B1</u>
Instrument ID: <u>I50B</u>		Initial Cali. Date: <u>09/19/90</u>

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Phenol	1.812	2.331	-28.6	*	
bis(2-Chloroethyl)Ether	1.663	2.068	-24.4		
2-Chlorophenol	1.434	1.882	-31.2		
1,3-Dichlorobenzene	1.549	1.457	5.9		
1,4-Dichlorobenzene	1.613	1.601	0.7	*	
Benzyl Alcohol	0.830	0.613	26.1		
1,2-Dichlorobenzene	1.485	1.567	-5.5		
2-Methylphenol	1.274	1.945	-52.7		
bis(2-Chloroisopropyl)Ether	1.854	3.616	-95.0		
4-Methylphenol	1.325	2.285	-72.5		
N-Nitroso-Di-n-Propylamine	1.067	2.319	-117.3		* *
Hexachloroethane	0.769	0.789	-2.6		
Nitrobenzene	0.401	0.357	11.0		
Isophorone	0.531	0.474	10.7		
2-Nitrophenol	0.182	0.198	-8.8	*	
2,4-Dimethylphenol	0.355	0.314	11.5		
Benzoic Acid x	0.192	0.173	9.9		
bis(2-Chloroethoxy)Methane	0.470	0.474	-0.9		
2,4-Dichlorophenol	0.279	0.325	-16.5	*	
1,2,4-Trichlorobenzene	0.299	0.269	10.0		
Naphthalene	1.036	1.073	-3.6		
4-Chloroaniline	0.202	0.134	33.7		
Hexachlorobutadiene	0.188	0.174	7.4	*	
4-Chloro-3-Methylphenol	0.330	0.397	-20.3	*	
2-Methylnaphthalene	0.644	0.708	-9.9		
Hexachlorocyclopentadiene	0.286	0.051	82.2		* *
2,4,6-Trichlorophenol	0.342	0.368	-7.6	*	
2,4,5-Trichlorophenol x	0.349	0.354	-1.4		
2-Chloronaphthalene	1.043	1.087	-4.2		
2-Nitroaniline x	0.363	0.392	-8.0		
Dimethyl Phthalate	1.167	1.232	-5.6		
Acenaphthylene	1.581	1.632	-3.2		
2,6-Dinitrotoluene	0.276	0.274	0.7		
3-Nitroaniline x	0.303	0.301	0.7		
Acenaphthene	1.079	1.261	-16.9	*	
2,4-Dinitrophenol x	0.143	0.155	-8.4		* *
4-Nitrophenol x	0.242	0.230	5.0		* *

RF(50) - Response Factor from daily standard file at
 concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial
 calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze
 at 80 total nanograms

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS
 (Page 2)

Case No: CALIB Region: _____ Calibration Date: 10/10/90
 Contractor: ENSR LAB-HOU Time: 10:36
 Contract No: _____ Laboratory ID: CC101090B1
 Instrument ID: I50B Initial Cali. Date: 09/19/90

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Dibenzofuran	1.444	1.480	-2.5		
2,4-Dinitrotoluene	0.349	0.350	-0.3		
Diethylphthalate	1.336	1.452	-8.7		
4-Chlorophenyl phenyl ether	0.643	0.701	-9.0		
Fluorene	1.319	1.494	-13.3		
4-Nitroaniline x	0.265	0.226	14.7		
4,6-Dinitro-2-Methylphenol x	0.127	0.176	-38.6		
N-Nitrosodiphenylamine (1)	0.467	0.592	-26.8	*	
4-Bromophenyl phenyl ether	0.223	0.269	-20.6		
Hexachlorobenzene	0.272	0.330	-21.3		
Pentachlorophenol x	0.177	0.206	-16.4	*	
Phenanthrene	1.072	1.378	-28.5		
Anthracene	1.039	1.172	-12.8		
Di-n-Butylphthalate	1.541	1.946	-26.3		
Fluoranthene	1.303	1.418	-8.8	*	
Pyrene	1.136	1.104	2.8		
Butylbenzylphthalate	0.640	0.614	4.1		
3,3'-Dichlorobenzidine	0.343	0.247	28.0		
Benzo(a)Anthracene	1.068	1.161	-8.7		
bis(2-Ethylhexyl)Phthalate	0.877	0.891	-1.6		
Chrysene	1.047	1.120	-7.0		
Di-n-Octyl Phthalate	2.028	2.220	-9.5	*	
Benzo(b)Fluoranthene	1.515	0.843	44.4		
Benzo(k)Fluoranthene	1.514	0.843	44.3		
Benzo(a)Pyrene	1.269	1.483	-16.9	*	
Indeno(1,2,3-cd)Pyrene	1.210	1.440	-19.0		
Dibenz(a,h)Anthracene	1.086	1.350	-24.3		
Benzo(g,h,i)Perylene	1.120	1.273	-13.7		

RF(50) - Response Factor from daily standard file at concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze at 80 total nanograms

CCC - - Calibration Check Compounds (*)

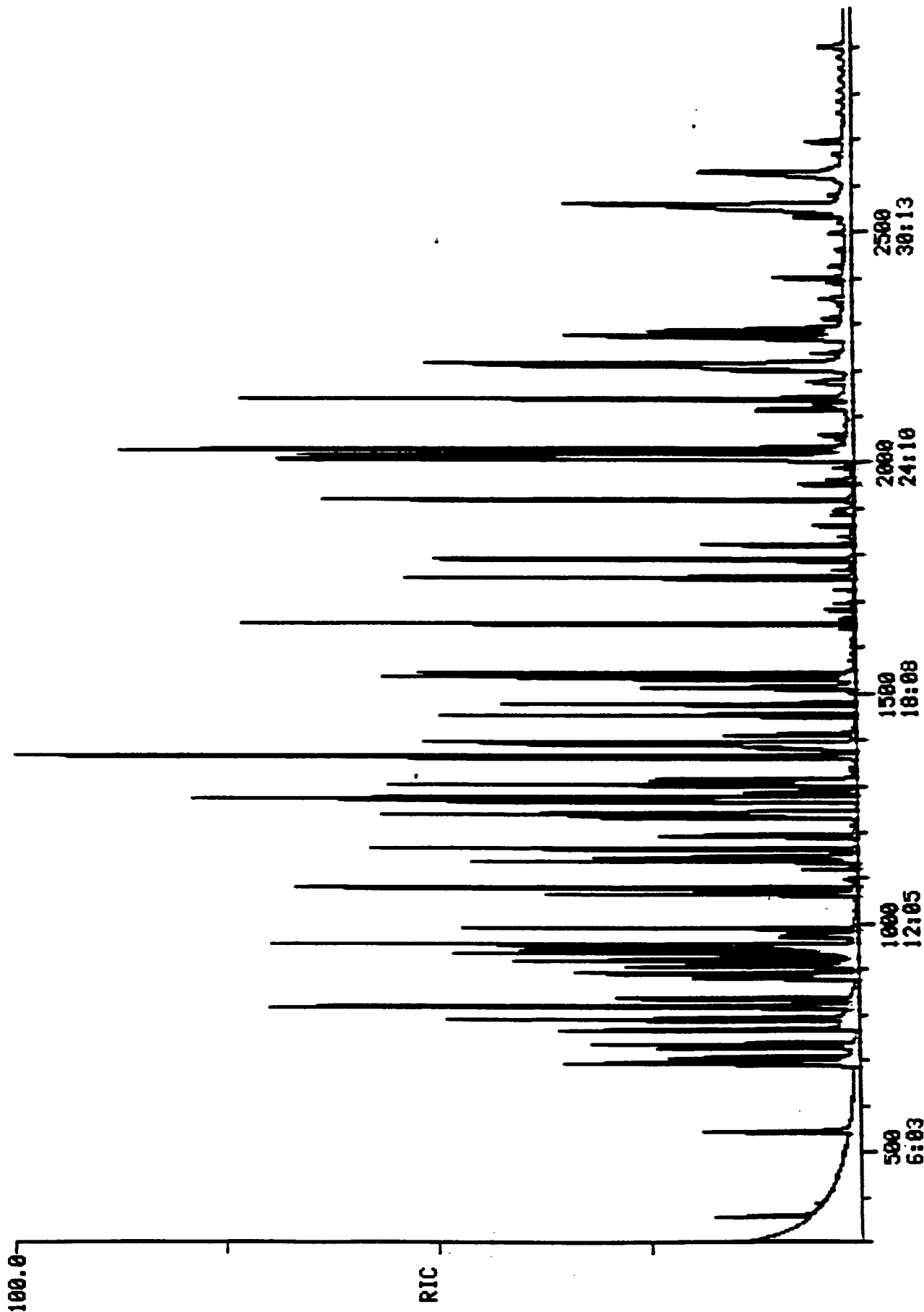
SPCC - - System Performance Check Compounds (**)

(1) - - Cannot be separated from diphenylamine

Form VII

RIC
10/10/90 10:36:00 DATA: CC10109081 #1 SCANS 300 TO 2987
SAMPLE: CONTINUING CALIBRATION 50 NG CALI: CC10109081 #3
CONDS.: I508
RANGE: G 1.2987 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

440320.



**INITIAL CALIBRATION DATA
SEMIVOLATILE HSL COMPOUNDS
(Page 1)**

Case No: CALIB Region: _____ Instrument ID: I50B
Contractor: ENSR LAB-HOU Calibration Date: 09/13/90
Contract No: _____

Minimum AVE RF for SPCC is 0.050 Maximum %RSD for CCC is 30%

Laboratory ID	IC0913B020		IC0917B080		IC0913B160				CCC*
	CC091990B1		IC0917B120						SPCC**
Compound	RF(20)	RF(50)	RF(80)	RF(120)	RF(160)	AVE RF	% RSD		
Phenol	1.911	1.775	1.927	1.827	1.620	1.812	6.8	*	
bis(2-Chloroethyl)Ether	1.615	1.489	1.714	1.828	1.668	1.663	7.5		
2-Chlorophenol	1.479	1.435	1.439	1.387	1.430	1.434	2.3		
1,3-Dichlorobenzene	1.578	1.387	1.557	1.533	1.577	1.526	5.2		
1,4-Dichlorobenzene	1.657	1.502	1.557	1.679	1.668	1.613	4.9	*	
Benzyl Alcohol	0.788	0.713	0.886	0.925	0.836	0.830	10.0		
1,2-Dichlorobenzene	1.500	1.373	1.451	1.584	1.516	1.485	5.3		
2-Methylphenol	1.324	1.102	1.379	1.340	1.224	1.274	8.8		
bis(2-Chloroisopropyl)Ether	1.845	1.705	1.908	1.893	1.919	1.854	4.7		
4-Methylphenol	1.354	1.113	1.484	1.359	1.317	1.325	10.1		
N-Nitroso-Di-n-Propylamine	0.965	0.933	1.236	1.160	1.039	1.067	12.1	* *	
Hexachloroethane	0.770	0.702	0.800	0.840	0.732	0.769	7.1		
Nitrobenzene	0.423	0.377	0.410	0.401	0.393	0.401	4.3		
Isophorone	0.648	0.529	0.720	0.408	0.350	0.531	29.4		
2-Nitrophenol	0.158	0.188	0.182	0.175	0.206	0.182	9.7	*	
2,4-Dimethylphenol	0.378	0.283	0.371	0.358	0.383	0.355	11.6		
Benzoic Acid	x	0.148	0.297	0.174	0.149	0.192	37.0		
bis(2-Chloroethoxy)Methane	0.477	0.441	0.506	0.470	0.458	0.470	5.1		
2,4-Dichlorophenol	0.260	0.294	0.289	0.270	0.281	0.279	5.0	*	
1,2,4-Trichlorobenzene	0.298	0.293	0.299	0.297	0.306	0.299	1.6		
Naphthalene	1.033	1.042	1.019	1.036	1.048	1.036	1.1		
4-Chloroaniline	0.303	0.154	0.242	0.187	0.122	0.202	35.7		
Hexachlorobutadiene	0.182	0.196	0.182	0.193	0.188	0.188	3.4	*	
4-Chloro-3-Methylphenol	0.333	0.322	0.343	0.310	0.344	0.330	4.4	*	
2-Methylnaphthalene	0.634	0.572	0.654	0.633	0.725	0.644	8.5		
Hexachlorocyclopentadiene	0.303	0.061	0.344	0.354	0.367	0.286	44.8	* *	
2,4,6-Trichlorophenol	0.349	0.404	0.334	0.317	0.308	0.342	11.1	*	
2,4,5-Trichlorophenol	x	0.389	0.349	0.326	0.332	0.349	8.1		
2-Chloronaphthalene	1.090	1.108	0.974	1.001	1.042	1.043	5.5		
2-Nitroaniline	x	0.368	0.374	0.361	0.349	0.363	3.0		
Dimethyl Phthalate	1.214	1.259	1.181	1.123	1.058	1.167	6.7		
Acenaphthylene	1.610	1.569	1.565	1.569	1.592	1.581	1.2		
2,6-Dinitrotoluene	0.280	0.311	0.276	0.271	0.243	0.276	8.8		
3-Nitroaniline	x	0.305	0.316	0.286	0.306	0.303	4.1		
Acenaphthene	1.085	1.219	1.025	1.039	1.027	1.079	7.6	*	
2,4-Dinitrophenol	x	0.173	0.152	0.129	0.118	0.143	17.1	* *	
4-Nitrophenol	x	0.245	0.259	0.224	0.240	0.242	6.0	* *	

Response Factor (number is the amount of nanograms)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

x - - - Not detectable at 20 ng

INITIAL CALIBRATION DATA
SEMIVOLATILE HSL COMPOUNDS
(Page 2)

Case No: CALIB Region: _____ Instrument ID: I508
Contractor: ENSR LAB-HOU Calibration Date: 09/13/90
Contract No: _____

Minimum AVE RF for SPCC is 0.050 Maximum %RSD for CCC is 30%

Laboratory ID	IC0913B020	IC0917B080	IC0913B160					
	CC091990B1	IC0917B120						CCC*
Compound	RF(20)	RF(50)	RF(80)	RF(120)	RF(160)	AVE RF	% RSD	SPCC**
Dibenzofuran	1.562	1.493	1.363	1.379	1.422	1.444	5.8	
2,4-Dinitrotoluene	0.370	0.370	0.365	0.336	0.303	0.349	8.4	
Diethylphthalate	1.341	1.362	1.314	1.301	1.363	1.336	2.1	
4-Chlorophenyl phenyl ether	0.642	0.709	0.629	0.668	0.565	0.643	8.3	
Fluorene	1.270	1.490	1.213	1.335	1.289	1.319	8.0	
4-Nitroaniline	x	0.258	0.311	0.229	0.262	0.265	12.8	
4,6-Dinitro-2-Methylphenol	x	0.128	0.140	0.120	0.120	0.127	7.4	
N-Nitrosodiphenylamine (1)	0.424	0.413	0.494	0.492	0.514	0.467	9.8	*
4-Bromophenyl phenyl ether	0.245	0.211	0.222	0.220	0.219	0.223	5.7	
Hexachlorobenzene	0.317	0.260	0.262	0.268	0.253	0.272	9.5	
Pentachlorophenol	x	0.181	0.182	0.171	0.175	0.177	2.9	*
Phenanthrene	1.143	1.069	1.055	1.011	1.084	1.072	4.5	
Anthracene	1.152	0.919	1.050	1.004	1.072	1.039	8.3	
Di-n-Butylphthalate	1.660	1.359	1.601	1.458	1.625	1.541	8.3	
Fluoranthene	1.361	1.249	1.409	1.203	1.293	1.303	6.4	*
Pyrene	1.281	1.069	1.099	1.032	1.201	1.136	9.0	
Butylbenzylphthalate	0.744	0.522	0.630	0.585	0.718	0.640	14.4	
3,3'-Dichlorobenzidine	0.338	0.229	0.379	0.347	0.421	0.343	20.8	
Benzo(a)Anthracene	1.163	1.078	1.047	1.056	1.080	1.085	4.2	
bis(2-Ethylhexyl)Phthalate	1.013	0.748	0.872	0.799	0.955	0.877	12.4	
Chrysene	1.225	0.985	1.042	0.937	1.038	1.045	10.4	
Di-n-Octyl Phthalate	2.290	1.980	1.960	1.770	2.138	2.028	9.7	*
Benzo(b)Fluoranthene	1.671	1.641	1.476	1.322	1.465	1.515	9.4	
Benzo(k)Fluoranthene	1.671	1.641	1.476	1.318	1.465	1.514	9.5	
Benzo(a)Pyrene	1.395	1.297	1.276	1.134	1.244	1.269	7.4	*
Indeno(1,2,3-cd)Pyrene	1.220	1.188	1.276	1.082	1.282	1.210	6.7	
Dibenz(a,h)Anthracene	1.003	1.218	1.112	0.990	1.105	1.086	8.6	
Benzo(g,h,i)Perylene	1.070	1.393	1.079	0.970	1.090	1.120	14.3	

Response Factor (number is the amount of nanograms)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

x - - - Not detectable at 20 ng

(1) - - Cannot be separated from diphenylamine

Form VI

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: A4774-1T
 Client Sample ID: UHT1-2-S1-WDA

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/25/90
 Date Analyzed: 09/25/90
 Dilution Factor: 2.5

TCLP VOLATILES

CAS Number		UG/L		CAS Number		UG/L
110-86-1	Pyridine	130	<	56-23-5	Carbon Tetrachloride . . .	13 <
75-01-4	Vinyl Chloride	25	<	79-01-6	Trichloroethene	13 <
75-35-4	1,1-Dichloroethene	13	<	71-43-2	Benzene	13 <
67-66-3	Chloroform	13	<	127-18-4	Tetrachloroethene	13 <
107-06-2	1,2-Dichloroethane	13	<	108-90-7	Chlorobenzene	13 <
78-93-3	2-Butanone	25	<			

The Lab ID for data on this page is A47741TA.

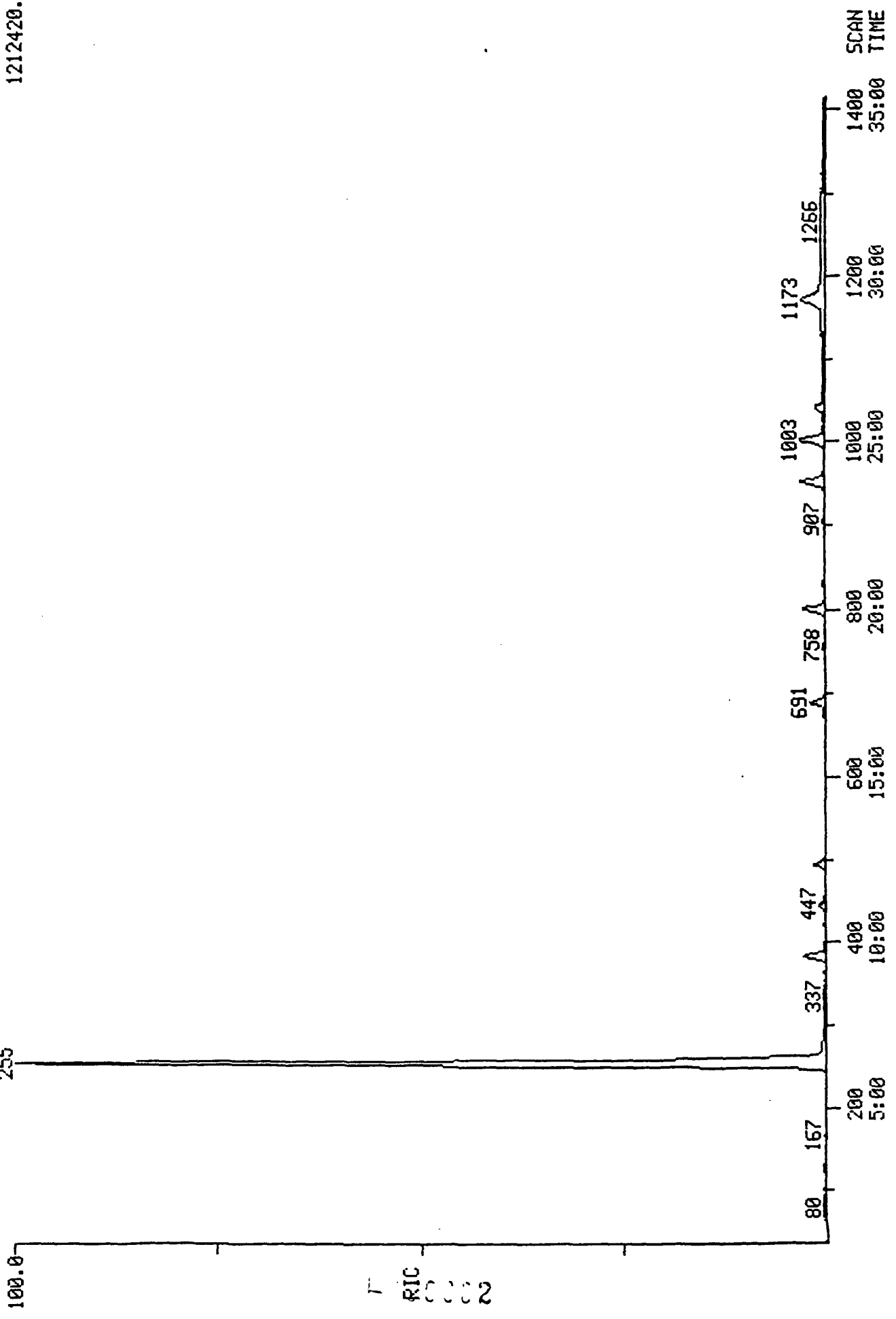
< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

1100001

RIC
09/25/90 17:21:00
SAMPLE: UHT-1&2-S1-WDA, TCLP
COND.S.: I50C
RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: A47741TA #1
CALI: A47741TA #3
SCANS 35 TO 1415

1212420.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: A4774-2T
 Client Sample ID: UHT-1 2L1-WDA

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/20/90
 Date Analyzed: 09/20/90
 Dilution Factor: 1.0

TCLP VOLATILES

CAS Number		UG/L	CAS Number		UG/L
110-86-1	Pyridine	50 <	56-23-5	Carbon Tetrachloride . . .	5 <
75-01-4	Vinyl Chloride	7 ≈	79-01-6	Trichloroethene	9
75-35-4	1,1-Dichloroethene	5 <	71-43-2	Benzene	5 <
67-66-3	Chloroform	5 <	127-18-4	Tetrachloroethene	5 <
107-06-2	1,2-Dichloroethane	5 <	108-90-7	Chlorobenzene	5 <
78-93-3	2-Butanone	10 <			

The Lab ID for data on this page is A47742T.

= - Reported value is less than the detection limit.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC

09/20/90 17:32:00

SAMPLE: UHT-1&2-L1-WDA,ICLP

CONDS.: 150C

RANGE: G 1,1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: A47742T #1

CALI: A47742T #3

SCANS 35 TO 1415

100.0

452

138752.

RIC 00004

97

390

284

502

699

811

963

1237

1186

1093

SCAN
TIME
1400 35:00
1200 30:00
1000 25:00
800 20:00
600 15:00
400 10:00
200 5:00

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: A4774-5
 Client Sample ID: TRIP BLANK

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/04/90
 Date Analyzed: 09/04/90
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane . . .	5 <
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene .	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5 <
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane . . .	5 <
75-09-2	Methylene Chloride	7 B	79-00-5	1,1,2-Trichloroethane . .	5 <
67-64-1	Acetone	99 B	71-43-2	Benzene	41
75-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5 <
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether .	10 <
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
156-60-5	trans-1,2-Dichloroethene .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10 <
67-66-3	Chloroform	5 <	591-78-6	2-Hexanone	10 <
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
78-93-3	2-Butanone	38	79-34-5	1,1,2,2-Tetrachloroethane	5 <
71-55-6	1,1,1-Trichloroethane . .	5 <	108-88-3	Toluene	29
56-23-5	Carbon Tetrachloride . . .	5 <	108-90-7	Chlorobenzene	5 <
108-05-4	Vinyl Acetate	10 <	100-41-4	Ethylbenzene	5
75-27-4	Bromodichloromethane . . .	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (Total)	5 <

The Lab ID for data on this page is A47745.

B - Compound was detected in the QC blank.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

L 00005

RIC

09/04/90 18:40:00

SAMPLE: TRIP BLANK

CONDS.: I50C

RANGE: G 1.1420

LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0

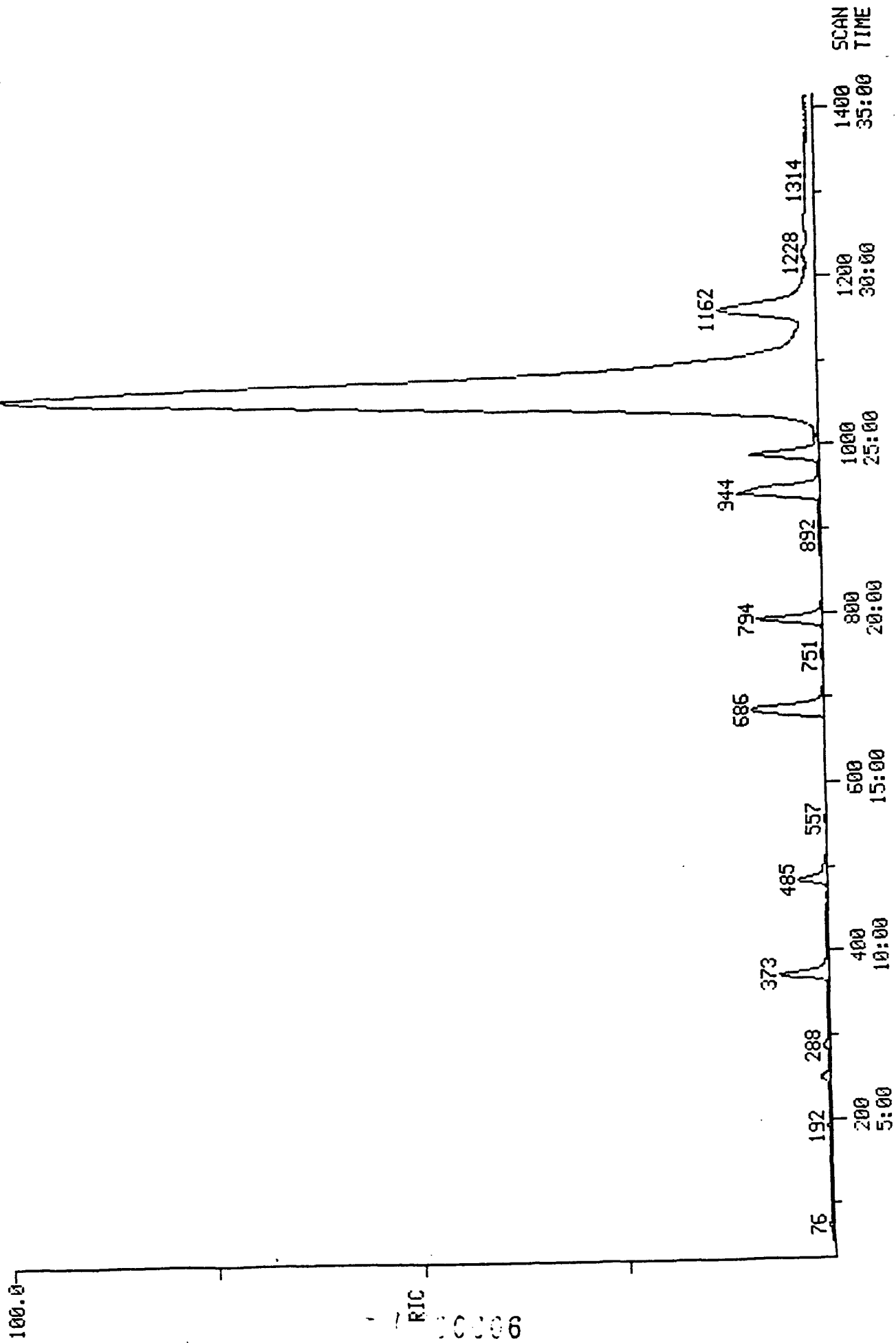
BASE: U 20, 3

487936.

SCANS 35 TO 1415

DATA: A47745 #1

CALI: A47745 #3



BROMOFLUOROBENZENE

Tuning Report

09/04/90 11:54:00 + 7:27

Instrument: I50C

#289 to #308 averaged - #316 to #317 - #280 to #281

Case Number:

Data: BF090490C1 # 298

Cali: BF090490C1 # 3

Analyst: BPB

Laboratory:

Base m/z: 95

RIC: 9760.

Acct. No.: 8506-090

Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	450.	24.2	15.0	40.0	95	24.2	PASS
75	1034.	55.7	30.0	60.0	95	55.7	PASS
95	1858.	100.0	100.0	---	---	100.0	PASS
96	147.	7.9	5.0	9.0	95	7.9	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	1568.	84.4	50.0	---	95	84.4	PASS
175	113.	6.1	5.0	9.0	174	7.2	PASS
176	1560.	84.0	95.0	101.0	174	99.5	PASS
177	109.	5.9	5.0	9.0	176	7.0	PASS

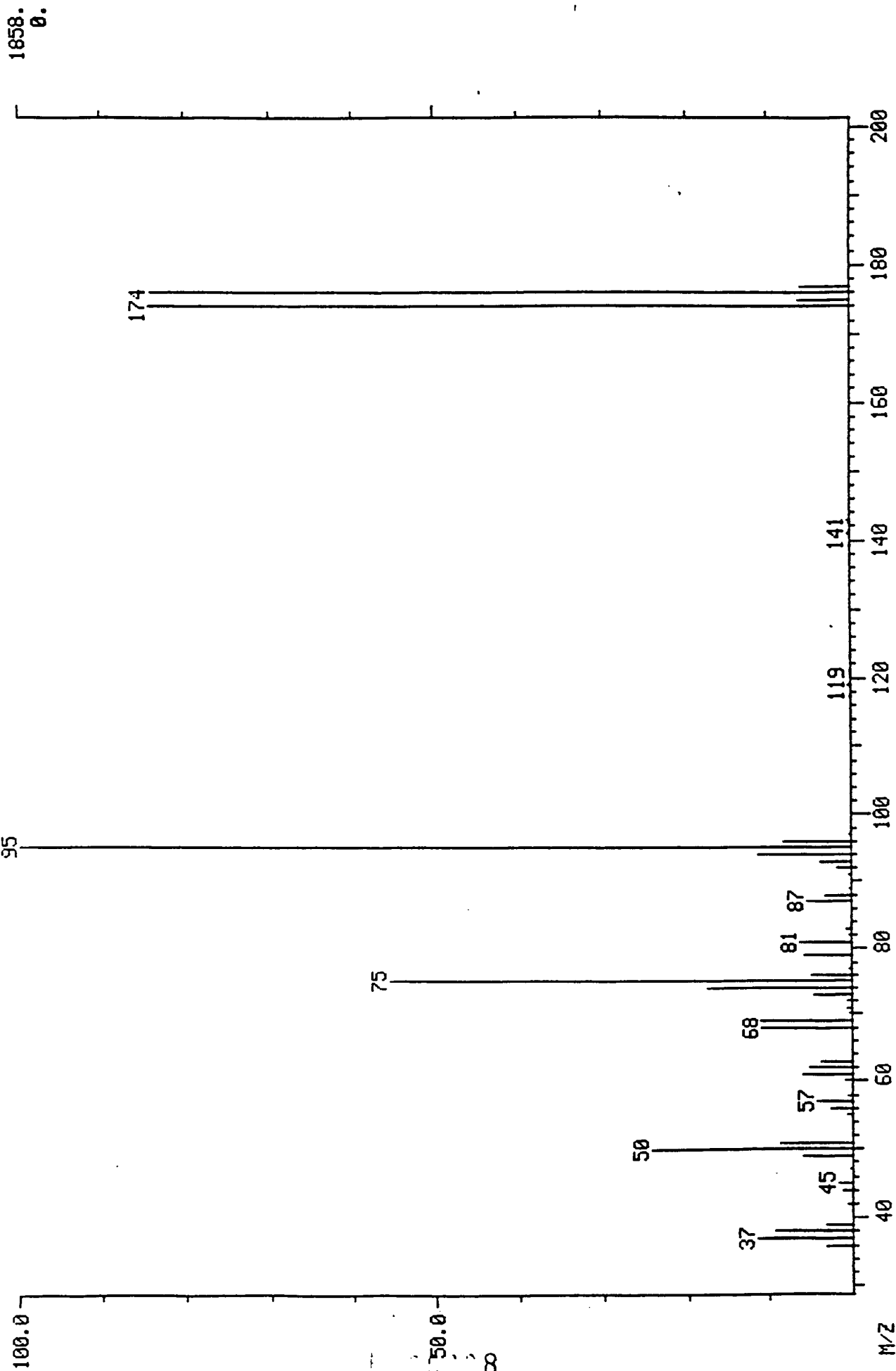
1-10107

MASS SPECTRUM
09/04/90 11:54:00 + 7:27
SAMPLE: BFB CALIBRATION
CONDS.: I50C
TEMP: 225 DEG. C

#289 TO #308 AVERAGED - #316 TO #317 - #280 TO #281

DATA: BF090490C1 #298
CALI: BF090490C1 #3

BASE M/Z: 95
RIC: 9760.



Mass List
09/04/90 11:54:00 + 7:27
Sample: BFB CALIBRATION
Conds.: 150C

Data: BF090490C1 # 298
Cali: BF090490C1 # 3

Base m/z: 95
RIC: 9760.

#289 to #308 averaged - #316 to #317 - #280 to #281

36 177 Mass	0.00 % RA	0. Inten.	Minima Maxima Mass	Min #	Inten: 0 % RA	0. Inten.	
36?	S	2.91	54.	176	S	83.96	1560.
37?	S	11.46	213.	177	S	5.87	109.
38?	S	9.04	168.				
39?	S	3.18	59.				
40?	S	0.11	2.				
42?	S	0.65	12.				
44?	S	0.97	18.				
45?	S	1.78	33.				
47?	S	0.16	3.				
48?	S	0.11	2.				
49?	S	5.87	109.				
50?	S	24.22	450.				
51?	S	8.45	157.				
55?	S	0.48	9.				
56?	S	2.48	46.				
57?	S	4.20	78.				
58?	S	0.48	9.				
60?	S	0.91	17.				
61?	S	5.87	109.				
62?	S	4.90	91.				
63?	S	3.66	68.				
68?	S	10.76	200.				
69	S	10.71	199.				
70	S	0.38	7.				
71	S	0.65	12.				
72	S	0.65	12.				
73	S	4.47	83.				
74	S	17.49	325.				
75	S	55.65	1034.				
76	S	4.63	86.				
77	S	0.22	4.				
79	S	5.44	101.				
81	S	6.19	115.				
82	S	0.16	3.				
83	S	0.43	8.				
87	S	5.33	99.				
88	S	3.18	59.				
89	S	0.27	5.				
91	S	0.16	3.				
92	S	1.72	32.				
93	S	3.55	66.				
94	S	11.09	206.				
95	S	100.00	1858.				
96	S	7.91	147.				
97	S	0.32	6.				
119	S	0.16	3.				
141	S	0.38	7.				
143	S	0.16	3.				
174	S	84.39	1568.				
175	S	6.08	113.				

10009

BROMOFLUOROBENZENE

Tuning Report

09/20/90 12:11:00 + 7:15

Instrument: I50C

#289 to #291 averaged - #299 to #300 - #283

Case Number:

Data: BF092090C1.# 290

Cali: CALTAB # 3

Analyst: BPB

Laboratory:

Base m/z: 95

RIC: 4256.

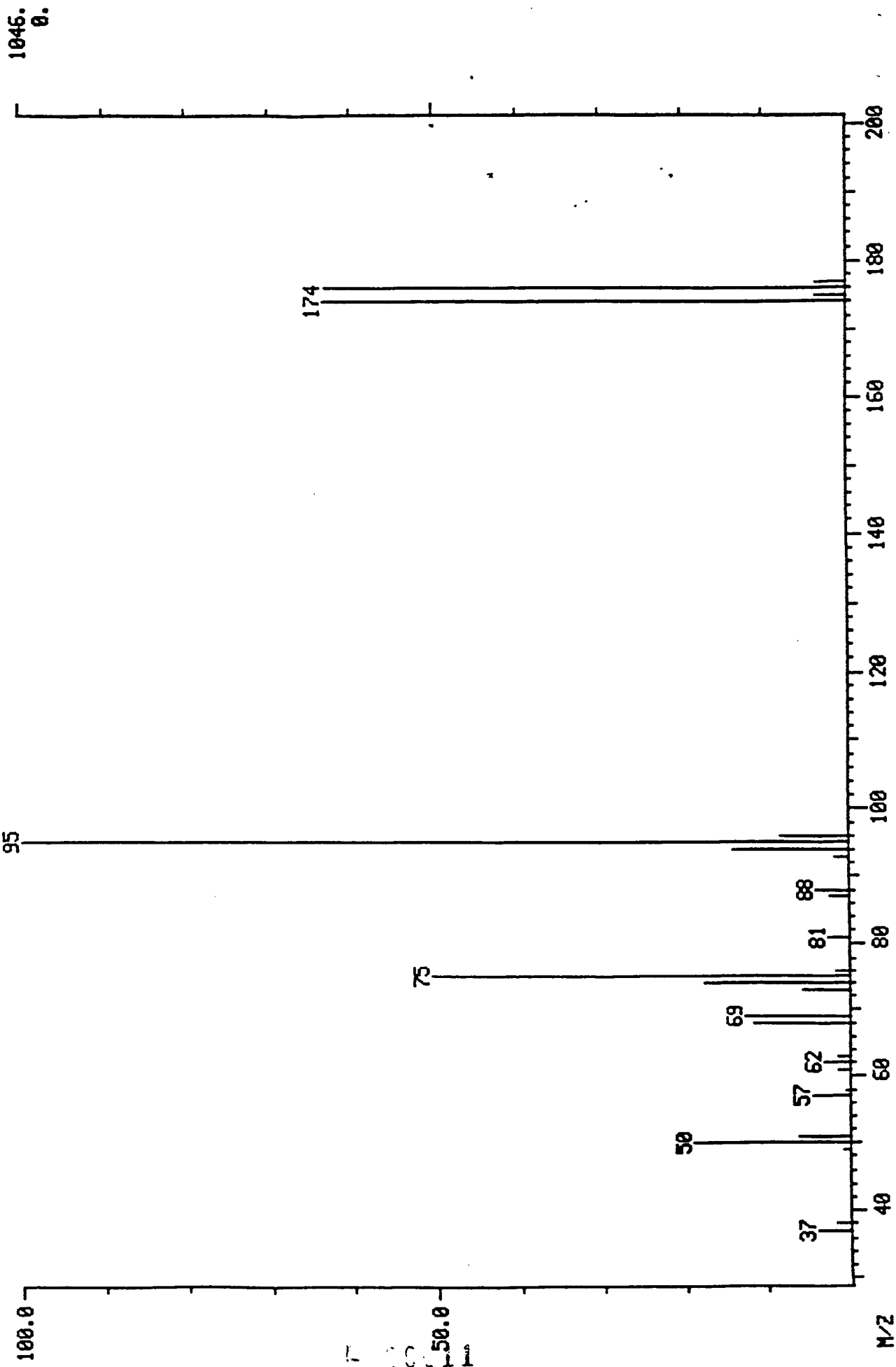
Acct. No.: 8506-090

Contract:

m/z	Intensity	Z RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	197.	18.8	15.0	40.0	95	18.8	PASS
73	529.	50.6	30.0	60.0	95	50.6	PASS
95	1046.	100.0	100.0	---	---	100.0	PASS
96	84.	8.0	5.0	9.0	95	8.0	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	663.	63.4	50.0	---	95	63.4	PASS
175	38.	3.6	5.0	9.0	174	5.7	PASS
176	658.	62.9	95.0	101.0	174	99.2	PASS
177	39.	3.7	5.0	9.0	176	5.9	PASS

MASS SPECTRUM
09/20/90 12:11:00 + 7:15
SAMPLE: BFB CALIBRATION
COND.: 150C
TEMP: 225 DEG. C
#289 TO #291 AVERAGED - #299 TO #300 - #283

DATA: BF092090C1 #290
CALI: CALTAB #3
BASE M/Z: 95
RIC: 4256.



Mass List
09/20/90 12:11:00 + 7:15
Sample: BFB CALIBRATION
Conds.: I50C

Data: BF092090C1 # 290
Call: CALTAB # 3

Base m/z: 95
RIC: 4256.

#289 to #291 averaged - #299 to #300 - #283

37	0.00	0.	Minima	Min Inten:	0.
177			Maxima	#	0
Mass	% RA	Inten.			
377	8	3.92	41.		
387	8	1.72	18.		
497	8	0.76	8.		
507	8	18.83	197.		
517	8	6.12	64.		
577	8	4.30	45.		
587	8	0.57	6.		
617	8	1.34	14.		
627	8	2.96	31.		
637	8	1.34	14.		
687	8	11.28	118.		
69	8	12.33	129.		
73	8	5.54	58.		
74	8	17.50	183.		
75	8	50.57	529.		
76	8	1.63	17.		
81	8	2.49	26.		
87	8	2.20	23.		
88	8	3.92	41.		
93	8	1.53	16.		
94	8	13.77	144.		
95	8	100.00	1046.		
96	8	8.03	84.		
174	8	63.38	663.		
175	8	3.63	38.		
176	8	62.91	658.		
177	8	3.73	39.		

BROMOFLUOROBENZENE

Tuning Report

09/25/90 10:55:00 + 7:09

Instrument: I50C

#279 to #293 averaged - #305 to #306 - #267 to #268

Case Number:

Data: BF092590C1 # 286

Call: BF092590C1 # 3

Analyst: BPB

Laboratory:

Base m/z: 95

RIC: 6120.

Acct. No.: 8506-090

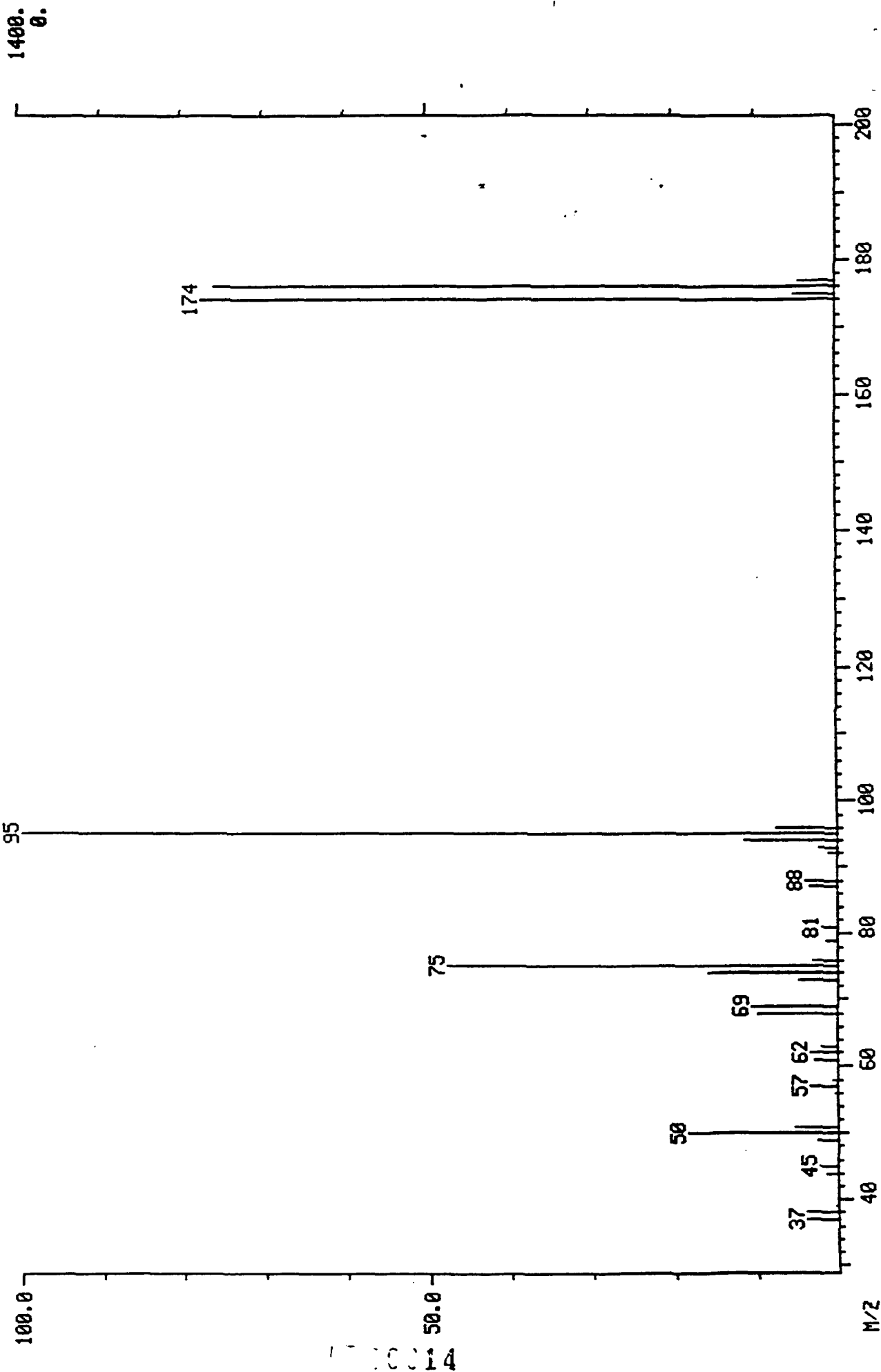
Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	255.	18.2	15.0	40.0	95	18.2	PASS
75	670.	47.9	30.0	60.0	95	47.9	PASS
95	1400.	100.0	100.0	---	---	100.0	PASS
96	105.	7.5	5.0	9.0	95	7.5	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	1086.	77.6	50.0	---	95	77.6	PASS
175	69.	4.9	5.0	9.0	174	6.4	PASS
176	1062.	75.9	95.0	101.0	174	97.8	PASS
177	60.	4.3	5.0	9.0	176	5.6	PASS

MASS SPECTRUM
09/25/90 10:55:00 + 7:09
SAMPLE: BFB CALIBRATION
COND5.: I50C
TEMP: 225 DEG. C
#279 TO #293 AVERAGED - #305 TO #306 - #267 TO #268

DATA: BF092590C1 #286
CALI: BF092590C1 #3

BASE M/Z: 95
RIC: 6120.



Mass List
09/25/90 10:55:00 + 7:09
Sample: BFB CALIBRATION
Conds.: I50C

Data: BF092590C1 # 286 Base m/z: 95
Cali: BF092590C1 # 3 RIC: 6120.

#279 to #293 averaged - #305 to #306 - #267 to #268

37	0.00	0.	Minima	Min Inten:	0.
177			Maxima	# 0	
Mass	% RA	Inten.			
37?	S 3.93	55.			
38?	S 3.79	53.			
39?	S 0.29	4.			
44?	S 1.29	18.			
45?	S 2.29	32.			
49?	S 2.50	35.			
50?	S 18.21	255.			
51?	S 5.14	72.			
56?	S 0.21	3.			
57?	S 3.36	47.			
58?	S 0.43	6.			
61?	S 2.79	39.			
62?	S 3.21	45.			
63?	S 2.07	29.			
68?	S 9.57	134.			
69	S 10.43	146.			
71	S 0.07	1.			
73	S 4.57	64.			
74	S 15.86	222.			
75	S 47.86	670.			
76	S 3.00	42.			
79	S 1.43	20.			
81	S 1.93	27.			
87	S 3.36	47.			
88	S 4.00	56.			
92	S 1.00	14.			
93	S 2.29	32.			
94	S 11.21	157.			
95	S 100.00	1400.			
96	S 7.50	105.			
174	S 77.57	1086.			
175	S 4.93	69.			
176	S 75.86	1062.			
177	S 4.29	60.			

**CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS**

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:
Instrument ID: I50C

Region:

Calibration Date: 09/04/90
Time: 12:11
Laboratory ID: CC090490C1
Initial Cali. Date: 08/23/90

Minimum RF for SPCC is 0.300 (1)

Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	1.252	1.129	9.8		* *
Bromomethane	1.365	1.134	16.9		
Vinyl Chloride	1.225	1.169	4.6	*	
Chloroethane	0.753	0.748	0.7		
Methylene Chloride	1.763	1.844	-4.6		
Acetone	0.328	0.432	-31.7		
Carbon Disulfide	3.160	3.080	2.5		
1,1-Dichloroethene	1.416	1.337	5.6	*	
1,1-Dichloroethane	3.103	3.034	2.2		* *
trans-1,2-Dichloroethene	1.462	1.215	16.9		
Chloroform	3.417	2.868	16.1	*	
1,2-Dichloroethane	2.375	2.070	12.8		
2-Butanone	0.015	0.020	-33.3		
1,1,1-Trichloroethane	0.688	0.636	7.6		
Carbon Tetrachloride	0.666	0.569	14.6		
Vinyl Acetate	0.284	0.566	-99.3		
Bromodichloromethane	0.663	0.597	10.0		
1,2-Dichloropropane	0.453	0.416	8.2	*	
cis-1,3-Dichloropropene	0.515	0.491	4.7		
Trichloroethene	0.562	0.429	23.7		
Dibromochloromethane	0.558	0.490	12.2		
1,1,2-Trichloroethane	0.343	0.297	13.4		
Benzene	1.027	0.984	4.2		
trans-1,3-Dichloropropene	0.455	0.414	9.0		
2-Chloroethylvinylether	0.207	0.201	2.9		
Bromoform	0.416	0.341	18.0		* *
4-Methyl-2-Pentanone	0.300	0.238	20.7		
2-Hexanone	0.085	0.082	3.5		
Tetrachloroethene	0.642	0.566	11.8		
1,1,2,2-Tetrachloroethane	0.462	0.524	-13.4		* *
Toluene	0.806	0.781	3.1	*	
Chlorobenzene	1.139	1.062	6.8		* *
Ethylbenzene	0.552	0.494	10.5	*	
Styrene	0.876	0.799	8.8		
Xylene (Total)	0.538	0.489	9.1		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

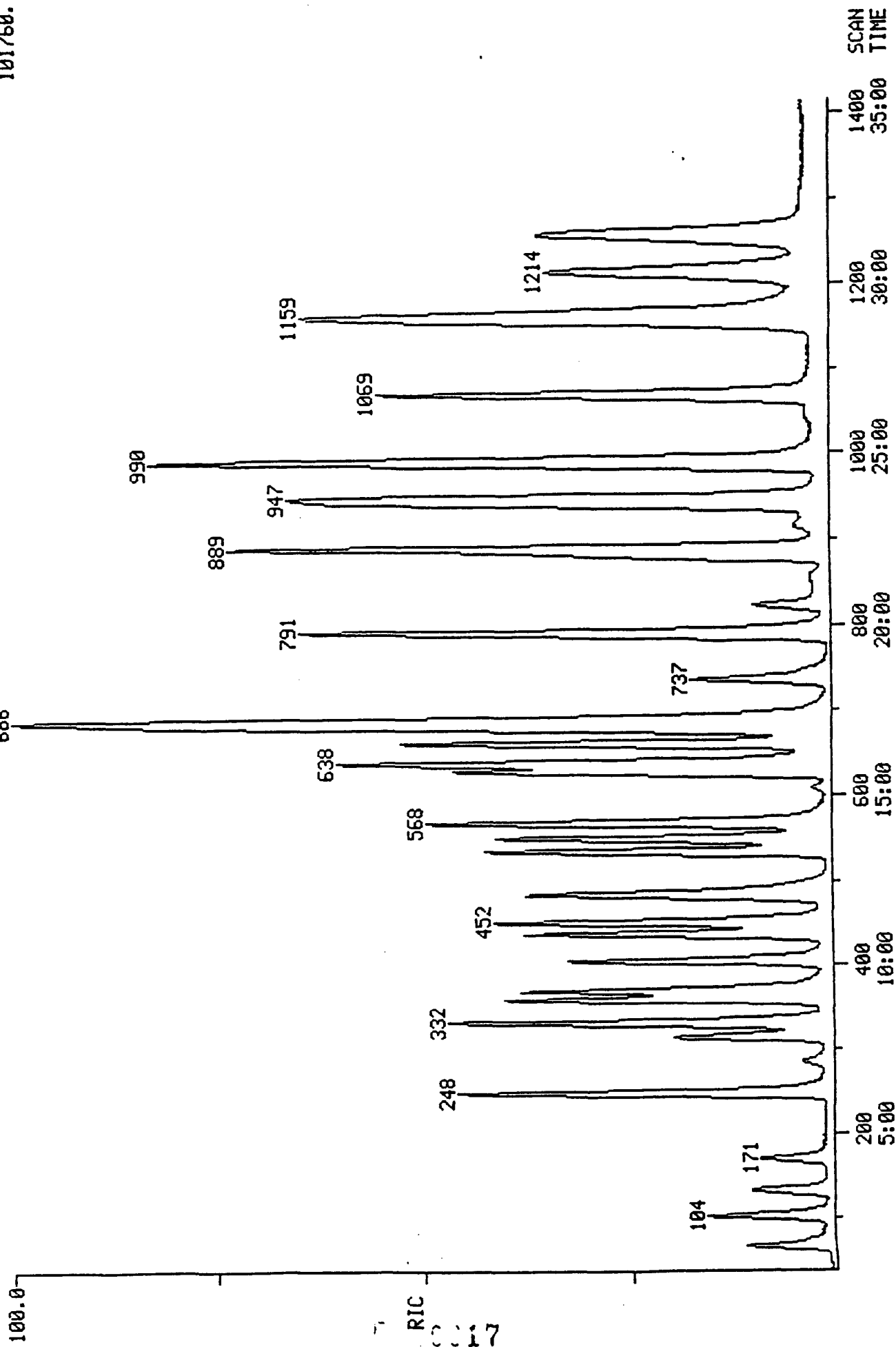
%D - - - Percent Difference

CCC - - - Calibration Check Compounds (*)

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

(1) - - - Minimum RF for Bromoform is 0.250

RIC
09/04/90 12:11:00
SAMPLE: CONTINUING CALIBRATION
CONDS.: I50C
RANGE: G 1.1420 LABEL: N 0. 4.0 QUAN: A 0. 1.0 J 0 BASE: U 20. 3
DATA: CC090490C1 #1
CALI: CC090490C1 #3
SCANS 35 TO 1415
101760.



**CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS**

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:
Instrument ID: I50C

Region:

Calibration Date: 09/20/90
Time: 12:35
Laboratory ID: CC092090C1
Initial Cali. Date: 09/13/90

Minimum RF for SPCC is 0.300 (1)

Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	1.044	1.013	3.0		* *
Bromomethane	1.486	2.178	-46.6		
Vinyl Chloride	1.316	1.609	-22.3	*	
Chloroethane	1.036	1.283	-23.8		
Methylene Chloride	2.564	2.711	-5.7		
Acetone	0.344	0.235	31.7		
Carbon Disulfide	3.946	3.674	6.9		
1,1-Dichloroethene	1.720	1.943	-13.0	*	
1,1-Dichloroethane	3.427	3.404	0.7		* *
trans-1,2-Dichloroethene	1.519	0.891	41.3		
Chloroform	2.701	2.130	21.1	*	
1,2-Dichloroethane	1.556	1.217	21.8		
2-Butanone	0.024	0.015	37.5		
1,1,1-Trichloroethane	0.753	1.079	-43.3		
Carbon Tetrachloride	0.630	0.969	-53.8		
Vinyl Acetate	0.607	0.431	29.0		
Bromodichloromethane	0.876	0.980	-11.9		
1,2-Dichloropropane	0.585	0.464	20.7	*	
cis-1,3-Dichloropropene	0.792	0.788	0.5		
Trichloroethene	0.546	0.710	-30.0		
Dibromochloromethane	0.748	0.997	-33.3		
1,1,2-Trichloroethane	0.538	0.558	-3.7		
Benzene	1.351	1.348	0.2		
trans-1,3-Dichloropropene	0.734	0.764	-4.1		
2-Chloroethylvinylether	0.304	0.237	22.0		
Bromoform	0.424	0.566	-33.5		* *
4-Methyl-2-Pentanone	0.465	0.191	58.9		
2-Hexanone	0.267	0.102	61.8		
Tetrachloroethene	0.507	0.517	-2.0		
1,1,2,2-Tetrachloroethane	0.883	0.594	32.7		* *
Toluene	1.011	0.773	23.5	*	
Chlorobenzene	1.296	1.102	15.0		* *
Ethylbenzene	0.641	0.551	14.0	*	
Styrene	1.057	0.970	8.2		
Xylene (Total)	0.667	0.596	10.6		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

CCC - - - Calibration Check Compounds (*)

SPCC - - - System Performance Check Compounds (*)

(1) - - - Minimum RF for Bromoform is 0.250

Form VII

RIC

09/20/90 12:35:00

SAMPLE: CONTINUING CALIBRATION

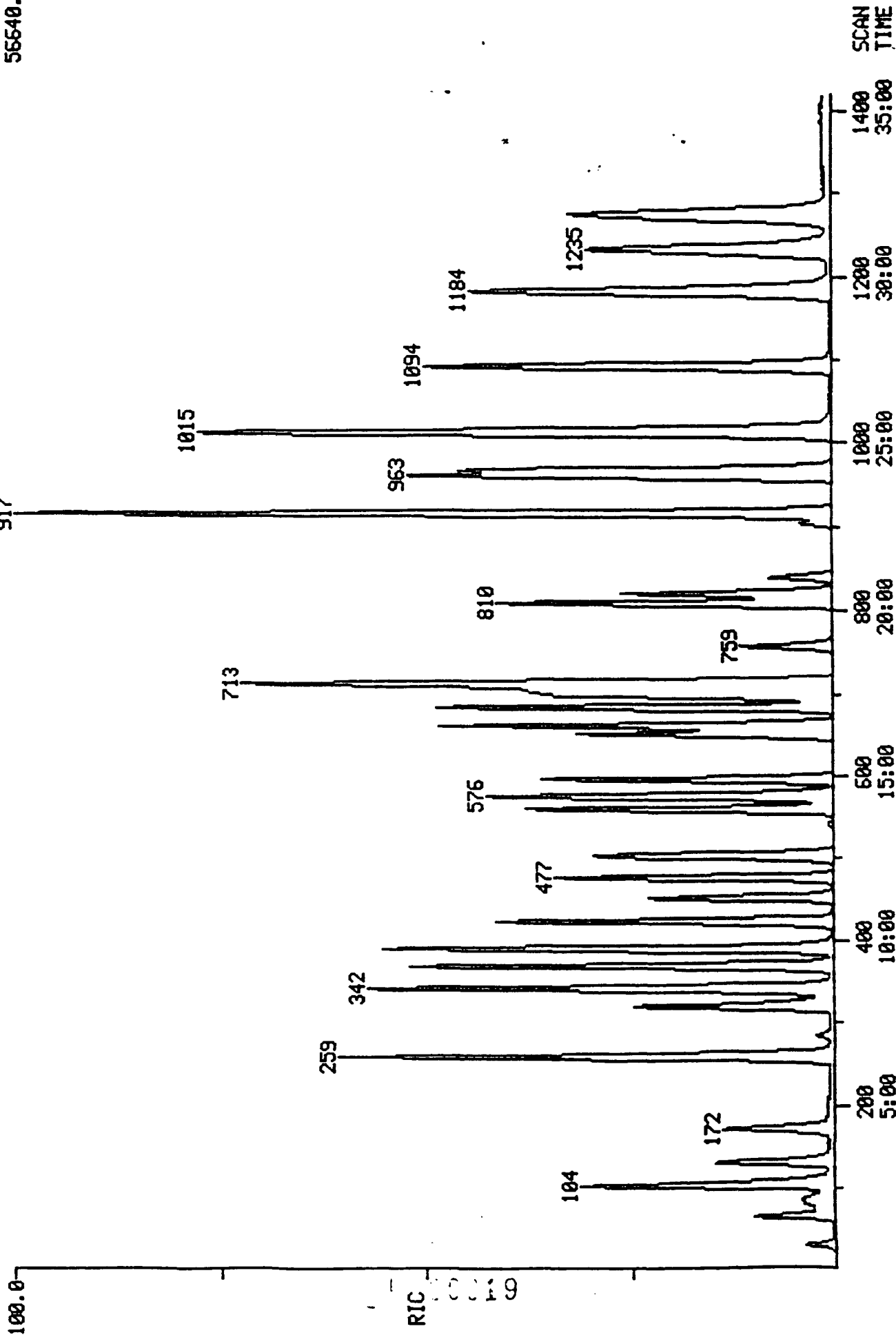
COND5.: I50C

RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: CC092090C1 #1
CALI: CC092090C1 #3

SCANS 1 TO 1420

55540.



**CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS**

Case No: <u>CALIB</u>	Region:	Calibration Date: <u>09/25/90</u>
Contractor: <u>ENSR LAB-Hou</u>		Time: <u>11:15</u>
Contract No:		Laboratory ID: <u>CC092590C1</u>
Instrument ID: <u>I50C</u>		Initial Cali. Date: <u>09/21/90</u>

Minimum RF for SPCC is 0.300 (1) Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	0.605	0.662	-9.4		* *
Bromomethane	1.324	1.247	5.8		
Vinyl Chloride	0.941	0.909	3.4	*	
Chloroethane	0.793	0.739	6.8		
Methylene Chloride	1.826	1.731	5.2		
Acetone	0.256	0.220	14.1		
Carbon Disulfide	2.807	2.495	11.1		
1,1-Dichloroethene	1.451	1.434	1.2	*	
1,1-Dichloroethane	2.795	2.592	7.3		* *
trans-1,2-Dichloroethene	1.324	1.311	1.0		
Chloroform	2.302	2.656	-15.4	*	
1,2-Dichloroethane	1.389	1.252	9.9		
2-Butanone	0.025	0.011	56.0		
1,1,1-Trichloroethane	0.645	0.637	1.2		
Carbon Tetrachloride	0.588	0.606	-3.1		
Vinyl Acetate	0.299	0.279	6.7		
Bromodichloromethane	0.680	0.601	11.6		
1,2-Dichloropropane	0.373	0.325	12.9	*	
cis-1,3-Dichloropropene	0.579	0.509	12.1		
Trichloroethene	0.507	0.478	5.7		
Dibromochloromethane	0.694	0.598	13.8		
1,1,2-Trichloroethane	0.419	0.347	17.2		
Benzene	0.972	0.836	14.0		
trans-1,3-Dichloropropene	0.553	0.440	20.4		
2-Chloroethylvinylether	0.211	0.162	23.2		
Bromoform	0.411	0.324	21.2		* *
4-Methyl-2-Pentanone	0.265	0.161	39.2		
2-Hexanone	0.171	0.092	46.2		
Tetrachloroethene	0.459	0.477	-3.9		
1,1,2,2-Tetrachloroethane	0.673	0.471	30.0		* *
Toluene	0.803	0.706	12.1	*	
Chlorobenzene	1.138	1.059	6.9		* *
Ethylbenzene	0.571	0.512	10.3	*	
Styrene	0.937	0.852	9.1		
Xylene (Total)	0.586	0.532	9.2		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Minimum RF for Bromoform is 0.250020

RIC

09/25/90 11:15:00

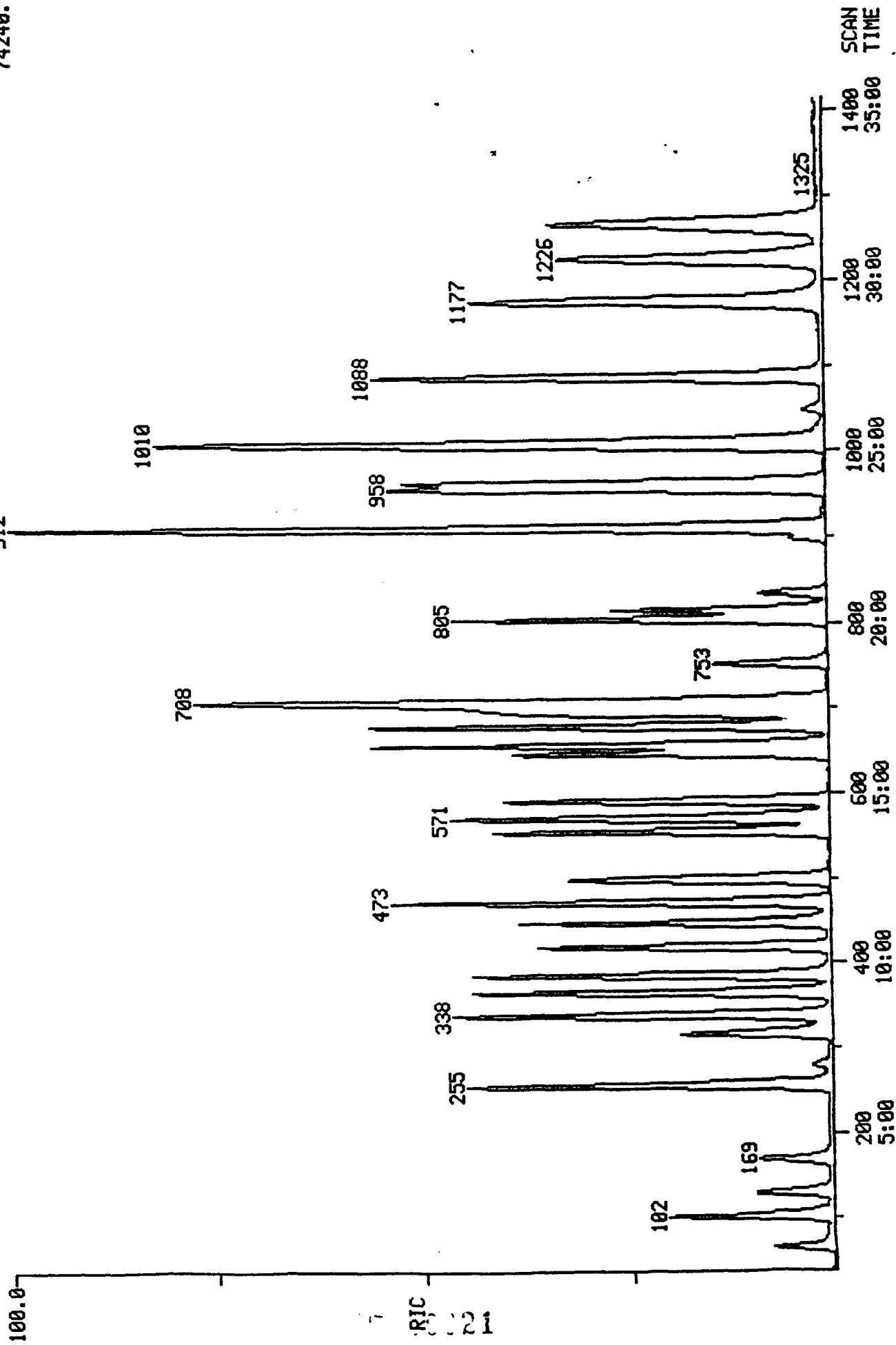
SAMPLE: CONTINUING CALIBRATION

COND5.: I50C

RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: CC092590C1 #1
CALI: CC092590C1 #3
SCANS 35 TO 1415

74240.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: MB090490C1
 Client Sample ID: MB090490C1

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/04/90
 Date Analyzed: 09/04/90
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L		CAS Number		UG/L	
74-87-3	Chloromethane	10	<	78-87-5	1,2-Dichloropropane . . .	5	<
74-83-9	Bromomethane	10	<	10061-01-5	cis-1,3-Dichloropropene .	5	<
75-01-4	Vinyl Chloride	10	<	79-01-6	Trichloroethene	5	<
75-00-3	Chloroethane	10	<	124-48-1	Dibromochloromethane . . .	5	<
75-09-2	Methylene Chloride	8		79-00-5	1,1,2-Trichloroethane . .	5	<
67-64-1	Acetone	19		71-43-2	Benzene	5	<
75-15-0	Carbon Disulfide	5	<	10061-02-6	trans-1,3-Dichloropropene	5	<
75-35-4	1,1-Dichloroethene	5	<	110-75-8	2-Chloroethylvinylether .	10	<
75-34-3	1,1-Dichloroethane	5	<	75-25-2	Bromoform	5	<
156-60-5	trans-1,2-Dichloroethene .	5	<	108-10-1	4-Methyl-2-Pentanone . . .	10	<
67-66-3	Chloroform	5	<	591-78-6	2-Hexanone	10	<
107-06-2	1,2-Dichloroethane	5	<	127-18-4	Tetrachloroethene	5	<
78-93-3	2-Butanone	10	<	79-34-5	1,1,2,2-Tetrachloroethane	5	<
71-55-6	1,1,1-Trichloroethane . .	5	<	108-88-3	Toluene	5	<
56-23-5	Carbon Tetrachloride . . .	5	<	108-90-7	Chlorobenzene	5	<
108-05-4	Vinyl Acetate	10	<	100-41-4	Ethylbenzene	5	<
75-27-4	Bromodichloromethane . . .	5	<	100-42-5	Styrene	5	<
				1330-20-7	Xylene (Total)	5	<

The Lab ID for data on this page is MB090490C1.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC

09/04/90 13:06:00

SAMPLE: METHOD BLANK

CONDS.: 150C

RANGE: G 1.1420 LABEL: N 0. 4.0 QUAN: A 0. 1.0 J 0 BASE: U 20. 3

DATA: MB090490C1 #1

CALI: MB090490C1 #3

SCANS 35 TO 1415

100.0

1153

944

990

794

684

372

485

80

195

251

559

751

1053

200

5:00

400

10:00

600

15:00

800

20:00

1000

25:00

1200

30:00

1400

35:00

SCAN

TIME

RIC

0.0

2.3

3

56950.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: MB092090C1
 Client Sample ID: MB092090C1

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/20/90
 Date Analyzed: 09/20/90
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane	5 <
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5 <
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane	5 <
75-09-2	Methylene Chloride	5	79-00-5	1,1,2-Trichloroethane	5 <
67-64-1	Acetone	10 <	71-43-2	Benzene	5 <
75-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5 <
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether	10 <
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
156-60-5	trans-1,2-Dichloroethene	5 <	108-10-1	4-Methyl-2-Pentanone	10 <
67-66-3	Chloroform	5 <	591-78-6	2-Hexanone	10 <
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
78-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5 <
71-55-6	1,1,1-Trichloroethane	5 <	108-88-3	Toluene	5 <
56-23-5	Carbon Tetrachloride	5 <	108-90-7	Chlorobenzene	5 <
108-05-4	Vinyl Acetate	10 <	100-41-4	Ethylbenzene	5 <
75-27-4	Bromodichloromethane	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (Total)	5 <

The Lab ID for data on this page is MB092090C1.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC

09/20/90 13:36:00

SAMPLE: METHOD BLANK

CONDS.: 150C

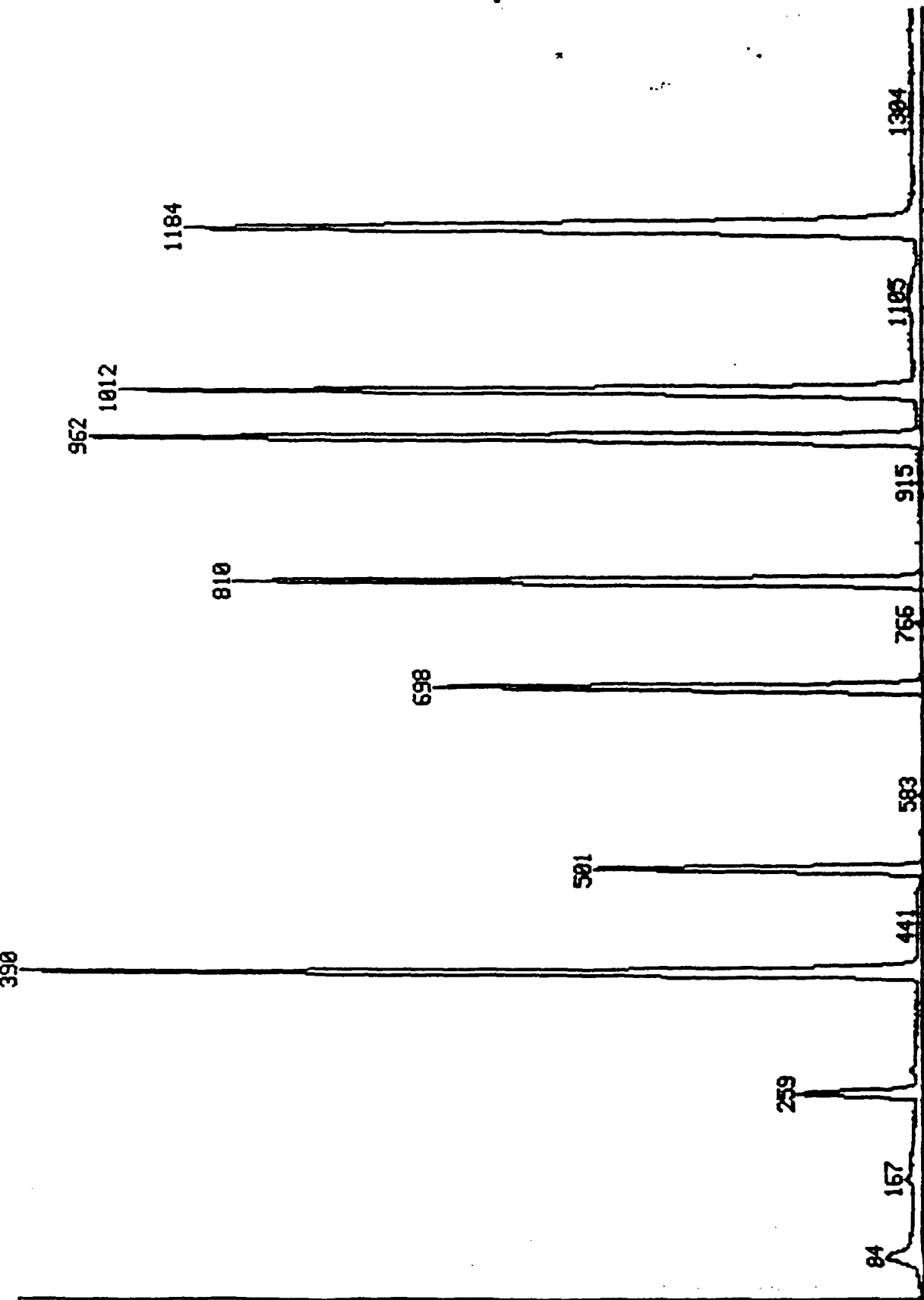
RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: MB092090C1 #1

CALI: MB092090C1 #3

SCANS 35 TO 1415

100.0



RIC

SCAN
TIME

1400 35:00

1200 30:00

1000 25:00

800 20:00

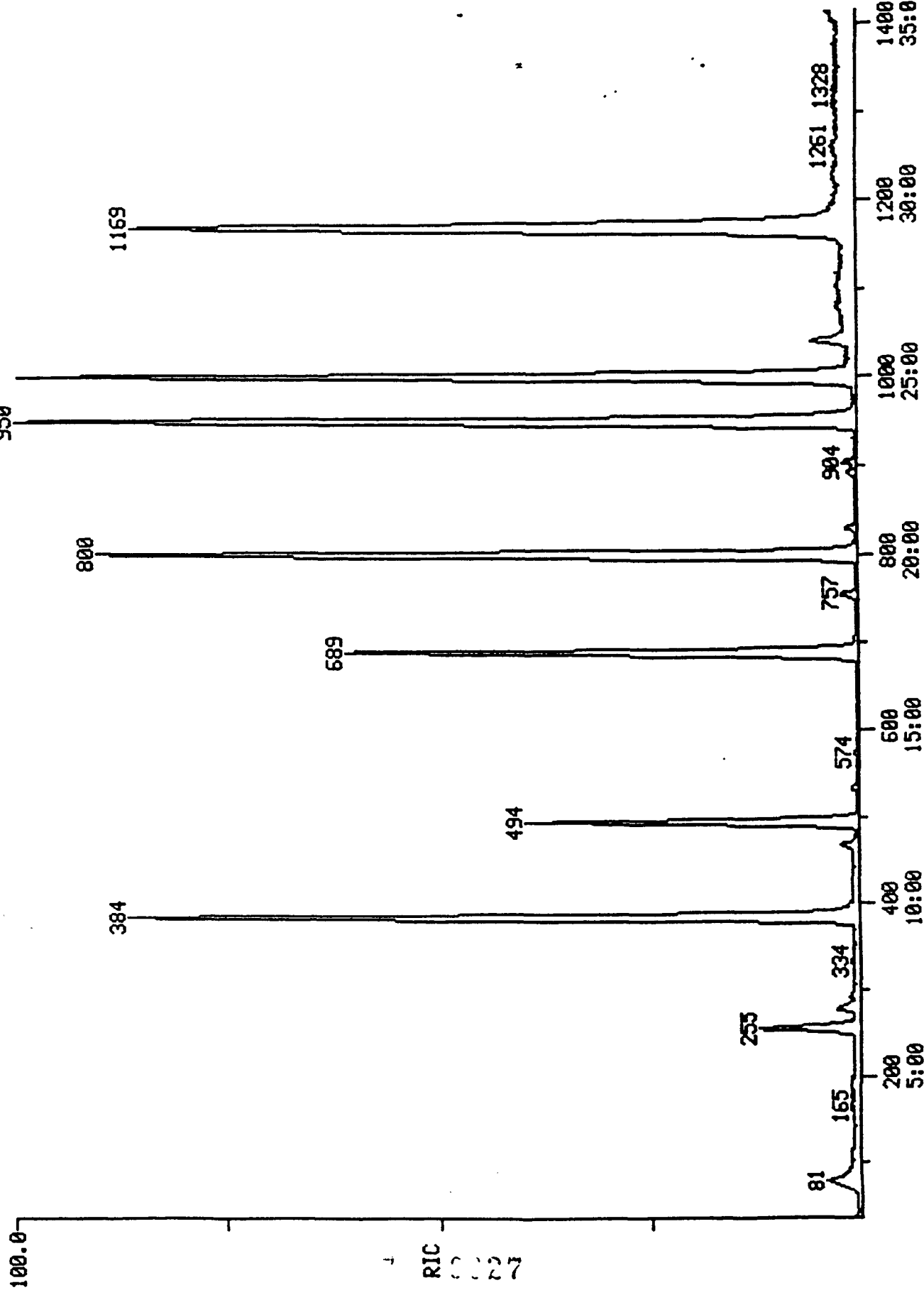
600 15:00

400 10:00

200 5:00

29216.

RIC
09/25/90 12:11:00
SAMPLE: METHOD BLANK
COND.: 150C
RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
SCANS 35 TO 1415
DATA: MB092590C1 #1
CALI: MB092590C1 #3
34880.



WATER SURROGATE PERCENT RECOVERY SUMMARY
VOLATILE
(Page 1)

Contract Laboratory ENSR LAB-Hou

Contract No.

--- VOLATILE ---

Ben	BFB	1,2-Di chloro ethane -d4	Benzen e-D6
38	86	76	75
10	115	114	125
98	103	87	91
06	116*	78	77
05	116*	89	100

OUTSIDE OF CONTRACT
LIMITS

Volatiles: 2 out of 12; outside of QC limits
Semi-Volatiles: 0 out of 0; outside of QC limits
Pesticides: 0 out of 0; outside of QC limits

	CCC*
RSD	SPCC**
9.6	* *
12.3	
13.8	*
12.9	
19.3	
12.9	
4.9	
10.9	*
9.9	* *
2.4	
8.3	*
7.1	
8.5	
2.1	
1.5	
8.2	
8.7	
0.5	*
4.7	
8.0	
4.8	
4.7	
7.5	
1.0	
4.1	
4.5	* *
0.7	
2.6	
1.5	
7.4	* *
1.1	*
1.1	* *
5.4	*
4.3	
3.1	

FORM II

INITIAL CALIBRATION DATA
VOLATILE HSL COMPOUNDS *

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:

Region:

Instrument ID: I50C
Calibration Date: 09/21/90

Min AVE RF for SPCC is 0.300 (1)

Max %RSD for CCC is 30%

Laboratory ID	IC0921020C1	IC0921100C1	IC0921200C1						CCC*
Compound	RF(20)	RF(50)	RF(100)	RF(150)	RF(200)	AVE RF	% RSD	SPCC**	
Chloromethane	0.702	0.635	0.541	0.588	0.560	0.605	10.7	* *	
Bromomethane	1.282	1.255	1.417	1.347	1.321	1.324	4.7		
Vinyl Chloride	0.961	0.998	0.980	0.934	0.833	0.941	6.9	*	
Chloroethane	0.799	0.857	0.862	0.750	0.698	0.793	8.9		
Methylene Chloride	2.308	1.796	1.847	1.609	1.568	1.826	16.1		
Acetone	0.509	0.218	0.247	0.146	0.158	0.256	57.8		
Carbon Disulfide	2.353	2.926	3.137	2.835	2.785	2.807	10.2		
1,1-Dichloroethene	1.302	1.481	1.614	1.463	1.394	1.451	7.9	*	
1,1-Dichloroethane	2.521	2.855	3.079	2.808	2.712	2.795	7.3	* *	
trans-1,2-Dichloroethene	0.933	1.405	1.515	1.417	1.348	1.324	17.1		
Chloroform	2.036	2.262	2.517	2.395	2.300	2.302	7.7	*	
1,2-Dichloroethane	1.339	1.380	1.481	1.384	1.359	1.389	3.9		
2-Butanone	0.029	0.026	0.028	0.019	0.022	0.025	17.0		
1,1,1-Trichloroethane	0.564	0.666	0.693	0.675	0.629	0.645	7.9		
Carbon Tetrachloride	0.479	0.583	0.653	0.631	0.594	0.588	11.4		
Vinyl Acetate	0.345	0.361	0.410	0.252	0.125	0.299	37.7		
Bromodichloromethane	0.594	0.687	0.728	0.700	0.693	0.680	7.5		
1,2-Dichloropropane	0.351	0.363	0.391	0.378	0.381	0.373	4.2	*	
cis-1,3-Dichloropropene	0.499	0.571	0.623	0.603	0.598	0.579	8.3		
Trichloroethene	0.421	0.468	0.521	0.537	0.588	0.507	12.7		
Dibromochloromethane	0.534	0.641	0.752	0.758	0.783	0.694	15.1		
1,1,2-Trichloroethane	0.360	0.381	0.445	0.446	0.462	0.419	10.8		
Benzene	0.919	0.997	1.015	0.984	0.947	0.972	4.0		
trans-1,3-Dichloropropene	0.490	0.488	0.590	0.598	0.601	0.553	10.6		
2-Chloroethylvinylether	0.187	0.205	0.232	0.215	0.217	0.211	7.9		
Bromoform	0.305	0.370	0.465	0.449	0.467	0.411	17.4	* *	
4-Methyl-2-Pentanone	0.281	0.260	0.303	0.241	0.241	0.265	10.1		
2-Hexanone	0.177	0.166	0.198	0.156	0.159	0.171	9.9		
Tetrachloroethene	0.418	0.452	0.489	0.487	0.449	0.459	6.5		
1,1,2,2-Tetrachloroethane	0.602	0.665	0.819	0.698	0.581	0.673	14.0	* *	
Toluene	0.793	0.825	0.846	0.811	0.740	0.803	5.0	*	
Chlorobenzene	1.026	1.149	1.252	1.159	1.105	1.138	7.2	* *	
Ethylbenzene	0.548	0.591	0.600	0.582	0.534	0.571	5.0	*	
Styrene	0.840	0.967	1.029	0.948	0.899	0.937	7.6		
Xylene (Total)	0.560	0.613	0.620	0.587	0.550	0.586	5.3		

Response Factor (number is the amount of ug/L)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Minimum AVE RF for Bromoform is 0.250

0031



DATE: 10/22/90

TO: Jim Baker

FROM: Bo Blankfield, Laboratory Director

PROJ. NO.: 3519-003-133 LAB NO.: A4793

ENSR Engineers

3000 Richmond Ave
Houston, Texas 77098
713-520-9900

Attached are reports of chemical analyses of samples received August 31, 1990. These analyses are:

Count	Test Code	Test Name	Test Method	Sampled	Matrix
4	Ag - -TCL-HOU	TCLP SILVER	EPA SW-846: 7750, ATOMIC ABSORPTION		TCLP EXT
4	As - -TCL-HOU	TCLP ARSENIC	EPA SW-846: 7060, GRAPHITE FURNACE		TCLP EXT
3	BNA - - -HOU	SEMIVOLATILE ORGANICS	EPA SW-846: 3520,8270, LLE,GC/MS		TCLP EXT
4	Ba - -TCL-HOU	TCLP BARIUM	EPA SW-846: 6010, ICP		TCLP EXT
1	CORR -S- -HOU	CORROSIVITY ON SOLID	EPA SW-846: 1110, NACE STEEL COUPON	08/30/90	SOIL
4	Cd - -TCL-HOU	TCLP CADMIUM	EPA SW-846: 6010, ICP		TCLP EXT
4	Cr - -TCL-HOU	TCLP CHROMIUM	EPA SW-846: 6010, ICP		TCLP EXT
1	FP -S- -AKM	IGNITABILITY ON SOLID	EPA SW-846: 1010, PENSKEY MARTIN	08/30/90	SOIL
1	H2S -S-REA-AKM	HYDROGEN SULFIDE, REACTIVE/SLD	EPA SW-846: 7.3.4.2, 9030	08/30/90	SOIL
1	HCN -S-REA-AKM	HYDROCYANIC ACID, REACTIVE/SLD	EPA SW-846: 7.3.3.2, 9010	08/30/90	SOIL
4	Hg - -TCL-HOU	TCLP MERCURY	EPA SW-846: 7470, COLD VAPOR		TCLP EXT
4	Pb - -TCL-HOU	TCLP LEAD	EPA SW-846: 6010, ICP		TCLP EXT
4	Se - -TCL-HOU	TCLP SELENIUM	EPA SW-846: 7740, GRAPHITE FURNACE		TCLP EXT
1	TPH - - -HOU	TOTAL PETROLEUM HYDROCARBONS	EPA 600: 418.1	08/30/90	LIQUID
16	TPH -S- -HOU	TOTAL PET. HYDROCARBONS/SOLID	EPA 600:418.1, SW-846:9071	08/30/90	SOIL
4	VOA - - -HOU	VOLATILE ORGANIC ANALYSES	EPA SW-846: 8240, GC/MS	08/30/90	LIQUID TCLP EXT
1	pH -S-COR-HOU	pH CORROSION ON SOLID	EPA SW-846: 9045	08/30/90	SOIL

Data contained in this report reflect a full quality control review and have met all applicable standards established by ENSR. ENSR quality assurance protocols are in accordance with EPA guidelines.

Should you have any questions, do not hesitate to contact me at (713) 520-9900.

LAB NO. A4793 CONT.

BB/lis

Enclosures: Analytical Summary, Analytical Report, Chain of Custody, Sample Receipt Checklist, Quality Control Logs, ENSR ID #A4793-17T, ENSR ID #A4793-18T, ENSR ID #A4793-1T, ENSR ID #A4793-6, Billing Summary

LAB NO. A4793
PROJECT 3519-003-133 Homco-Odessa, TX

ENSR

CONSULTING AND ENGINEERING
2925 RICHMOND AVENUE HOUSTON, TX 77098 (713) 520-1495

Analysis Request and Chain of Custody Record

Project no. 3519003133		Client/Project Name Hemo				Project Location Cedar TX			
Lab ID No	Field Sample No./ Identification	Date and Time	Gr	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
43A-01-102A	8:30-90	8:30		X	302 Alum	Soil	4°C	TECP Metals	
43A-01-102A		8:30			302 Alum			TECP Semi-volatiles	
43A-01-102A		8:30			402 Tall x 2			2HE Volatiles	
43A-01-102A		8:30			1602 Sludg			TPH	
43A-01-102A		8:30			1602 Sludg			Concns of Conductivity	
43A-01-102A		8:30			402 Paste			Ignitability	
43A-01-102A		8:30			402 Paste			Reactivity	
43A-01-102A		8:30			1602 Sludg			TECP Prelim	
Samplers: (Signature) [Signature]		Relinquished by: (Signature) [Signature]		Date: 8-30-90 Time: 17:20		Received by: (Signature) [Signature]		Date: 8-31-90 Time: 15:00	
Relinquished by: (Signature) [Signature]		Date: 8-30-90 Time: 17:20		Received by: (Signature) [Signature]		Date: 8-31-90 Time: 15:00		COC Seal No. 1005555100	
Relinquished by: (Signature) [Signature]		Date: 8-30-90 Time: 17:20		Received by: (Signature) [Signature]		Date: 8-31-90 Time: 15:00		Laboratory No. 1441793	
REMARKS: 1. Spun before 2. [Signature]									

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CONSULTING AND ENGINEERING
2925 RICHMOND AVENUE HOUSTON, TX 77098 (713) 520-1495

Analysis Request and Chain of Custody Record

Page 2 of 4

Project no.		Client/Project Name				Project Location		LABORATORY REMARKS	
Lab ID	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	
1	HQS-43-Ad	8-30-90 11:30		X	16oz SSAM	Soil	4°C	TPH	
2	HQS-43-Ad	11:40		X					
3	HQS-43-Ad	11:45		X					
4	HQS-43-Ad	11:45		X					
5	EQUIPMENT	16:00	X		32oz Plastic	Liquid	4°C	TECP Metals	
5	EQUIPMENT	16:00	X		16oz Alum	Liquid	4°C	TPH	
6	TRIP BLANK	17:00			40ml bar	Liquid	4°C	ZnE Volatiles	
7	HQS-43-Ad	12:00	X		16oz SSAM	Soil	4°C	TPH	
8	HQS-43-Ad	8:45	X		32oz Plastic	Soil	4°C	HOLD	
Samplers/(Signature)		Relinquished by:	Date:	Received by:	Date:	COC Seal No.			
[Signature]		(Signature)	Time: 8-30-90	(Signature)	Time: 19:20	N SANPLERS			
[Signature]		Relinquished by:	Date:	Received by:	Date:	PC55C551C0			
[Signature]		(Signature)	Time:	(Signature)	Time:				
[Signature]		Relinquished by:	Date:	Received by:	Date:				
[Signature]		(Signature)	Time:	(Signature)	Time:				
[Signature]		Relinquished by:	Date:	Received by:	Date:				
[Signature]		(Signature)	Time:	(Signature)	Time:				
REMARKS:		1. [Signature] Date: 8-31-90							
		2. [Signature] Date: 1530							
		Laboratory No. A41793							

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CONSULTING AND ENGINEERING
2925 RICHMOND AVENUE HOUSTON, TX 77098 (713) 520-1495

LABORATORIES © Analysis Request and Chain of Custody Record

Page

3 of 4

Project no.				Client/Project Name				Project Location			
3519003/33				HOMCO				Deer TX			
Lab ID No	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative	ANALYSIS REQUESTED			
9	HES-14-AC	8-30-90 14:20	X		16oz SUM	Soil	4'0	TPH			
10	HES-14-AC	14:30	X								
11	HES-14-AC	14:45	X								
12	HES-35-AC	15:15	X								
13	HES-35-AC	15:20	X								
14	HES-35-AC	15:30	X								
15	HES-41-BC	13:30	X								
16	HES-41-BC	13:40	X								
17	HES-41-BC	13:50	X								
Sampler: (Signature)				Relinquished by: (Signature)				Date: 8-30-90			
Ballenger				Ballenger				Time: 19:20			
Relinquished by: (Signature)				Relinquished by: (Signature)				Date: 8-30-90			
Ballenger				Ballenger				Time: 19:20			
Relinquished by: (Signature)				Relinquished by: (Signature)				Date: 8-30-90			
Ballenger				Ballenger				Time: 19:20			
Relinquished by: (Signature)				Relinquished by: (Signature)				Date: 8-30-90			
Ballenger				Ballenger				Time: 19:20			
REMARKS:				COC Seal No.				LABORATORY REMARKS			
				IN SAMPLER'S							
				PO 545510W							
				Laboratory No.							
				141783							

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CONSULTING AND ENGINEERING
2925 RICHMOND AVENUE HOUSTON, TX 77098 (713) 520-1495

LABORATORIES © Analysis Request and Chain of Custody Record

Project no. 3519-003-133		Client/Project Name HAMEO				Project Location Dallas, Texas	
Lab ID No.	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preser- valve
18	LF-550-A	8-30-70 10:30		X	32oz AWM	Soil	400
	LF-550-A	10:30		X	6002 55WM		
	LF-550-A	10:30		X	32oz AWM		
	LF-550-A	10:30		X	402 MLX 2		
18	LF-550-B	10:45		X	32oz AWM		
	LF-550-B	10:45		X	6002 55WM		
	LF-550-B	10:45		X	32oz AWM		
	LF-550-B	10:45		X	402 MLX 2		
Remarks:		Relinquished by: [Signature] Date: 8-30-90 Relinquished by: [Signature] Date: 10-19-20 Relinquished by: [Signature] Date: [] Relinquished by: [Signature] Date: []					
COC Seal No. 100 SAMPLES POS 5551111		Received by: [Signature] Date: [] Received by: [Signature] Date: [] Received by Laboratory: [Signature] Date: 8-31-90					
Laboratory No. 44783		Data Results To: [Signature] [Signature]					



ENSR LABORATORIES ©
SAMPLE RECEIPT CHECKLIST

Client Homer Project Number 3519-003-133 Laboratory Number A4793

- | | | |
|---|---|----------------------|
| 1 | ☐ Shipped | Notes: _____ |
| | ☒ Hand Delivered | _____ |
| 2 | ☒ COC Present on Receipt | Notes: _____ |
| | ☐ No COC | _____ |
| 3 | ☐ COC Tape on Shipping Container | Notes: _____ |
| | ☒ No COC Tape on Shipping Container | Notes: _____ |
| 4 | ☐ Samples Broken/Leaking | Notes: <u>Intact</u> |
| | ☒ Sample Intact on Receipt | _____ |
| | ☐ Other (See Notes) | _____ |
| 5 | ☐ Ambient on Receipt | Notes: _____ |
| | ☒ Chilled on Receipt | _____ |
| 6 | ☐ Samples Preserved Correctly | Notes: _____ |
| | ☐ Improper Preservatives | _____ |
| | ☒ N/A (None Recommended) | _____ |
| | ☐ Other (See Notes) | _____ |
| 7 | ☒ Received Within Holding Time | Notes: _____ |
| | ☐ Not Received Within Holding Time | _____ |
| | ☐ N/A (None Recommended) | _____ |
| | ☐ Other (See Notes) | _____ |
| 8 | ☐ COC Tapes on Samples | Notes: _____ |
| | ☒ No COC Tapes on Samples | _____ |
| 9 | ☐ Discrepancies Between COC and Sample Labels | Notes: _____ |
| | ☒ No Discrepancies Noted | _____ |
| | ☐ N/A (No COC Received) | _____ |

Additional Comments: _____

Inspected and Logged in by: TheCmCmCm Date/Time 8/31/15 20

ENSR Labs-Houston

Analytical Summary

10/22/90 14:14

Lab Number: A4793 Project: 3519-003-133 Homco-Odessa, TX								
Lab ID Field ID Test /Matrix	1 HSA-C1- WDA SOIL	2 HGS-43- BC1 SOIL	3 HGS-43- BC2 SOIL	4 HGC-43- CC1 SOIL	5 EQUIP BLANK LIQUID	6 TRIP BLANK LIQUID	7 HGS-43- BC3 SOIL	8 HGS-14- BC1 SOIL
CORR -S- -HOU (MDL)	SEE REM* (*)	--	--	--	--	--	--	--
FP -S- -AKM (MDL)	>180 °F ()	--	--	--	--	--	--	--
H2S -S-REA-AKM (MDL)	<54 MG/KG* (54)*	--	--	--	--	--	--	--
HCN -S-REA-AKM (MDL)	<54 MG/KG* (54)*	--	--	--	--	--	--	--
TPH - - -HOU (MDL)	--	--	--	--	<4 MG/L (4)	--	--	--
TPH -S- -HOU (MDL)	6400 MG/KG (370)	510 MG/KG (40)	<40 MG/KG (40)	<40 MG/KG (40)	--	--	430 MG/KG (40)	<40 MG/KG (40)
VOA - - -HOU (MDL)	--	--	--	--	--	ATTACHED UG/L (*)	--	--
pH -S-COR-HOU (MDL)	7.6 UNITS (0.1)	--	--	--	--	--	--	--

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: *James Wood* Date: 10/22/90 *Brent P. Brade* Date: 11/4/90

***** CONTINUED *****

ENSR

ENSR Labs-Houston

Analytical Summary

10/22/90 14:14

Lab Number: A4793

Project: 3519-003-133

Homco-Odessa, TX

Lab ID	9	10	11	12	13	14	15	16
Field ID	HGS-14-	HGS-14-	HGS-35-	HGS-35-	HGS-35-	HGS-41-	HGS-41-	HGS-41-
Test /Matrix	BC2	CC1	BC1	BC2	CC1	BC1	BC2	CC1
	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
TPH -S- -HOU	<40	<40	<40	<40	<40	<40	<40	<40
	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
(MDL)	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: [Signature] Date: 10/26/90 Brenda L. Paul Date: 11/4/90

***** CONTINUED *****

ENSR

ENSR Labs-Houston

Analytical Summary
10/22/90 14:14

Lab Number: A4793 Project: 3519-003-133 Homco-Odessa, TX						
Lab ID Field ID Test /Matrix	17 LF-SSC-A SOIL	18 LF-SSC-B SOIL	1T HSA-C1-WDA/ TCLP TCLP EXT	5T EQUIP BLANK TCLP EXT	17T LF-SSC-A/TCLP TCLP EXT	18T LF-SSC-B/TCLP TCLP EXT
Ag - -TCL-HOU (MDL)	--	--	<0.01 MG/L (0.01)	<0.01 MG/L (0.01)	<0.01 MG/L (0.01)	<0.01 MG/L (0.01)
As - -TCL-HOU (MDL)	--	--	0.02 MG/L (0.002)	<0.002 MG/L (0.002)	0.01 MG/L (0.002)	0.02 MG/L (0.002)
BNA - - -HOU (MDL)	--	--	ATTACHED UG/L (*)	--	ATTACHED UG/L (*)	ATTACHED UG/L (*)
Ba - -TCL-HOU (MDL)	--	--	0.8 MG/L (0.02)	0.04 MG/L (0.02)	0.7 MG/L (0.02)	0.4 MG/L (0.02)
Cd - -TCL-HOU (MDL)	--	--	<0.010 MG/L (0.010)	<0.010 MG/L (0.010)	<0.010 MG/L (0.010)	<0.010 MG/L (0.010)
Cr - -TCL-HOU (MDL)	--	--	<0.02 MG/L (0.02)	<0.02 MG/L (0.02)	<0.02 MG/L (0.02)	<0.02 MG/L (0.02)
Hg - -TCL-HOU (MDL)	--	--	<0.001 MG/L (0.001)	<0.001 MG/L (0.001)	<0.001 MG/L (0.001)	<0.001 MG/L (0.001)
Pb - -TCL-HOU (MDL)	--	--	0.1 MG/L (0.025)	<0.025 MG/L (0.025)	<0.025 MG/L (0.025)	<0.025 MG/L (0.025)

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: James M. Hogg Date: 10/22/90 Freddie L. Gault Date: 11/4/90

***** CONTINUED *****

ENSR

ENSR Labs-Houston

Analytical Summary
10/22/90 14:14

Lab Number: A4793 Project: 3519-003-133 Homco-Odessa, TX						
Lab ID Field ID Test /Matrix	17 LF-SSC-A SOIL	18 LF-SSC-B SOIL	1T HSA-C1-WDA/ TCLP TCLP EXT	5T EQUIP BLANK TCLP EXT	17T LF-SSC-A/TCLP TCLP EXT	18T LF-SSC-B/TCLP TCLP EXT
Se - -TCL-HOU (MDL)	--	--	<0.005 MG/L (0.005)	<0.005 MG/L (0.005)	<0.005 MG/L (0.005)	<0.005 MG/L (0.005)
TPH -S- -HOU (MDL)	<40 MG/KG (40)	<40 MG/KG (40)	--	--	--	--
VOA - - -HOU (MDL)	--	--	ATTACHED UG/L (*)	--	ATTACHED UG/L (*)	ATTACHED UG/L (*)

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: *[Signature]* Date: 10/22/90 *[Signature]* Date: 11/4/90

ENSR

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX		Field ID: HSA-CI-WDA	Date Sampled: 08/30/90	
Proj. No.: 3519-003-133		Lab ID: 1	Time Sampled: 830	
Lab No.: A4793		Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
CORR -S- -HOU CORROSIVITY ON SOLID EPA SW-846: 1110, NACE STEEL COUPON	SEE REM* *1			/ /
FP -S- -AKM IGNITABILITY ON SOLID EPA SW-846: 1010, PENSKY MARTIN	>180	*F		09/14/90
H2S -S-REA-AKM HYDROGEN SULFIDE, REACTIVE/SLD EPA SW-846: 7.3.4.2, 9030	<54 *2	MG/KG*	54	09/16/90
HCN -S-REA-AKM HYDROCYANIC ACID, REACTIVE/SLD EPA SW-846: 7.3.3.2, 9010	<54 *3	MG/KG*	54	09/16/90
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	6400	MG/KG	370	09/12/90 1000
pH -S-COR-HOU pH CORROSION ON SOLID EPA SW-846: 9045	7.6	UNITS	0.1	09/05/90 1600

*1 *UNABLE TO ANALYZE DUE TO MATRIX

*2 *TOTAL AVAILABLE H2S

*3 *TOTAL AVAILABLE HCN

ENSR

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-43-BC1	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 2	Time Sampled: 1130		
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	510	MG/KG	40	09/14/90 1100

ENSR Labs-Houston

Analytical Report

10/22/90 14:12

Homco-Odessa, TX		Field ID: HGS-43-BC2	Date Sampled: 08/30/90	
Proj. No.: 3519-003-133		Lab ID: 3	Time Sampled: 1140	
Lab No.: A4793		Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90	
(Test Code) Parameter (Test Name) (Test Method)		Concen- tration	Units	Method Detection Limit Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071		<40	MG/KG	40 09/14/90 1100

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGC-43-CC1	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 4	Time Sampled: 1145		
Lab No.: A4793	Matrix: SOIL (GRAB)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/14/90 1100

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: EQUIP BLANK	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 5	Time Sampled: 1600		
Lab No.: A4793	Matrix: LIQUID (GRAB)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH - - -HOU TOTAL PETROLEUM HYDROCARBONS EPA 600: 418.1	<4	MG/L	4	09/06/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: TRIP BLANK	Date Sampled: 08/30/90
Proj. No.: 3519-003-133	Lab ID: 6	Time Sampled: 1700
Lab No.: A4793	Matrix: LIQUID	Date Received: 08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS	ATTACHED #1	UG/L		09/05/90

ENSR Labs-Houston

Analytical Report

10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-43-BC3	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 7	Time Sampled: 1200		
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	430	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-14-BG1	Date Sampled: 08/30/90
Proj. No.: 3519-003-133	Lab ID: 8	Time Sampled: 1420
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-14-BC2	Date Sampled: 08/30/90
Proj. No.: 3519-003-133	Lab ID: 9	Time Sampled: 1430
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-14-CC1	Date Sampled: 08/30/90
Proj. No.: 3519-003-133	Lab ID: 10	Time Sampled: 1445
Lab No.: A4793	Matrix: SOIL (GRAB)	Date Received: 08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-35-BC1	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 11	Time Sampled: 1515		
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-35-BC2	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 12	Time Sampled: 1520		
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:12

Homco-Odessa, TX	Field ID: HGS-35-CC1	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 13	Time Sampled: 1530		
Lab No.: A4793	Matrix: SOIL (GRAB)	Date Received:08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX	Field ID: HGS-41-BC1	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 14	Time Sampled: 1330		
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX	Field ID: HGS-41-BC2	Date Sampled: 08/30/90
Proj. No.: 3519-003-133	Lab ID: 15	Time Sampled: 1340
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX	Field ID: HGS-41-CC1	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 16	Time Sampled: 1350		
Lab No.: A4793	Matrix: SOIL (GRAB)	Date Received: 08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/25/90 1300

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX	Field ID: LF-SSC-A	Date Sampled: 08/30/90		
Proj. No.: 3519-003-133	Lab ID: 17	Time Sampled: 1030		
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received:08/31/90		
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/12/90 1000

ENSR Labs-Houston

Analytical Report

10/22/90 14:13

Homco-Odessa, TX	Field ID: LF-SSC-B	Date Sampled: 08/30/90
Proj. No.: 3519-003-133	Lab ID: 18	Time Sampled: 1045
Lab No.: A4793	Matrix: SOIL (COMPOSITE)	Date Received: 08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	<40	MG/KG	40	09/12/90 1000

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX		Field ID: HSA-C1-WDA/TCLP	Date Sampled: / /	
Proj. No.: 3519-003-133		Lab ID: 1T	Time Sampled:	
Lab No.: A4793		Matrix: TCLP EXT	Date Received: 08/31/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Ag - -TCL-HOU TCLP SILVER EPA SW-846: 7760, ATOMIC ABSORPTION	<0.01	MG/L	0.01	09/17/90 800
As - -TCL-HOU TCLP ARSENIC EPA SW-846: 7060, GRAPHITE FURNACE	0.02	MG/L	0.002	09/27/90 730
BNA - - -HOU SEMIVOLATILE ORGANICS EPA SW-846: 3520,8270, LLE,GC/MS	ATTACHED *1	UG/L		Ext.: 09/12/90 Anal.: 09/24/90
Ba - -TCL-HOU TCLP BARIUM EPA SW-846: 6010, ICP	0.8	MG/L	0.02	09/27/90 715
Cd - -TCL-HOU TCLP CADMIUM EPA SW-846: 6010, ICP	<0.010	MG/L	0.010	09/27/90 715
Cr - -TCL-HOU TCLP CHROMIUM EPA SW-846: 6010, ICP	<0.02	MG/L	0.02	09/27/90 715
Hg - -TCL-HOU TCLP MERCURY EPA SW-846: 7470, COLD VAPOR	<0.001	MG/L	0.001	09/18/90 900
Pb - -TCL-HOU TCLP LEAD EPA SW-846: 6010, ICP	0.1	MG/L	0.025	09/27/90 715
Se - -TCL-HOU TCLP SELENIUM EPA SW-846: 7740, GRAPHITE FURNACE	<0.005	MG/L	0.005	10/10/90 840

*1 SEE ENSR ID #A4793-1T

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX	Field ID: HSA-C1-WDA/TCLP	Date Sampled: / /
Proj. No.: 3519-003-133	Lab ID: 1T	Time Sampled:
Lab No.: A4793	Matrix: TCLP EXT	Date Received:08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS	ATTACHED #1	UG/L		09/12/90

*1 SEE ENSR ID #A4793-1T

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX		Field ID: LF-SSC-A/TCLP	Date Sampled: / /	
Proj. No.: 3519-003-133		Lab ID: 17T	Time Sampled:	
Lab No.: A4793		Matrix: TCLP EXT	Date Received: 08/31/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Ag - -TCL-HOU TCLP SILVER EPA SW-846: 7760, ATOMIC ABSORPTION	<0.01	MG/L	0.01	09/17/90 800
As - -TCL-HOU TCLP ARSENIC EPA SW-846: 7060, GRAPHITE FURNACE	0.01	MG/L	0.002	09/27/90 730
BNA - - -HOU SEMIVOLATILE ORGANICS EPA SW-846: 3520,8270, LLE,GC/MS	ATTACHED *1	UG/L		Ext.: 09/12/90 Anal.: 09/24/90
Ba - -TCL-HOU TCLP BARIUM EPA SW-846: 6010, ICP	0.7	MG/L	0.02	09/27/90 715
Cd - -TCL-HOU TCLP CADMIUM EPA SW-846: 6010, ICP	<0.010	MG/L	0.010	09/27/90 715
Cr - -TCL-HOU TCLP CHROMIUM EPA SW-846: 6010, ICP	<0.02	MG/L	0.02	09/27/90 715
Hg - -TCL-HOU TCLP MERCURY EPA SW-846: 7470, COLD VAPOR	<0.001	MG/L	0.001	09/18/90 900
Pb - -TCL-HOU TCLP LEAD EPA SW-846: 6010, ICP	<0.025	MG/L	0.025	09/27/90 715
Se - -TCL-HOU TCLP SELENIUM EPA SW-846: 7740, GRAPHITE FURNACE	<0.005	MG/L	0.005	10/10/90 840

*1 SEE ENSR ID #A4793-17T

ENSR

***** CONTINUED *****

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX	Field ID: LF-SSC-A/TCLP	Date Sampled: / /
Proj. No.: 3519-003-133	Lab ID: 17T	Time Sampled:
Lab No.: A4793	Matrix: TCLP EXT	Date Received: 08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS	ATTACHED *1	UG/L		09/12/90

*1 SEE ENSR ID #A4793-17T

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX Proj. No.: 3519-003-133 Lab No.: A4793		Field ID: LF-SSC-B/TCLP Lab ID: 18T Matrix: TCLP EXT		Date Sampled: / / Time Sampled: Date Received: 08/31/90	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed	
Ag - -TCL-HOU TCLP SILVER EPA SW-846: 7760, ATOMIC ABSORPTION	<0.01	MG/L	0.01	09/17/90 800	
As - -TCL-HOU TCLP ARSENIC EPA SW-846: 7060, GRAPHITE FURNACE	0.02	MG/L	0.002	09/27/90 730	
BNA - - -HOU SEMIVOLATILE ORGANICS EPA SW-846: 3520, 8270, LLE, GC/MS	ATTACHED *1	UG/L		Ext.: 09/12/90 Anal.: 09/24/90	
Ba - -TCL-HOU TCLP BARIUM EPA SW-846: 6010, ICP	0.4	MG/L	0.02	09/27/90 715	
Cd - -TCL-HOU TCLP CADMIUM EPA SW-846: 6010, ICP	<0.010	MG/L	0.010	09/27/90 715	
Cr - -TCL-HOU TCLP CHROMIUM EPA SW-846: 6010, ICP	<0.02	MG/L	0.02	09/27/90 715	
Hg - -TCL-HOU TCLP MERCURY EPA SW-846: 7470, COLD VAPOR	<0.001	MG/L	0.001	09/18/90 900	
Pb - -TCL-HOU TCLP LEAD EPA SW-846: 6010, ICP	<0.025	MG/L	0.025	09/27/90 715	
Se - -TCL-HOU TCLP SELENIUM EPA SW-846: 7740, GRAPHITE FURNACE	<0.005	MG/L	0.005	10/10/90 840	

*1 SEE ENSR ID #A4793-18T

ENSR

***** CONTINUED *****

ENSR Labs-Houston

Analytical Report
10/22/90 14:13

Homco-Odessa, TX	Field ID: LF-SSC-B/TCLP	Date Sampled: / /
Proj. No.: 3519-003-133	Lab ID: 18T	Time Sampled:
Lab No.: A4793	Matrix: TCLP EXT	Date Received:08/31/90

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS	ATTACHED *1	UG/L		09/12/90

#1 SEE ENSR ID #A4793-18T

ENSR

ENSR Labs-Houston
QUALITY CONTROL LOG

Parameter: Ag Silver

Page: 1 of 4

Method of Analysis: EPA SW 846 11761 A.A.

Matrix: Solid and Liquid

Date/Time: 17 Sept 90/0800

Lab Numbers	Detection Limits
A4830-1→3	0.005 ^{mg/l}
A4814-1,2,4	0.01 ^{mg/l}
A4782-1,3,4,5	0.01 ^{mg/l}
A4726-1T→6T	0.01 ^{mg/l}
A4732-8,9,10	0.01 ^{mg/l}
A4719-1T,5T,18T	0.01 ^{mg/l}
A4793-1T,5T,17T	0.01 ^{mg/l}
A4750-1T,2T	0.01 ^{mg/l}
A4751-1T	0.01 ^{mg/l}
A4786-8T,9T	0.01 ^{mg/l}
A4787-10T	0.01 ^{mg/l}
A4846-1	2 ^{mg/kg}

Calibration Stds./Blk	Absorbance/Conc.
BLANK	0.000 / 0.003
0.5 ppm	0.010 / 0.515
1.0 ppm	0.020 / 1.015
2.0 ppm	0.040 / 2.002
Correlation Coefficient:	

Comments:

Check Standards	Concentration Found/True
Sample Blank A4830	0.008 ppm
Method Blank	0.003 ppm
P.E. Std. EPA #2	1.04 / 1.00 ppm
Internal Std. 0.75 ppm	0.76 / 0.75 ppm
0.04 ppm	0.043 ppm
0.02 ppm	0.019 ppm

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
100→25 (T) A4830-3	<0.02	<0.02	*	*	0.053	*	+0.05	106%
100→25 (T) A4814-1	<0.04	<0.04	*	*	0.104	*	+0.100	104%
A4782-3	<0.04	<0.04			0.108	*	+0.100	108%
A4726-1T	<0.04	—	—	—	0.940	*	50% 0.2 ppm	94%
-2T	<0.04	—	—	—	0.966	*	50% 0.2 ppm	97%
-3T	<0.04	—	—	—	0.048	*	+0.05	96%

Analyst: Michelle Lantz

QA/QC Approval: Deanna M. Peneg

QUALITY CONTROL LOG

Ag Silver

Page: 2 of 4

Matrix: Solid and Resin

Method of Analysis:

Date/Time: 17 Sept 90 / 0800

Internal Quality Control Duplicates and Spikes								
* Below MDL								
Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A4726-4T	LO.04	—	—	—	0.920	*	50% 0.8 2 ppm	92%
-5T	LO.04	—	—	—	0.949	*	50% 0.8 2 ppm	95%
-6T	LO.04	—	—	—	0.932	*	50% 0.8 2 ppm	93%
A4732-8T	LO.04	—	—	—	0.885	*	50% 0.8 2 ppm	88%
-9T	LO.04	—	—	—	0.932	*	50% 0.8 2 ppm	93%
-10T	LO.04	—	—	—	0.905	*	50% 0.8 2 ppm	90%

Analyst:

Michelle Laroni

QA/QC Approval

De Anna M. Seneca

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Silver DATE/TIME: 17 Sept 90 / 0800 PAGE 3 OF 4
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO. - SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVERY
A4719-1T	<0.04	—	—	—	0.937	*	50% FB 2ppm	94%
-5T	<0.04	—	—	—	0.049	*	+0.05	98%
-18T	<0.04	—	—	—	0.939	*	50% FB 2ppm	94%
A4793-1T	<0.04	—	—	—	0.051	*	+0.05	102%
-5T	<0.04	—	—	—	0.949	*	50% FB 2ppm	95%
-17T	<0.04	—	—	—	0.046	*	+0.05	92%
-18T	<0.04	—	—	—	0.045	*	+0.05	90%
A4750-1T	<0.04	—	—	—	0.045	*	+0.05	90%
-2T	<0.04	—	—	—	0.049	*	+0.05	98%
A4751-1T	<0.04	—	—	—	0.044	*	+0.05	88%
A4786-8T	<0.04	—	—	—	0.055	*	+0.05	110%
-9T	<0.04	<0.04	*	*	0.047	*	+0.05	94%
A4787-10T	<0.04	<0.04	*	*	0.046	*	+0.05	92%
-11T	<0.04	—	—	—	0.045	*	+0.05	90%
A4846-1	0.084	0.086	0.002	2.35	0.096	0.042	50% FB 0.100	108%
A4846-2	<0.04	<0.04	*	*	0.056	*	+0.05	112%
A4650-1T	<0.04	—	—	—	+0.043	*	+0.05	86%
-2T	<0.04	—	—	—	+0.049	*	+0.05	92%
-3T	<0.04	—	—	—	+0.051	*	+0.05	102%
-4T	<0.04	—	—	—	+0.048	*	+0.05	96%

ANALYST: Michelle Lewis

QA/QC APPROVAL: DeAnna M. Sena

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Silver DATE/TIME: 17 Sept 90 0800 PAGE 4 OF 4
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO. - SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVER:
^{EXTDUP} A4650-4T	LO.04	—	—	—	0.051	*	+0.05	100%
-5T	LO.04	LO.04	*	*	0.050	*	+0.05	100%
-6T	LO.04	—	—	—	0.049	*	+0.05	98%
-7T	LO.04	—	—	—	0.050	*	+0.05	100%
-8T	LO.04	—	—	—	0.051	*	+0.05	100%
-9T	LO.04	—	—	—	0.054	*	+0.05	108%
^(T) A4851-2	LO.02	LO.02	*	*	0.046	*	+0.05	92%
^(B.35) A4851-4	LO.02	LO.02	*	*	0.047	*	+0.05	94%
A4830-2	LO.02	LO.02	*	*	0.044	*	+0.05	88%
A4830-BLK	0.008	—	—	—	0.050	*	+0.05	100%
A4814-BLK	-0.001	—	—	—	0.109	*	+0.100	109%
A4726-BLK	-0.005	—	—	—	0.056	*	+0.05	112%
A4750-BLK	-0.007	—	—	—	0.043	*	+0.05	86%
A4791-BLK	0.005	—	—	—	0.049	*	+0.05	98%
^{23 → 100} A4846-BLK	0.011	—	—	—	0.048	*	+0.05	98%
^{100 → 25} A4846-BLK	0.011	—	—	—	0.051	*	+0.05	102%
A4650-BLK	0.006	—	—	—	0.053	*	+0.05	106%
A4951-BLK	0.015	—	—	—	0.051	*	+0.05	102%

ANALYST: Michelle Savie

QA/QC APPROVAL: De Anna M. Sene

QUALITY CONTROL LOG

Page: 2 of 3

Matrix: Solid & liquid

Date/Time: 9-27-90 0730

$$\frac{2}{11}$$

* Below MDL

A4824-1	0.0295	—	—	—	0.0414	0.015	50% $\bar{E}_2$ 0.050ppm	107%
A4824-2	0.0526	—	—	—	0.0549	0.0263	50% $\bar{E}_2$ 0.050ppm	114%
A482-BK	0.0008	—	—	—	0.0415	*	+0.04	104%
-1T	0.0123	—	—	—	0.0321	0.006	50% $\bar{E}_2$ 0.050ppm	104%
-3T	0.0219	—	—	—	0.0382	0.011	50% $\bar{E}_2$ 0.050ppm	110%
-4T	<0.002	—	—	—	0.0425	*	+0.04	106%

QA/QC Approval: DeAnna M. Senegal

QUALITY CONTROL LOG

Page: 3 of 3

Matrix: Solid & liquid

Date/Time: 9-27-90 0730

[illegible]

Analyst: Mitchell Savari

QA/QC Approval: DeAnna M. Senegal

Time: 0715

ICAP Quality Control Logs
Method EPA SW-846:6010, 3rd Ed.

Calibration, Standard and Blank Information

Parameter	MDL	Zn	Pb	Cd	Ni	Mn	Cr	Be	Cu	Ba
		0.08	0.100	0.04	0.08	0.08	0.08	0.08	0.08	0.08
CALIBRATION	BLANK	-0.001	-0.003	0.000	-0.000	-0.000	0.001	0.000	-0.000	-0.000
	5.00 ppm	5.03	4.96	5.08	4.88	4.91	5.06	4.99	4.92	4.95
	1.00 ppm	1.05	1.03	0.998	0.998	0.984	0.984	1.01	1.02	0.996
	0.100 ppm	—	0.107	—	—	—	—	—	—	—
	0.08 ppm	0.082	—	0.081	0.079	0.079	0.084	0.083	0.086	0.080
	0.04 ppm	0.042	—	0.040	0.043	0.038	0.044	0.041	0.041	0.038
STD / BLK										

CHECK STD	ERA 3	0.925 1.00	0.912 1.00	0.940 1.00	0.932 1.00	0.941 1.00	0.957 1.00	0.961 1.00	0.995 1.00	0.940 1.00

SAMPLE BLANKS	A485-BLK	0.030	0.001	-0.000	0.007	0.000	0.001	-0.000	0.009	0.000
	A4830-BLK	0.022	0.009	-0.000	0.002	0.000	0.001	0.000	0.007	0.000
	A4926-BLK	—	—	—	0.006	—	—	—	—	—

Analyst: Michelle Savari QA/QC Approval: DeAnna M. Senese

Date: 27 Sept 90Time: 0715ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010
Duplicate and Spike Information

* Below MDL

Parameter MDL	Zn 0.08	Pb 0.100	Cd 0.04	Ni 0.08	Mn 0.08	Cr 0.08	Be 0.08	Cu 0.08	Ba 0.08	
A4851-BLK	0.030	0.001	-0.000	0.007	0.000	0.001	-0.000	0.009	0.000	
Duplicate	—	—	—	—	—	—	—	—	—	
% RPD	—	—	—	—	—	—	—	—	—	
Spike BLK SPK	0.981	0.850	0.086	0.922	0.908	0.196	0.096	0.202	1.79	
% Recovery	86%	85%	86%	92%	91%	98%	96%	101%	90%	
A4851-4	0.037	0.001	0.003	0.007	1.49	0.014	0.000	0.009	0.890	
Duplicate	0.037	0.003	0.003	0.005	1.48	0.015	0.000	0.011	0.896	
% RPD	0.0	*	*	*	0.673	*	*	20.0	0.672	
Spike	1.18	1.05	0.099	0.973	6.79	0.231	0.098	0.181	5.26	
% Recovery	103%	105%	99%	97%	83%	88%	98%	90%	85%	
A4851-2	0.036	0.010	0.001	0.007	1.65	0.008	0.000	0.011	0.756	
Duplicate	0.032	0.005	0.000	0.006	1.64	0.008	0.000	0.013	0.815	
% RPD	11.8	*	*	*	0.608	*	*	16.6	7.51	
Spike	1.02	0.937	0.091	0.936	7.73	0.201	0.094	0.184	4.75	
% Recovery	88%	94%	91%	94%	113%	100%	94%	92%	86%	
A4830-BLK	0.022	0.009	-0.000	0.002	0.000	0.001	0.000	0.007	0.000	
Duplicate	—	—	—	—	—	—	—	—	—	
% RPD	—	—	—	—	—	—	—	—	—	
Spike BLK SPK	—	0.844	0.091	—	0.865	0.179	0.100	0.205	1.81	
% Recovery	—	84%	91%	—	86%	90%	100%	102%	90%	
A4830-2	0.027	0.006	0.010	0.007	2.20	0.012	0.000	0.007	1.13	
Duplicate	0.026	0.010	0.010	0.007	2.24	0.013	0.000	0.008	1.10	
% RPD	3.77	*	0.0	*	1.80	*	*	*	2.69	
Spike	1.23	0.906	0.140	0.919	9.75	0.239	0.095	0.198	6.27	
% Recovery	112%	91%	100%	92%	95%	96%	95%	99%	88%	

Analyst:

Michelle Savore

QAQC Approval:

Delinna M. Senegal

Date: 27 Sept 90Time: 0715ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010
Duplicate and Spike Information

* Below M

Parameter MDL	Zn 0.08	Pb 0.100	Cd 0.04	Ni 0.08	Mn 0.02	Cr 0.03	Ba 0.02	Cu 0.02	Ba 0.03
A4830-1	0.056	-0.003	0.003	0.007	1.35	0.018	0.000	0.010	0.605
Duplicate	0.056	0.002	0.002	0.006	1.26	0.017	0.000	0.010	0.581
% RPD	0.0	*	*	*	6.90	*	*	*	4.05
Spike	1.12	0.819	0.103	0.940	6.25	0.264	0.101	0.218	4.32
% Recovery	90%	82%	103%	94%	85%	96%	101%	109%	95%
²³⁵ U → 100 A4920-5	—	2.67	—	—	—	—	—	—	—
Duplicate	—	2.39	—	—	—	—	—	—	—
% RPD	—	11.1	—	—	—	—	—	—	—
Spike	—	3.68	—	—	—	—	—	—	—
% Recovery	✓	101%	✓	✓	✓	✓	✓	✓	✓
²³⁵ U → 100 A4819-4	—	0.175	—	—	—	—	—	—	—
Duplicate	—	0.187	—	—	—	—	—	—	—
% RPD	—	4.63	—	—	—	—	—	—	—
Spike	—	1.26	—	—	—	—	—	—	—
% Recovery	✓	108%	✓	✓	✓	✓	✓	✓	✓
A4813-1T	—	0.116	0.002	—	—	0.003	—	—	0.829
Duplicate	—	—	—	—	—	—	—	—	—
% RPD	—	—	—	—	—	—	—	—	—
Spike • Bench	—	2.34	0.093	—	—	0.174	—	—	3.88
% Recovery	✓	84%	93%	✓	✓	87%	✓	✓	89%
-5T	—	0.005	0.000	—	—	0.003	—	—	0.038
Duplicate	—	—	—	—	—	—	—	—	—
% RPD	—	—	—	—	—	—	—	—	—
Spike • Bench	—	2.34	2.61	—	—	2.65	—	—	2.48
% Recovery	✓	94%	104%	✓	✓	106%	✓	✓	96%

Analyst: Michelle Savari

QA/QC Approval:

DeAnna L. Senogal

Date: 27 Sept 90Time: 0715ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010
Duplicate and Spike Information

* Below MDL

Parameter MDL	Zn 0.08	Pb 0.100	Cd 0.04	Ni 1.08	Mn 0.08	Cr 0.08	Be 0.08	Cu 0.08	Ba 0.08	
A4793-17T	—	-0.008	0.000	—	—	0.003	—	—	0.672	
Duplicate	—	—	—	—	—	—	—	—	—	
% RPD	—	—	—	—	—	—	—	—	—	
Spike Bench	—	0.924	2.17	—	—	2.33	—	—	3.85	
% Recovery	✓	92%	87%	✓	✓	93%	✓	✓	100%	
-18T	—	0.005	0.000	—	—	0.003	—	—	0.390	
Duplicate	—	—	—	—	—	—	—	—	—	
% RPD	—	—	—	—	—	—	—	—	—	
Spike	—	0.861	0.090	—	—	0.212	—	—	3.53	
% Recovery	✓	86%	90%	✓	✓	106%	✓	✓	110%	
^(23→100) A4906-7	—	—	—	1.50	—	—	—	—	—	
Duplicate	—	—	—	—	—	—	—	—	—	
% RPD	—	—	—	—	—	—	—	—	—	
Spike	—	—	—	2.50	—	—	—	—	—	
% Recovery	✓	✓	✓	100%	✓	✓	✓	✓	✓	
A4906-BLK	—	—	—	0.006	—	—	—	—	—	
Duplicate	—	—	—	—	—	—	—	—	—	
% RPD	—	—	—	—	—	—	—	—	—	
Spike BLK SPIK	—	—	—	1.10	—	—	—	—	—	
% Recovery	✓	✓	✓	110%	✓	✓	✓	✓	✓	
Duplicate										
% RPD										
Spike										
% Recovery										

Analyst: Michelle Savie

QAQC Approval:

DeAnne M. Senoga

ENSR Labs-Houston

QUALITY CONTROL LOG

Parameter: Mercury Hg

Page: 1 of 4

Method of Analysis: SW846-7470 AA

Matrix: TCLP/Water/Soil

Date/Time: 18 Sept. 90/0900

Lab Numbers	Detection Limits	Calibration Stds./Blk	Absorbance/Conc.	Check Standards	Concentration Found/True
A4750-1T, 2T	0.001mg/l	Blank	0.000 0.0000	Sample Blank	ppm
A4751 T		0.002	0.010 0.0019	Method Blank	0.0000 ppm
A4846-2		0.005	0.027 0.0054	P.E. Std. 481-2	0.0090 0.0087 ppm
A4735-6T		0.010	0.057 0.0094	CCVS Internal Std. 0.0075 ppm	0.0069 0.0075 ppm
A4829-2T				0.001 ppm	0.0009 0.001
A4852-2T, 3T					
A4650-1(49)T		Correlation Coefficient:			
Diss. A4830 (1+3)		Comments:			
A4786-(8,9)T					
A4734-5T					
A4830-7,3					
A4787-(10,11)T					

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
Blank	<0.001	_____	_____	_____	0.0054	*	0.005	108%
A4750-1T	<0.001	_____	_____	_____	0.0048	*	50% of 0.010	96
A4750-2T	<0.001	_____	_____	_____	0.0052	*	50% of 0.010	104
A4751-2T	<0.001	_____	_____	_____	0.0046	*	↓	92
A4846-2	<0.001	<0.001	*	*	0.0050	*	0.005	100
A4735-6T	<0.001	_____	_____	_____	0.0053	*	50% of 0.010	106

Analyst: James Martin

QA/QC Approval: Delanna M. Senegal

ENSR Labs-Houston

QUALITY CONTROL LOG

Parameter: Mercury Hg
Method of Analysis: SW846-7470 AA

Page: 2 of 4

Matrix: TCLP Water Soil

Date/Time: 18 Sept 90/0900

Lab Numbers	Detection Limits
A4734-4T	0.001 mg/l
A4765-1T	↓
A4765-2T	0.02 mg/l
A4858-(2,3)	0.001 mg/l
A4858(1→3)	↓
A4782 ^{1,3,75}	0.002 mg/l
A4814-1,2,4	↓
A4793-1,5,11,18	0.001 mg/l
A4846-1	0.05 mg/kg
A4851(1→4)	0.001 mg/l
A4851(1→4)	0.001 mg/l
A4824-1	1.00 ug/l
A4824-1	0.05 mg/kg
A4824-2	10 ug/l

Calibration Std./Blk	Absorbance/Conc.
Correlation Coefficient:	

Comments:

[illegible]

Internal Quality Control Duplicates and Spikes

* Below MDL

[illegible]

Analyst:

QA/QC Approval:

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Mercury Hg DATE/TIME: 18 Sept 90/0900 PAGE 3 OF 4
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO. - SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVERY
A4829-2T	20.001	20.001	*	*	0.0051	*	0.005	102
A4852-2T	<0.001	<0.001	*	*	0.0054	*	0.005	108
A4852-3T	<0.001	—	—	—	0.0054	*	50% of 0.010	108
A4650-1T	20.001	—	—	—	0.0053	*	0.005	106
A4650-2T		—	—	—	0.0055	*	50% of 0.010	110
A4650-3T		—	—	—	0.0056	*	50% of 0.010	112
A4650-4T		20.001	*	*	0.0057	*	0.005	114
A4650-4 ^{sp} 8T		—	—	—	0.0055	*	50% of 0.010	110
A4650-5T		—	—	—	0.0058	0.0005	0.005	106
A4650-6T					0.0054	*	0.005	108
A4650-7T					0.0049	*	0.005	98
A4650-8T					0.0060	0.0007	0.005	106
A4650-9T		↓	↓	↓	0.0058	0.0006	0.005	104
A4830-1		<0.001	*	*	0.0051	*	0.005	102
A4786-8T		—	—	—	0.0055	*	50% of 0.01	110
A4786-9T		—	—	—	0.0053	*	0.005	106
A4784-5T		↓	↓	↓	0.0054	*	50% of 0.010	108
A4830-1		20.001	*	*	0.0048	*	0.005	96
A4787-10T		20.001	*	*	0.0054	*	0.005	108
A4787-11T	↓	—	—	—	0.0046	*	0.005	92

ANALYST:

James M. Walker

QA/QC APPROVAL:

DeAnna M. Sene

ENSR LABS-HOUSTON
QUALITY CONTROL LOG

PARAMETER: Mercury Hg DATE/TIME: 18 Sep 90 / 0900 PAGE 4 OF 4
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO.- SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVERY
A4734-4T	<0.001	————	—	————	0.0055	*	0.005	110
A4765-4T	0.0016	————	—	————	0.0067	0.0016	0.005	102
A4765-2T	0.0051	————	—	————	0.0072	0.00255	50% of 0.010	94
A4858-2	<0.001	<0.001	*	*	0.0051	*	0.005	102
A4858-1	<0.001	<0.001	*	*	0.0052	*	0.005	109
A4782-3	<0.002	<0.002	*	*	0.0051	*	0.005	102
A4814-1	<0.002	<0.002	*	*	0.0046	*	50% of 0.010	92
A4793-1T	<0.001	————	—	————	0.0048	*	50% of 0.010	96
A4793-5T		<0.001	*	*	0.0046	*	0.005	92
A4793-17T		————	—	————	0.0049	*	50% of 0.010	98
A4793-18T	↓	↓	↓	↓	0.0044	*	50% of 0.010	88
A4846-1	0.0031	0.0030	0.0001	3.28	0.0078	0.0031	0.005	94
^{D.S.S.} A4851-3	<0.001	————	—	————	0.0049	*	0.005	98
A4851-2	<0.001	<0.001	*	*	0.0050	*	0.005	100
A4824-1	0.0061	0.0062	0.0001	1.63	0.0116	0.0061	0.005	110
A4824-2	0.0051	0.0052	0.0001	1.94	0.0074	0.00255	50% of 0.010	96
A4829-1	<0.001	<0.001	*	*	0.0048	*	50% of 0.010	98

ANALYST: James M. Walter

QA/QC APPROVAL: Anna M. Jones

Page: 1 of 1

Matrix: TCLP WATER EXTRA

Date/Time: 10 OCT 90/0840

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A4793-1T	<0.005	————	————	————	0.0206	*	50% of 0.05 ppm	82
A4793-5T		↓	↓	↓	0.0248	*	↓	99
A4793-17T		↓	↓	↓	0.0180	*	0.02 ppm	90
A4793-18T		<0.005	*	*	0.0170	*	0.02 ppm	85
A4829-2		<0.005	*	*	0.0265	*	50% of 0.05 ppm	106
A4897-5	✓	————	————	————	0.0252	*	60% of 0.05 ppm	101

Analyst:

QA/QC Approval:

Lee Lewis

ENSR Labs-Houston

QUALITY CONTROL LOG

Parameter: Total Petroleum Hydrocarbons-Water

Page: 1 of 1

Method of Analysis: EPA 600/4181

Matrix: water

Date/Time: 9-6-90/1300

Lab Numbers	Detection Limits
14782(13-S)	4 mg/l
14784-1	40 mg/l
A4786-9	4 mg/l
A4793-5	4 mg/l
14800-35	15 mg/l
44755-1	4 mg/l

Calibration Stds./Blk	Absorbance/Conc.
2.1	0.0740/1.96
4.2	0.0986/3.80
8.5	0.1532/7.88
17.0	0.2953/18.5
42.5	0.6088/41.9
IS 21.3	0.3852/25.2
Correlation Coefficient: <u>0.9986</u>	

Comments:
Insufficient sample for further OC.
3ms
9/7/90

Check Standards	Concentration Found/True
Sample Blank	
Method Blank	Abs. <u>0.0159</u>
P.E. Std.	
Internal Std.	<u>25.2/21.3</u>
IS 21.3	<u>24.7/21.3</u>

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result (mg)	Sample Result (mg)	Spike Added (mg)	Percent Recovery (mg)
Water Spk					21.3	22	21.3	102%
Water Spk					21.2	22	21.3	100%
Water Spk	21.8	21.2	0.6	2.8%				

Analyst: Erica A. Edwards

QA/QC Approval: Dr. Anna M. Penegate

ENSR Labs-Houston

QUALITY CONTROL LOG

Parameter: Total Petroleum Hydrocarbon Soil

Page: 1 of 1

Method of Analysis: EPA 600/418.1 SW846 9071

Matrix: Soil

Date/Time: 9-25-90/1300

Lab Numbers	Detection Limits	Calibration Stds./Blk	Absorbance/Conc.	Check Standards	Concentration Found/True
A4793 (7-16)	40 ^{ms} /kg	2.1	0.0655/1.74	Sample Blank	
A4809 (10-13) (15-22)	↓	4.2	0.0597/3.50	Method Blank	Abs. 0.0100
A4809 (4-23)	180 ^{ms} /kg	8.5	0.1564/8.34	P.E. Std.	
A4810 (8-9)	40 ^{ms} /kg	17.0	0.2981/18.6	Internal Std.	24.3/21.3
A4810-10	0.75%	42.5	0.6168/41.8	IS 21.3	24.1/21.3
A4829-1	2.5%	IS 21.3	0.3764/24.3		
		Correlation Coefficient: 0.9982			
		Comments:			

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result (mg)	Sample Result (mg)	Spike Added (mg)	Percent Recovery (mg)
A4793-11	<40	<40	*	*	8.4	<2	8.5	99%
A4809-17	<40	<40	*	*	8.4	<2	8.5	99%
A4809-19	<40	<40	*	*	8.1	<2	8.5	95%
A4810-9	<40	<40	*	*	8.2	<2	8.5	96%
A4829-1	425613	444359	18746	4.3%	←	Diluted out		→

Analyst:

Erick M. Edwards

QA/QC Approval:

DeAnna K. Senegale

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-HOU
 Lab Sample ID: A4793-1T
 Client Sample ID: HSA-C-WDA TCL

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/12/90
 Date Analyzed: 09/24/90
 Dilution Factor: 1.0

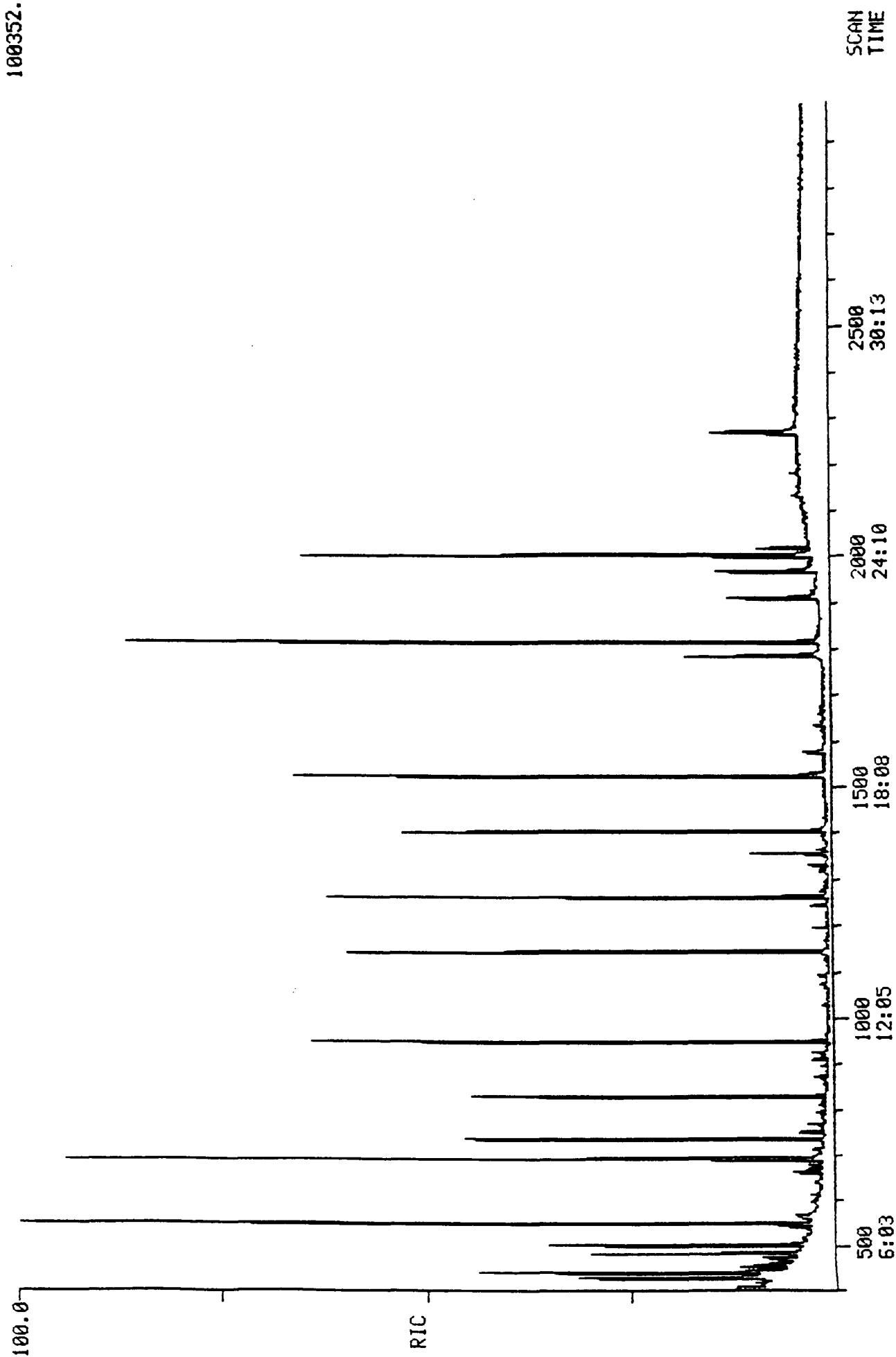
TCLP SEMIVOLATILES

CAS Number		UG/L	CAS Number		UG/L
110-86-1	Pyridine	52 <	98-95-3	Nitrobenzene	10 <
106-46-7	1,4-Dichlorobenzene . . .	10 <	87-68-3	Hexachlorobutadiene . . .	10 <
95-48-7	2-Methylphenol	10 <	88-06-2	2,4,6-Trichlorophenol . .	10 <
106-44-5	4-Methylphenol	10 <	95-95-4	2,4,5-Trichlorophenol . .	52 <
108-39-4	3-Methylphenol	10 <	121-14-2	2,4-Dinitrotoluene	10 <
67-72-1	Hexachloroethane	10 <	118-74-1	Hexachlorobenzene	10 <
			87-86-5	Pentachlorophenol	52 <

The Lab ID for data on this page is A47931T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC
09/24/90 14:35:00 DATA: A47931T #1 SCANS 400 TO 2987
SAMPLE: HSA-C-WDA/ICLP CALI: A47931T #3
COND5.: I508
RANGE: G 1,2987 LABEL: N 0, 4.0 GUAN: A 0, 1.0 J 0 BASE: U 20, 3



100352.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-HOU
 Lab Sample ID: A4793-17T
 Client Sample ID: LF-SSC-A TCLP

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/12/90
 Date Analyzed: 09/24/90
 Dilution Factor: 1.0

TCLP SEMIVOLATILES

CAS Number		UG/L	CAS Number		UG/L
110-86-1	Pyridine	51 <	98-95-3	Nitrobenzene	10 <
106-46-7	1,4-Dichlorobenzene	10 <	87-68-3	Hexachlorobutadiene	10 <
95-48-7	2-Methylphenol	10 <	88-06-2	2,4,6-Trichlorophenol	10 <
106-44-5	4-Methylphenol	10 <	95-95-4	2,4,5-Trichlorophenol	51 <
108-39-4	3-Methylphenol	10 <	121-14-2	2,4-Dinitrotoluene	10 <
67-72-1	Hexachloroethane	10 <	118-74-1	Hexachlorobenzene	10 <
			87-86-5	Pentachlorophenol	51 <

The Lab ID for data on this page is A479317T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC
09/24/90 15:34:00
SAMPLE: LF-SSC-A/ICLP
COND.: 150B
RANGE: G 1.2987 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
SCANS 400 TO 2987

100.0

RIC

SCAN
TIME

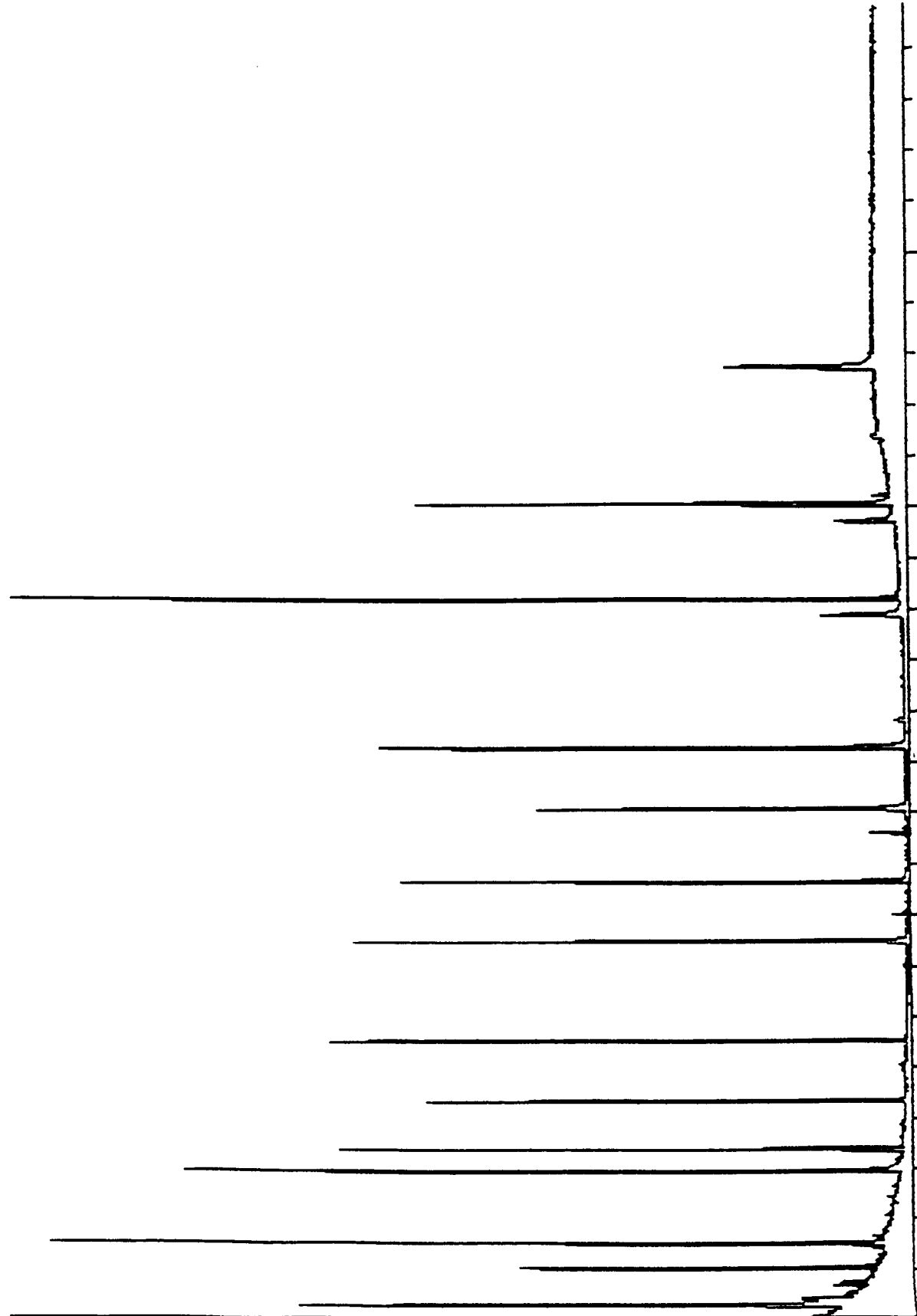
2500
30:13

2000
24:10

1500
18:08

1000
12:05

500
6:03



83968.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-HOU
 Lab Sample ID: A4793-18T
 Client Sample ID: LF-SSC-B TCLP

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/12/90
 Date Analyzed: 09/24/90
 Dilution Factor: 1.0

TCLP SEMIVOLATILES

CAS Number		UG/L		CAS Number		UG/L	
110-86-1	Pyridine	50	<	98-95-3	Nitrobenzene	10	<
106-46-7	1,4-Dichlorobenzene . . .	10	<	87-68-3	Hexachlorobutadiene . . .	10	<
95-48-7	2-Methylphenol	10	<	88-06-2	2,4,6-Trichlorophenol . .	10	<
106-44-5	4-Methylphenol	10	<	95-95-4	2,4,5-Trichlorophenol . .	50	<
108-39-4	3-Methylphenol	10	<	121-14-2	2,4-Dinitrotoluene	10	<
67-72-1	Hexachloroethane	10	<	118-74-1	Hexachlorobenzene	10	<
				87-86-5	Pentachlorophenol	50	<

The Lab ID for data on this page is A479318T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC
 09/24/90 16:21:00
 SAMPLE: LF-55C-B/TCLP
 COMPS.: I508
 RANGE: G 1.2987 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
 DATA: A479318T #1
 CAL I: A479318T #3
 SCANS 400 TO 2987

100.0

RIC

SCAN
TIME

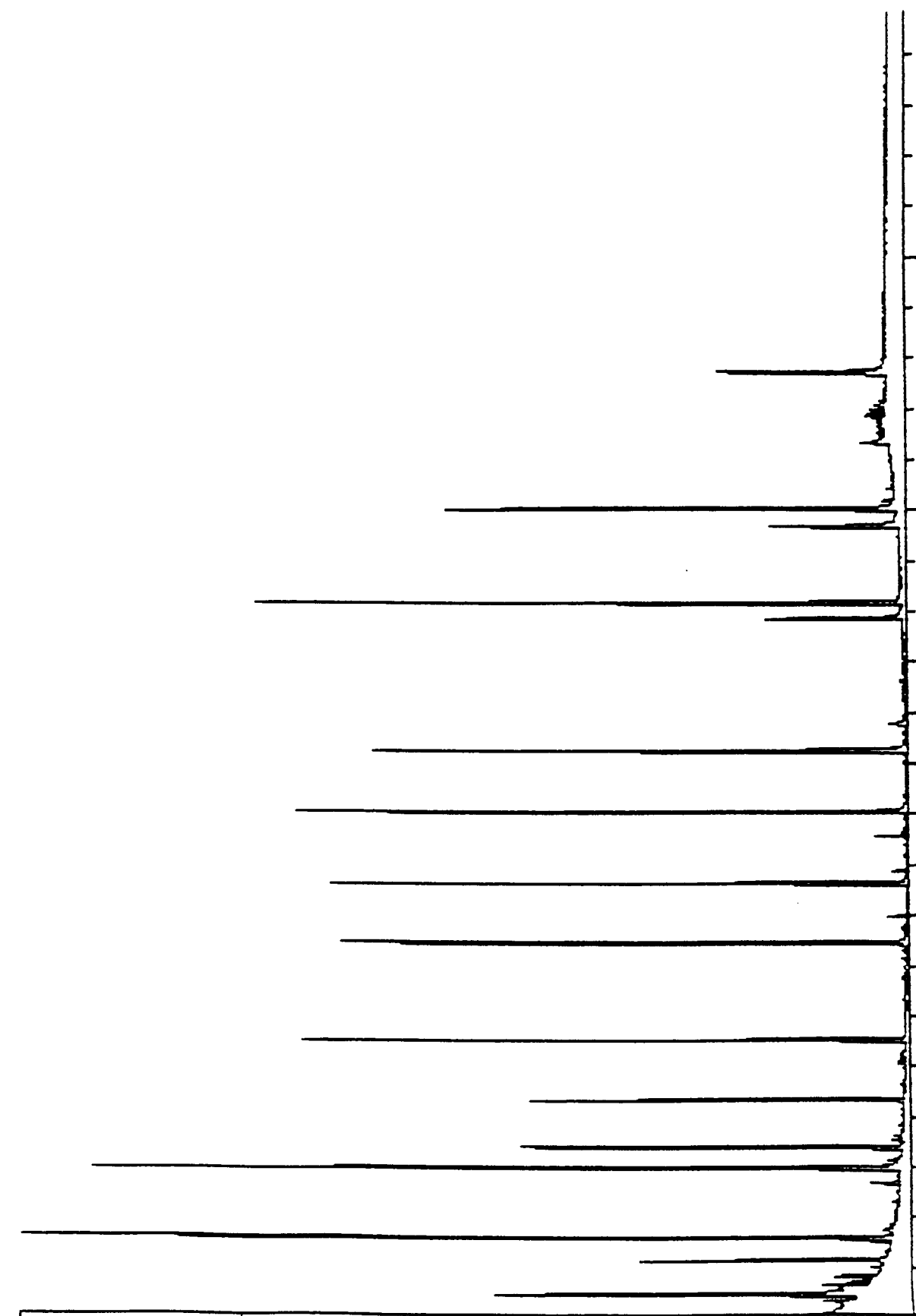
2500
30:13

2000
24:10

1500
18:08

1000
12:05

500
6:03



153344.

DECAFLUOROTRIPHENYLPHOSPHINE

Tuning Report

09/24/90 8:11:00 + 7:49
Instrument: I50B
Case Number:

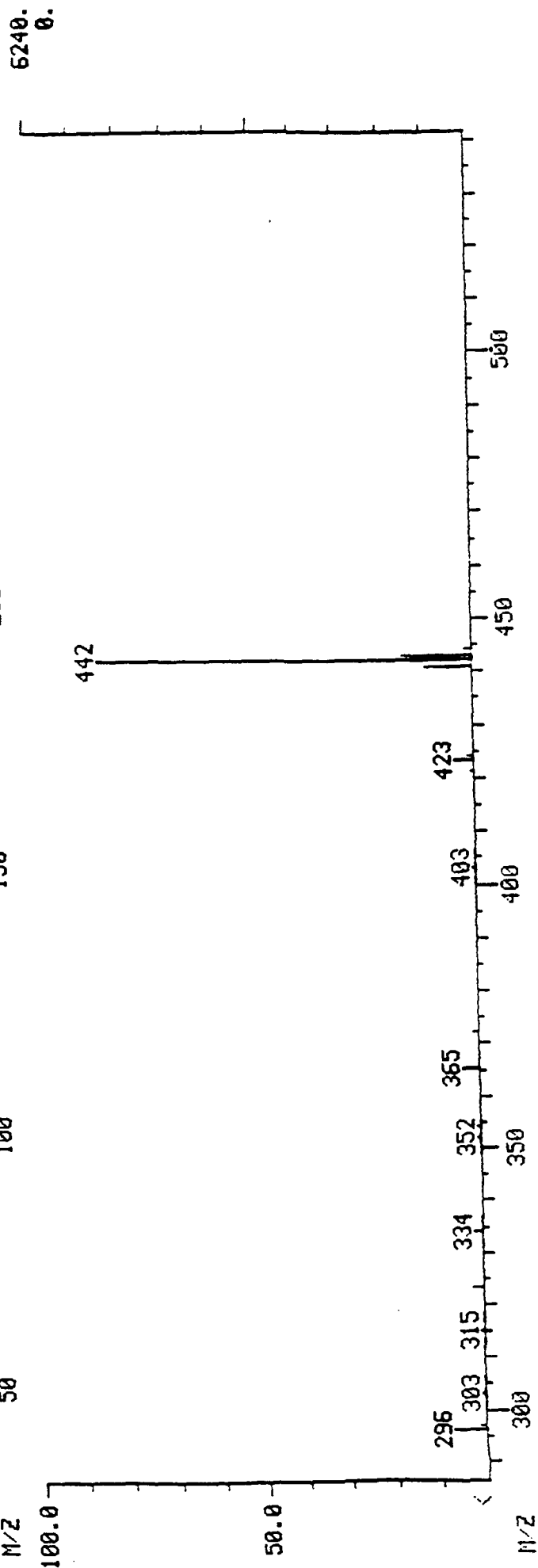
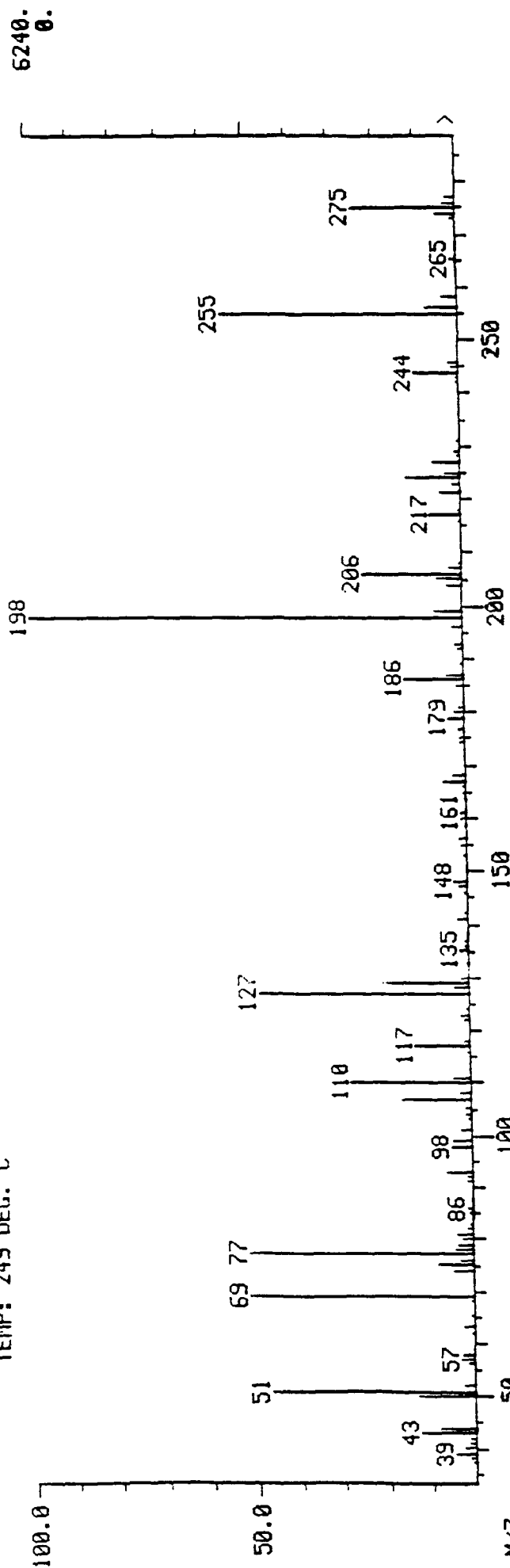
Data: DF092490B1 # 647
Cali: DF092490B1 # 3
Analyst: BPB
Laboratory:

Base m/z: 198
RIC: 56640.
Acct. No.: 8506-090
Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
51	2928.	46.9	30.0	60.0	198	46.9	PASS
68	42.	0.7	---	2.0	69	1.3	PASS
69	3212.	51.5	---	---	---	51.5	PASS
70	0.	0.0	---	2.0	69	0.0	PASS
127	3044.	48.8	40.0	60.0	198	48.8	PASS
197	0.	0.0	---	1.0	198	0.0	PASS
198	6240.	100.0	100.0	---	---	100.0	PASS
199	412.	6.6	5.0	9.0	198	6.6	PASS
275	1540.	24.7	10.0	30.0	198	24.7	PASS
365	226.	3.6	1.0	---	198	3.6	PASS
441	664.	10.6	---	100.0	443	67.1	PASS
442	5320.	85.3	40.0	---	198	85.3	PASS
443	990.	15.9	17.0	23.0	442	18.6	PASS

MASS SPECTRUM
09/24/90 8:11:00 + 7:49
SAMPLE: DFTPP CALIBRATION 50 NG
CONDS.: 150B
TEMP: 249 DEG. C

DATA: DF092490B1 #647
CALI: DF092490B1 #3
BASE N/Z: 198
RIC: 56640.



Mass List

09/24/90 8:11:00 + 7:49

Data: DF092490B1 # 647

Base m/z: 198

Cali: DF092490B1 # 3

RIC: 56640.

Sample: DFTPP CALIBRAITON 50 NG

Conds.: 150B

37 444 Mass	0.00 % RA	0. Inten.	Minima Maxima Mass	Min Inten: # 0 % RA	57. Inten.
38?	1.15	72.	167 F	5.19	324.
39?	4.84	302.	168 F	2.95	184.
40?	2.08	130.	174	0.99	62.
42?	1.25	78.	175	1.41	88.
43?	12.69	792.	179	3.75	234.
44?	8.17	510.	180	2.24	140.
50?F	13.14	820.	181	1.22	76.
51?F	46.92	2928.	185	1.73	108.
52?	2.60	162.	186 F	13.75	858.
56?	1.19	74.	187 F	4.29	268.
57?	3.17	198.	192	1.28	80.
58?	2.56	160.	193	1.54	96.
63?	2.12	132.	196	2.31	144.
69	51.47	3212.	198 F	100.00	6240.
74	4.55	284.	199 F	6.60	412.
75	7.95	496.	204 F	3.46	216.
76	2.76	172.	205 F	5.54	346.
77	51.67	3224.	206 F	23.40	1460.
78	3.97	248.	207	3.04	190.
79	3.59	224.	217	6.83	426.
80	2.44	152.	221 F	4.55	284.
81	3.62	226.	223	1.51	94.
82	0.96	60.	224	12.69	792.
86	1.06	66.	225	3.33	208.
91	0.99	62.	227	6.25	390.
92	1.06	66.	229	1.22	76.
93	5.83	364.	244	10.48	654.
98	4.46	278.	245	1.51	94.
99	3.71	244.	246	2.08	130.
101	2.18	136.	255 F	55.38	3456.
104	1.09	68.	256 F	7.47	466.
105	1.12	70.	258	3.49	218.
107	16.44	1026.	265	0.99	62.
108	2.60	162.	273	1.41	88.
110	27.79	1734.	274 F	4.74	296.
111	4.10	256.	275 F	24.68	1540.
117	13.01	812.	276 F	3.17	198.
118	1.03	64.	277	2.34	146.
123	1.73	108.	296	7.21	450.
127	48.78	3044.	297	1.06	66.
128	3.59	224.	323	2.56	160.
129	20.38	1272.	334	1.51	94.
130	1.54	96.	365	3.62	226.
135	1.60	100.	372	1.28	80.
141	2.31	144.	423	4.26	266.
147	1.54	96.	424	0.96	60.
148	2.95	184.	441 F	10.64	664.
155	1.22	76.	442 F	85.26	5320.
156	1.99	124.	443 F	15.87	990.
160	1.06	66.	444	1.57	98.
161	1.09	68.			

**CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS**

(Page 1)

Case No: <u>CALIB</u>	Region: _____	Calibration Date: <u>09/24/90</u>
Contractor: <u>ENSR LAB-HOU</u>		Time: <u>08:38</u>
Contract No: _____		Laboratory ID: <u>CC09249081</u>
Instrument ID: <u>FINN</u>		Initial Cali. Date: <u>09/19/90</u>

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Phenol	1.812	2.289	-26.3	*	
bis(2-Chloroethyl)Ether	1.663	2.015	-21.2		
2-Chlorophenol	1.434	1.589	-10.8		
1,3-Dichlorobenzene	1.549	1.478	4.6		
1,4-Dichlorobenzene	1.613	1.537	4.7	*	
Benzyl Alcohol	0.830	0.944	-13.7		
1,2-Dichlorobenzene	1.485	1.445	2.7		
2-Methylphenol	1.274	1.356	-6.4		
bis(2-Chloroisopropyl)Ether	1.854	2.200	-18.7		
4-Methylphenol	1.325	1.462	-10.3		
N-Nitroso-Di-n-Propylamine	1.067	1.391	-30.4		* *
Hexachloroethane	0.769	0.796	-3.5		
Nitrobenzene	0.401	0.443	-10.5		
Isophorone	0.531	0.723	-36.2		
2-Nitrophenol	0.182	0.194	-6.6	*	
2,4-Dimethylphenol	0.355	0.338	4.8		
Benzoic Acid	x 0.192	0.205	-6.8		
bis(2-Chloroethoxy)Methane	0.470	0.517	-10.0		
2,4-Dichlorophenol	0.279	0.309	-10.8	*	
1,2,4-Trichlorobenzene	0.299	0.306	-2.3		
Naphthalene	1.036	1.108	-6.9		
4-Chloroaniline	0.202	0.279	-38.1		
Hexachlorobutadiene	0.188	0.195	-3.7	*	
4-Chloro-3-Methylphenol	0.330	0.389	-17.9	*	
2-Methylnaphthalene	0.644	0.661	-2.6		
Hexachlorocyclopentadiene	0.286	0.082	71.3		* *
2,4,6-Trichlorophenol	0.342	0.385	-12.6	*	
2,4,6-Trichlorophenol	x 0.349	0.406	-16.3		
2-Chloronaphthalene	1.043	1.058	-1.4		
2-Nitroaniline	x 0.363	0.406	-11.8		
Dimethyl Phthalate	1.167	1.402	-20.1		
Acenaphthylene	1.581	1.677	-6.1		
2,6-Dinitrotoluene	0.276	0.305	-10.5		
3-Nitroaniline	x 0.303	0.254	16.2		
Acenaphthene	1.079	1.218	-12.9	*	
2,4-Dinitrophenol	x 0.143	0.132	7.7		* *
4-Nitrophenol	x 0.242	0.193	20.2		* *

RF(50) - Response Factor from daily standard file at
concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze
at 80 total nanograms

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

Form VII

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS
(Page 2)

Case No: CALIB Region: _____ Calibration Date: 09/24/90
Contractor: ENSR LAB-HOU Time: 08:38
Contract No: _____ Laboratory ID: CC092490B1
Instrument ID: FINN Initial Cali. Date: 09/19/90

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Dibenzofuran	1.444	1.577	-9.2		
2,4-Dinitrotoluene	0.349	0.381	-9.2		
Diethylphthalate	1.336	1.518	-13.6		
4-Chlorophenyl phenyl ether .	0.643	0.706	-9.8		
Fluorene	1.319	1.428	-8.3		
4-Nitroaniline x	0.265	0.190	28.3		
4,6-Dinitro-2-Methylphenol . . x	0.127	0.179	-40.9		
N-Nitrosodiphenylamine (1) . .	0.467	0.626	-34.0	*	
4-Bromophenyl phenyl ether . .	0.223	0.319	-43.0		
Hexachlorobenzene	0.272	0.377	-38.6		
Pentachlorophenol x	0.177	0.219	-23.7	*	
Phenanthrene	1.072	1.410	-31.5		
Anthracene	1.039	1.261	-21.4		
Di-n-Butylphthalate	1.541	1.883	-22.2		
Fluoranthene	1.303	1.644	-26.2	*	
Pyrene	1.136	1.177	-3.6		
Butylbenzylphthalate	0.640	0.571	10.8		
3,3'-Dichlorobenzidine	0.343	0.135	60.6		
Benzo(a)Anthracene	1.068	1.097	-2.7		
bis(2-Ethylhexyl)Phthalate . .	0.877	0.850	3.1		
Chrysene	1.047	1.099	-5.0		
Di-n-Octyl Phthalate	2.028	2.563	-26.4	*	
Benzo(b)Fluoranthene	1.515	0.876	42.2		
Benzo(k)Fluoranthene	1.514	0.995	34.3		
Benzo(a)Pyrene	1.269	1.430	-12.7	*	
Indeno(1,2,3-cd)Pyrene	1.210	0.882	27.1		
Dibenz(a,h)Anthracene	1.086	1.031	5.1		
Benzo(g,n,i)Perylene	1.120	1.257	-12.2		

RF(50) - Response Factor from daily standard file at
concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze
at 80 total nanograms

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Cannot be separated from diphenylamine

Form VII

**INITIAL CALIBRATION DATA
SEMIVOLATILE HSL COMPOUNDS**

(Page 1)

Case No: CALIB Region: _____ Instrument ID: I50B
Contractor: ENSR LAB-HOU Calibration Date: 09/13/90
Contract No: _____

Minimum AVE RF for SPCC is 0.050 Maximum %RSD for CCC is 30%

Laboratory ID	IC0913B020		IC0917B080		IC0913B160		CCC*		
	CC091990B1		IC0917B120						
Compound	RF(20)	RF(50)	RF(80)	RF(120)	RF(160)	AVE RF	% RSD	SPCC**	
Phenol	1.911	1.775	1.927	1.827	1.620	1.812	6.8	*	
bis(2-Chloroethyl)Ether	1.615	1.489	1.714	1.828	1.668	1.663	7.5		
2-Chlorophenol	1.479	1.435	1.439	1.387	1.430	1.434	2.3		
1,3-Dichlorobenzene	1.578	1.387	1.557	1.533	1.577	1.526	5.2		
1,4-Dichlorobenzene	1.657	1.502	1.557	1.679	1.668	1.613	4.9	*	
Benzyl Alcohol	0.788	0.713	0.886	0.925	0.836	0.830	10.0		
1,2-Dichlorobenzene	1.500	1.373	1.451	1.584	1.516	1.485	5.3		
2-Methylphenol	1.324	1.102	1.379	1.340	1.224	1.274	8.8		
bis(2-Chloroisopropyl)Ether	1.845	1.705	1.908	1.893	1.919	1.854	4.7		
4-Methylphenol	1.354	1.113	1.484	1.359	1.317	1.325	10.1		
N-Nitroso-Di-n-Propylamine	0.965	0.933	1.236	1.160	1.039	1.067	12.1	* *	
Hexachloroethane	0.770	0.702	0.800	0.840	0.732	0.769	7.1		
Nitrobenzene	0.423	0.377	0.410	0.401	0.393	0.401	4.3		
Isophorone	0.648	0.529	0.720	0.408	0.350	0.531	29.4		
2-Nitrophenol	0.158	0.188	0.182	0.175	0.206	0.182	9.7	*	
2,4-Dimethylphenol	0.378	0.283	0.371	0.358	0.383	0.355	11.6		
Benzoic Acid	x	0.148	0.297	0.174	0.149	0.192	37.0		
bis(2-Chloroethoxy)Methane	0.477	0.441	0.506	0.470	0.458	0.470	5.1		
2,4-Dichlorophenol	0.260	0.294	0.289	0.270	0.281	0.279	5.0	*	
1,2,4-Trichlorobenzene	0.298	0.293	0.299	0.297	0.306	0.299	1.6		
Naphthalene	1.033	1.042	1.019	1.036	1.048	1.036	1.1		
4-Chloroaniline	0.303	0.154	0.242	0.187	0.122	0.202	35.7		
Hexachlorobutadiene	0.182	0.196	0.182	0.193	0.188	0.188	3.4	*	
4-Chloro-6-Methylphenol	0.333	0.322	0.343	0.310	0.344	0.330	4.4	*	
2-Methylnaphthalene	0.634	0.572	0.654	0.633	0.725	0.644	8.5		
Hexachlorocyclopentadiene	0.303	0.061	0.344	0.354	0.367	0.286	44.8	* *	
2,4,6-Trichlorophenol	0.349	0.404	0.334	0.317	0.308	0.342	11.1	*	
2,4,5-Trichlorophenol	x	0.389	0.349	0.326	0.332	0.349	8.1		
2-Chloronaphthalene	1.090	1.108	0.974	1.001	1.042	1.043	5.5		
2-Nitroaniline	x	0.368	0.374	0.361	0.349	0.363	3.0		
Dimethyl Phthalate	1.214	1.259	1.181	1.123	1.058	1.167	6.7		
Acenaphthylene	1.610	1.569	1.565	1.569	1.592	1.581	1.2		
2,6-Dinitrotoluene	0.280	0.311	0.276	0.271	0.243	0.276	8.8		
3-Nitroaniline	x	0.305	0.316	0.286	0.306	0.303	4.1		
Acenaphthene	1.085	1.219	1.025	1.039	1.027	1.079	7.6	*	
2,4-Dinitrophenol	x	0.173	0.152	0.129	0.118	0.143	17.1	* *	
4-Nitrophenol	x	0.245	0.259	0.224	0.240	0.242	6.0	* *	

Response Factor (number is the amount of nanograms)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

x - - - Not detectable at 20 ng

INITIAL CALIBRATION DATA
SEMIVOLATILE HSL COMPOUNDS
(Page 2)

Case No: CALIB Region: _____ Instrument ID: I50B
Contractor: ENSR LAB-HOU Calibration Date: 09/13/90
Contract No: _____

Minimum AVE RF for SPCC is 0.050 Maximum %RSD for CCC is 30%

Laboratory ID	IC0913B020		IC0917B080		IC0913B160		AVE RF	% RSD	SPCC**	CCC*
Compound	RF(20)	RF(50)	RF(80)	RF(120)	RF(160)					
Dibenzofuran	1.562	1.493	1.363	1.379	1.422	1.444	5.8			
2,4-Dinitrotoluene	0.370	0.370	0.365	0.336	0.303	0.349	8.4			
Diethylphthalate	1.341	1.362	1.314	1.301	1.363	1.336	2.1			
4-Chlorophenyl phenyl ether	0.642	0.709	0.629	0.668	0.565	0.643	8.3			
Fluorene	1.270	1.490	1.213	1.335	1.289	1.319	8.0			
4-Nitroaniline	x	0.258	0.311	0.229	0.262	0.265	12.8			
4,6-Dinitro-2-Methylphenol	x	0.128	0.140	0.120	0.120	0.127	7.4			
N-Nitrosodiphenylamine (1)	0.424	0.413	0.494	0.492	0.514	0.467	9.8	*		
4-Bromophenyl phenyl ether	0.245	0.211	0.222	0.220	0.219	0.223	5.7			
Hexachlorobenzene	0.317	0.260	0.262	0.268	0.253	0.272	9.5			
Pentachlorophenol	x	0.181	0.182	0.171	0.175	0.177	2.9	*		
Phenanthrene	1.143	1.069	1.055	1.011	1.084	1.072	4.5			
Anthracene	1.152	0.919	1.050	1.004	1.072	1.039	8.3			
Di-n-Butylphthalate	1.660	1.359	1.601	1.458	1.625	1.541	8.3			
Fluoranthene	1.361	1.249	1.409	1.203	1.293	1.303	6.4	*		
Pyrene	1.281	1.069	1.099	1.032	1.201	1.136	9.0			
Butylbenzylphthalate	0.744	0.522	0.630	0.585	0.718	0.640	14.4			
3,3'-Dichlorobenzidine	0.338	0.229	0.379	0.347	0.421	0.343	20.8			
Benzo(a)Anthracene	1.163	1.078	1.047	1.056	1.080	1.085	4.2			
bis(2-Ethylhexyl)Phthalate	1.013	0.748	0.872	0.799	0.955	0.877	12.4			
Chrysene	1.225	0.985	1.042	0.937	1.038	1.045	10.4			
Di-n-Octyl Phthalate	2.290	1.980	1.960	1.770	2.138	2.028	9.7	*		
Benzo(b)Fluoranthene	1.671	1.641	1.476	1.322	1.465	1.515	9.4			
Benzo(k)Fluoranthene	1.671	1.641	1.476	1.318	1.465	1.514	9.5			
Benzo(a)Pyrene	1.395	1.297	1.276	1.134	1.244	1.269	7.4	*		
Indeno(1,2,3-cd)Pyrene	1.220	1.188	1.276	1.082	1.282	1.210	6.7			
Dibenz(a,h)Anthracene	1.003	1.218	1.112	0.990	1.105	1.086	8.6			
Benzo(g,h,i)Perylene	1.070	1.393	1.079	0.970	1.090	1.120	14.3			

Response Factor (number is the amount of nanograms)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

x - - - Not detectable at 20 ng

(1) - - Cannot be separated from diphenylamine

Form VI

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
Lab Sample ID: A4793-6
Client Sample ID: TB

Concentration: LOW
Sample Matrix: WATER
Percent Moisture: 100.0

Date Extracted: 09/05/90
Date Analyzed: 09/05/90
Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane . . .	5 <
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene .	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5 <
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane . . .	5 <
75-09-2	Methylene Chloride	10 B	79-00-5	1,1,2-Trichloroethane . .	5 <
67-64-1	Acetone	13 B	71-43-2	Benzene	5 <
75-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5 <
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether .	10 <
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
156-60-5	trans-1,2-Dichloroethene .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10 <
67-66-3	Chloroform	5 <	591-78-6	2-Hexanone	10 <
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
78-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5 <
71-55-6	1,1,1-Trichloroethane . .	5 <	108-88-3	Toluene	5 <
56-23-5	Carbon Tetrachloride . . .	5 <	108-90-7	Chlorobenzene	5 <
108-05-4	Vinyl Acetate	10 <	100-41-4	Ethylbenzene	5 <
75-27-4	Bromodichloromethane . . .	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (Total)	5 <

The Lab ID for data on this page is A47936.

B - Compound was detected in the QC blank.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

100011

RIC

09/05/90 20:24:00

SAMPLE: TB

CONDS.: 150C

RANGE: G 1.1420 LABEL: N 0. 4.0 QUAN: A 0. 1.0 J 0 BASE: U 20, 3

DATA: A47936 #1

CALI: A47936 #3

SCANS

35 TO 1415

100.0

1155

940

986

790

681

370

482

248

75

190

747

555

200

400

600

800

1000

1200

1400

5:00

10:00

15:00

20:00

25:00

30:00

35:00

SCAN

TIME

RIC 2

45824.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: A4793-1T
 Client Sample ID: HSA-C1-WDA-T

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/12/90
 Date Analyzed: 09/12/90
 Dilution Factor: 1.0

TCLP VOLATILES

AS Number		UG/L		CAS Number		UG/L
10-86-1	Pyridine	50	<	56-23-5	Carbon Tetrachloride	5
5-01-4	Vinyl Chloride	10	<	79-01-6	Trichloroethene	5
5-35-4	1,1-Dichloroethene	5	<	71-43-2	Benzene	5
7-66-3	Chloroform	5	<	127-18-4	Tetrachloroethene	7
07-06-2	1,2-Dichloroethane	5	<	108-90-7	Chlorobenzene	5
8-93-3	2-Butanone	10	<			

The Lab ID for data on this page is A47931T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC DATA: A4793IT #1
CALI: A4793IT #3

09/12/90

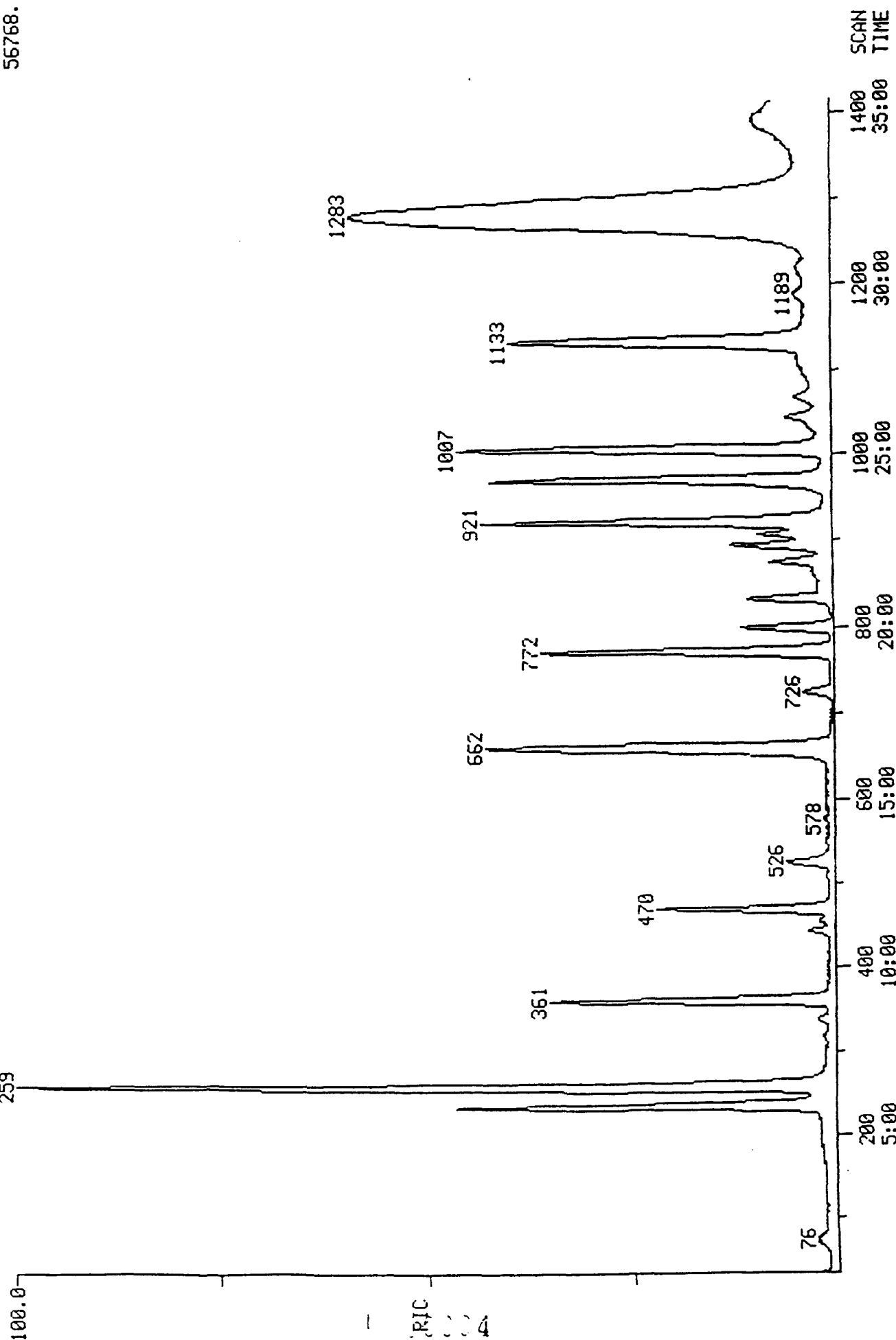
21:32:00

SAMPLE: HSA-C1-WDA, TCLP

COND5.: 1500

RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

56768.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
Lab Sample ID: A4793-17T
Client Sample ID: LE-SSC-A-TCLP

Concentration: LOW
Sample Matrix: WATER
Percent Moisture: 100.0

Date Extracted: 09/12/90
Date Analyzed: 09/12/90
Dilution Factor: 1.0

TCLP VOLATILES

CAS Number		UG/L		CAS Number		UG/L	
110-86-1	Pyridine	50	<	56-23-5	Carbon Tetrachloride	5	<
75-01-4	Vinyl Chloride	10	<	79-01-6	Trichloroethene	5	<
75-35-4	1,1-Dichloroethene	5	<	71-43-2	Benzene	5	<
67-66-3	Chloroform	5	<	127-18-4	Tetrachloroethene	5	<
107-06-2	1,2-Dichloroethane	5	<	108-90-7	Chlorobenzene	5	<
78-93-3	2-Butanone	10	<				

The Lab ID for data on this page is A479317T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC

09/12/90 22:58:00

SAMPLE: LE-SSC-A, TCLP

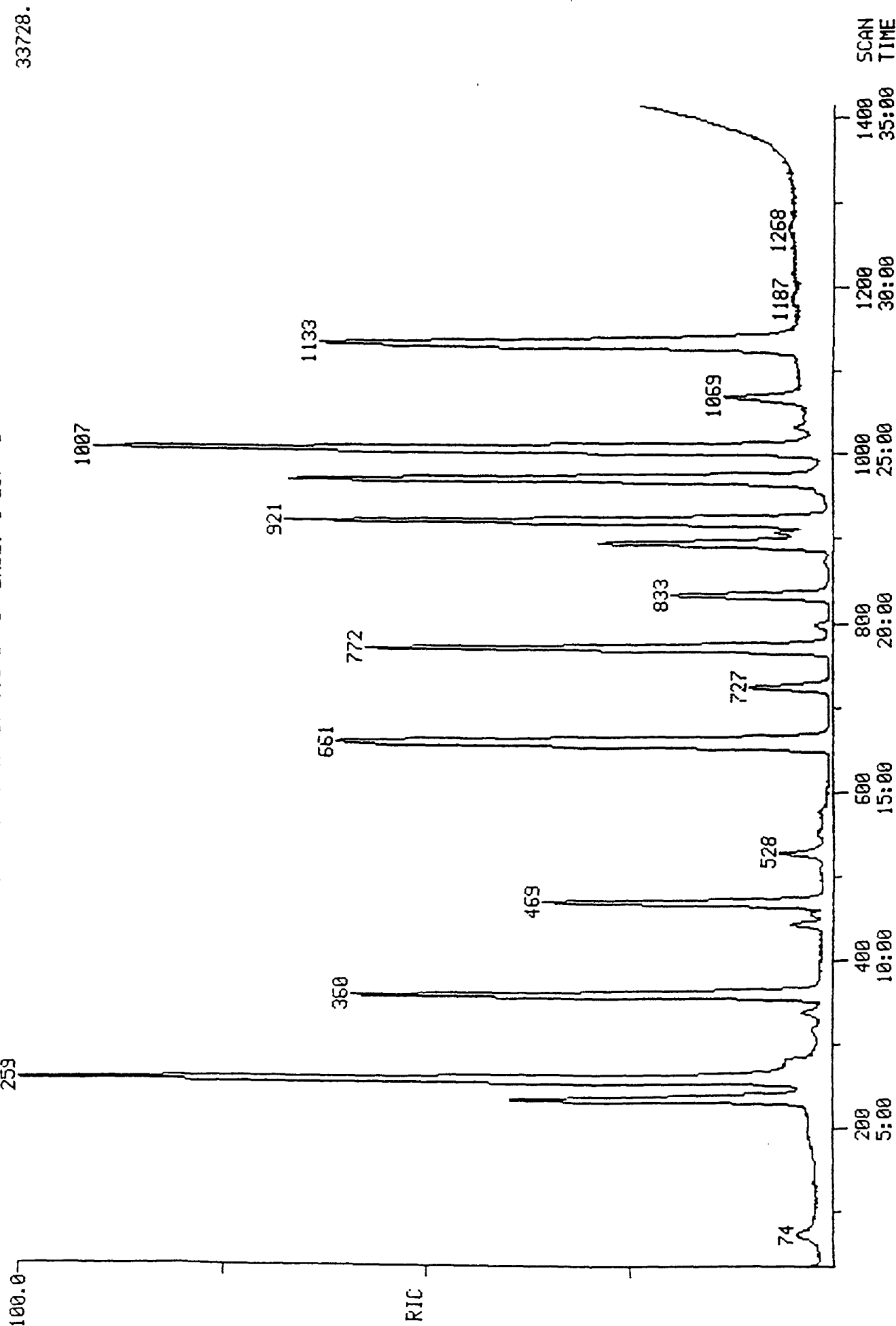
CONDS.: 1500

RANGE: G 1,1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: A479317T #1
CALI: A479317T #3

SCANS 35 TO 1415

33728.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: A4793-18T
 Client Sample ID: LE-SSC-B-TCLP

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/12/90
 Date Analyzed: 09/12/90
 Dilution Factor: 1.0

TCLP VOLATILES

CAS Number		UG/L		CAS Number		UG/L
110-86-1	Pyridine	50	<	56-23-5	Carbon Tetrachloride . . .	5 <
75-01-4	Vinyl Chloride	10	<	79-01-6	Trichloroethene	5 <
75-35-4	1,1-Dichloroethene	5	<	71-43-2	Benzene	5 <
67-66-3	Chloroform	5	<	127-18-4	Tetrachloroethene	5 <
107-06-2	1,2-Dichloroethane	5	<	108-90-7	Chlorobenzene	5 <
78-93-3	2-Butanone	10	<			

The Lab ID for data on this page is A479318T.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC

09/12/90 23:41:00

SAMPLE: LE-55C-B, TCLP

CONDS.: 1500

RANGE: G 1,1420

259

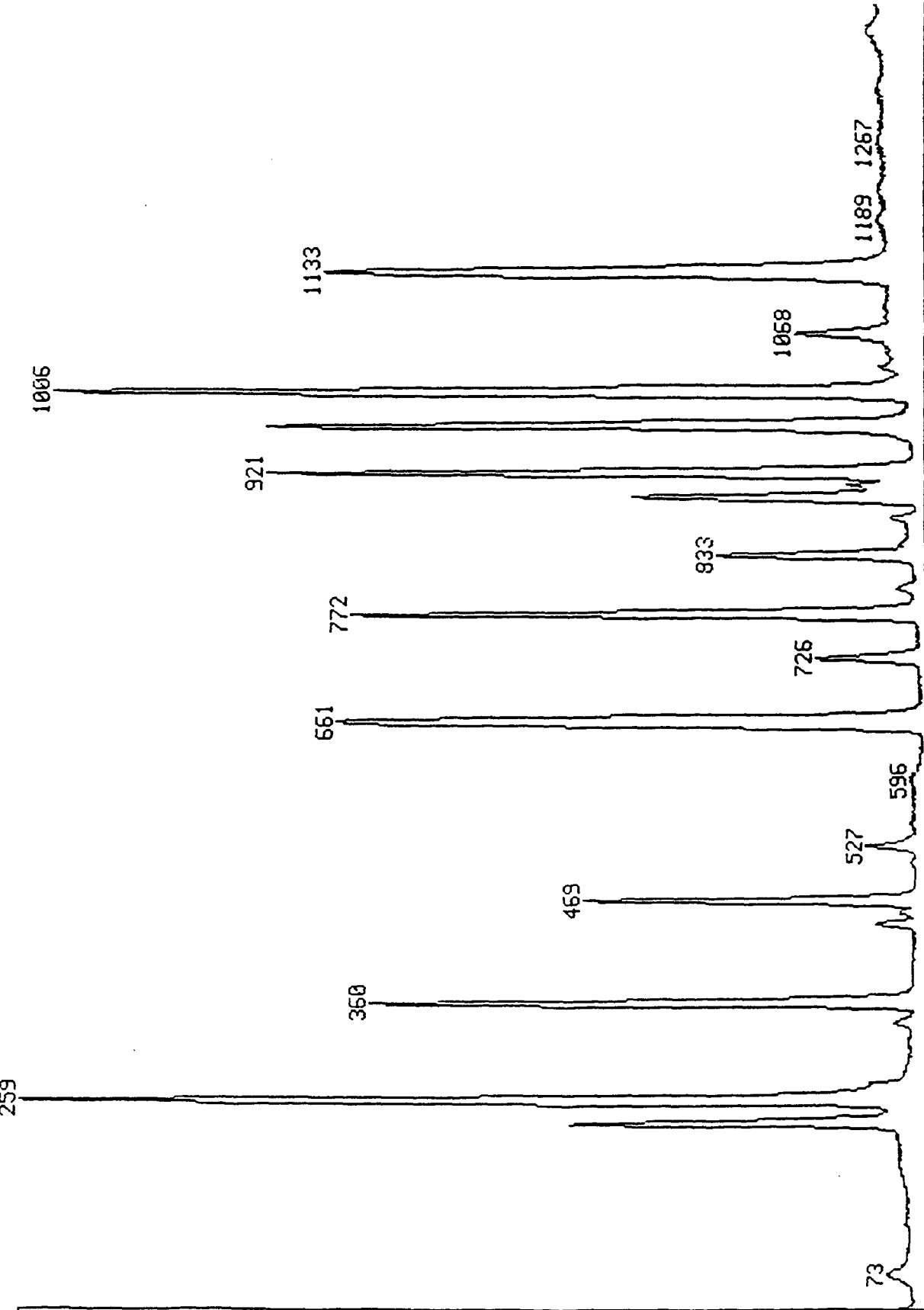
LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: A479318T #1

CALI: A479318T #3

SCANS 35 TO 1415

100.0



RIC

000110

73 200 5:00 400 10:00 600 15:00 800 20:00 1000 25:00 1200 30:00 1400 35:00 SCAN TIME

32128.

BROMOFLUOROBENZENE

Tuning Report

09/05/90 14:51:00 + 10:40

Instrument: I50C

#425 to #430 averaged - #441 to #445

Case Number:

Data: BF090590C2 # 427

Cali: CALTAB # 3

Analyst: BPB

Laboratory:

Base m/z: 95

RIC: 10896.

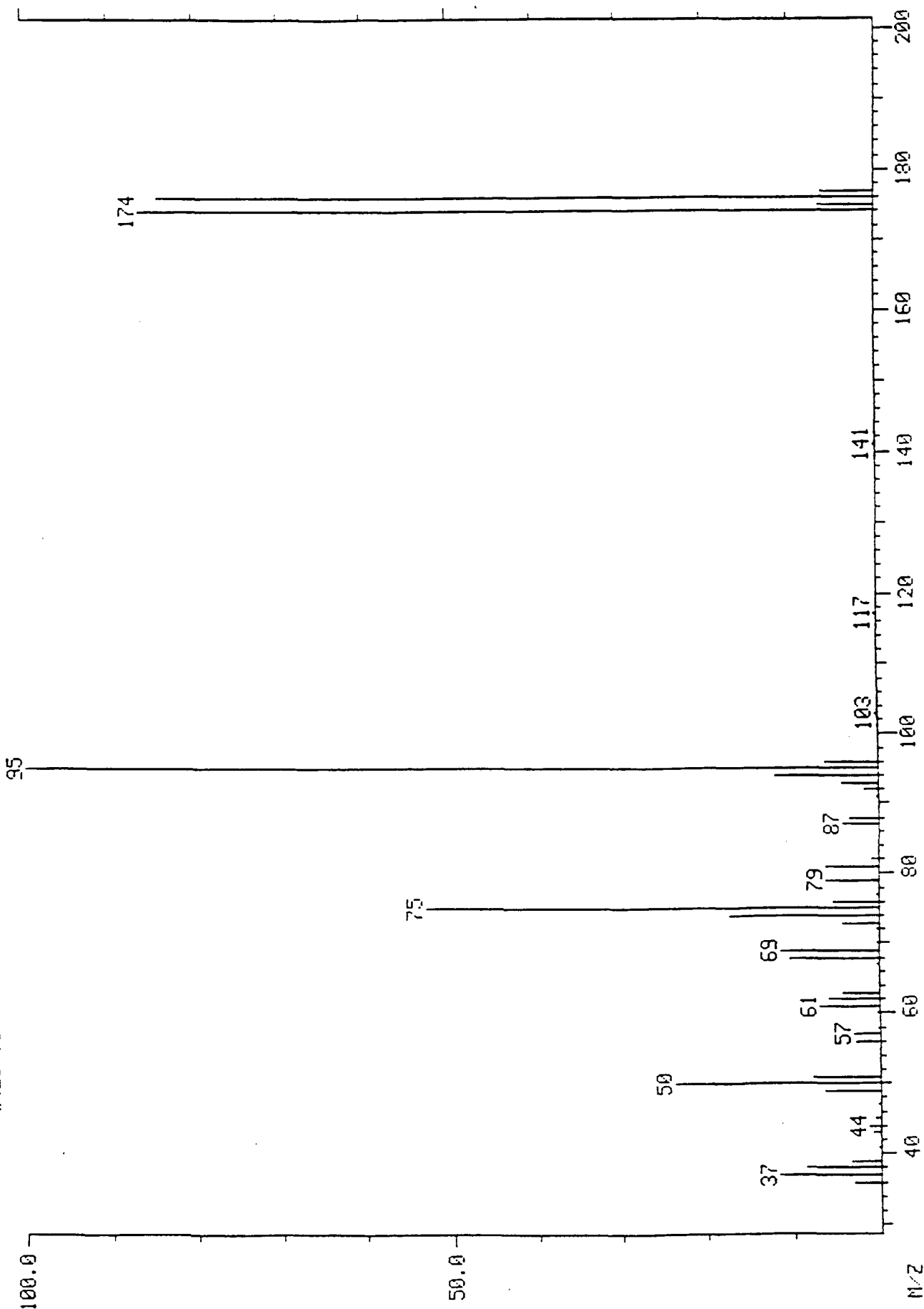
Acct. No.: 8506-090

Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	495.	23.8	15.0	40.0	95	23.8	PASS
75	1104.	53.0	30.0	60.0	95	53.0	PASS
95	2084.	100.0	100.0	---	---	100.0	PASS
96	125.	6.0	5.0	9.0	95	6.0	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	1802.	86.5	50.0	---	95	86.5	PASS
175	132.	6.3	5.0	9.0	174	7.3	PASS
176	1754.	84.2	95.0	101.0	174	97.3	PASS
177	125.	6.0	5.0	9.0	176	7.1	PASS

MASS SPECTRUM
09/05/90 14:51:00 + 10:40
SAMPLE: BFB CALIBRATION
CONDS.: 150C
TEMP: 225 DEG. C
#425 TO #430 AVERAGED - #441 TO #445

DATA: BF090590C2 #427
CALI: CALTAB #3
BASE M/Z: 95
RIC: 10896.



Mass List

09/05/90 14:51:00 + 10:40

Data: BF090590C2 # 427

Base m/z: 95

Cali: CALTAB # 3

RIC: 10896.

Sample: BFB CALIBRATION

Conds.: 150C

#425 to #430 averaged - #441 to #445

36	0.00	0.	Minima	Min Inten:	0.
177			Maxima	#	0
Mass	% RA	Inten.			
36?	S 3.07	64.			
37?	S 11.47	239.			
38?	S 8.59	179.			
39?	S 3.31	69.			
41?	S 0.38	8.			
43?	S 0.77	16.			
44?	S 1.25	26.			
45?	S 0.53	11.			
47?	S 0.14	3.			
49?	S 6.43	134.			
50?	S 23.75	495.			
51?	S 7.68	160.			
55?	S 0.05	1.			
56?	S 2.88	60.			
57?	S 3.12	65.			
58?	S 0.29	6.			
60?	S 0.14	3.			
61?	S 7.01	146.			
62?	S 5.81	121.			
63?	S 4.27	89.			
67?	S 0.14	3.			
68?	S 10.27	214.			
69	S 11.23	234.			
70	S 0.14	3.			
72	S 0.29	6.			
73	S 4.27	89.			
74	S 17.08	356.			
75	S 52.98	1104.			
76	S 5.33	111.			
77	S 0.24	5.			
79	S 6.19	129.			
81	S 6.05	126.			
82	S 0.72	15.			
87	S 4.13	86.			
88	S 3.36	70.			
91	S 0.19	4.			
92	S 1.68	35.			
93	S 4.08	85.			
94	S 11.90	248.			
95	S 100.00	2084.			
96	S 6.00	125.			
103	S 0.24	5.			
117	S 0.29	6.			
119	S 0.05	1.			
141	S 0.34	7.			
147	S 0.05	1.			
174	S 86.47	1802.			
175	S 6.33	132.			
176	S 84.17	1754.			
177	S 6.00	125.			

BROMOFLUOROBENZENE

Tuning Report

09/12/90 14:30:00 + 6:42

Instrument: I50D

#261 to #276 summed - #277 to #278 - #252 to #253

Case Number:

Data: BF091190D4 # 268

Cali: BF091190D4 # 3

Analyst: BPB

Laboratory:

Base m/z: 95

RIC: 77312.

Acct. No.: 8506-090

Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	3668.	22.8	15.0	40.0	95	22.8	PASS
75	7488.	46.5	30.0	60.0	95	46.5	PASS
95	16112.	100.0	100.0	---	---	100.0	PASS
96	1446.	9.0	5.0	9.0	95	9.0	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	12160.	75.5	50.0	---	95	75.5	PASS
175	825.	5.1	5.0	9.0	174	6.8	PASS
176	12112.	75.2	95.0	101.0	174	99.6	PASS
177	850.	5.3	5.0	9.0	176	7.0	PASS

MASS SPECTRUM

09/12/90 14:30:00 + 6:42

SAMPLE: BFB CALIBRATION

CONDS.: 1500

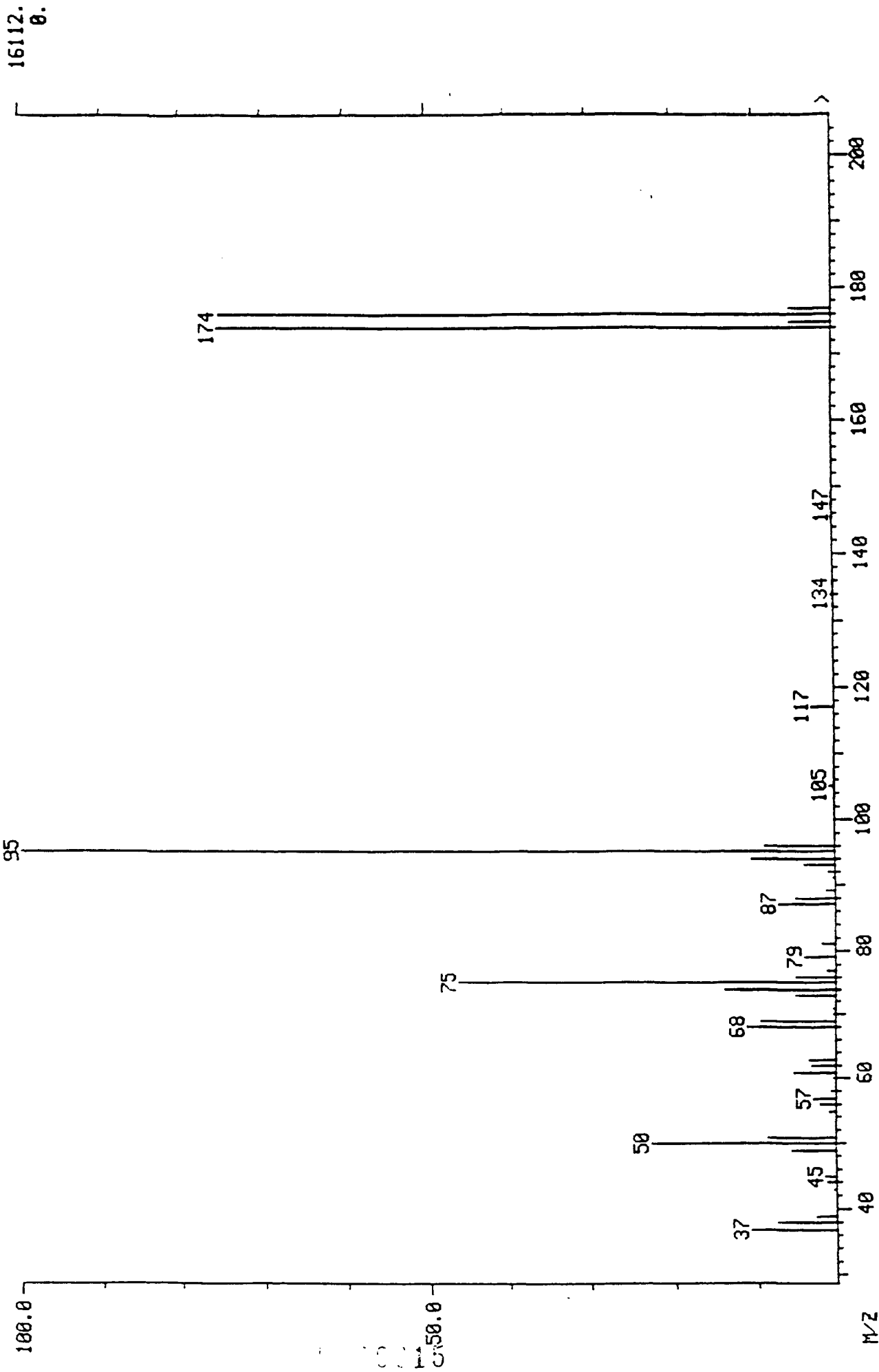
TEMP: 225 DEG. C

#261 TO #276 SUMMED - #277 TO #278 - #252 TO #253

DATA: BF091190D4 #268
CALI: BF091190D4 #3

BASE M/Z: 95

RIC: 77312.



Mass List

09/12/90 14:30:00 + 6:42

Sample: BFB CALIBRATION

Conds.: I50D

Data: BF091190D4 # 268

Cali: BF091190D4 # 3

Base m/z: 95

RIC: 77312.

#261 to #276 summed - #277 to #278 - #252 to #253

37 207 Mass	0.00 % RA	0. Inten.	Minima Maxima Mass	Min Inten: # 0 % RA	0. Inten.
377	S 10.89	1754.	207	S 0.06	9.
387	S 7.55	1216.			
397	S 2.58	416.			
417	S 0.05	8.			
437	S 0.20	32.			
447	S 0.99	160.			
457	S 1.39	224.			
497	S 5.65	910.			
507	S 22.77	3668.			
517	S 8.64	1392.			
557	S 0.91	146.			
567	S 1.94	312.			
577	S 2.78	448.			
587	S 0.52	84.			
597	S 0.03	5.			
607	S 0.16	25.			
617	S 5.23	843.			
627	S 3.05	491.			
637	S 3.18	513.			
687	S 10.92	1760.			
69	S 9.48	1528.			
70	S 0.38	61.			
71	S 0.21	34.			
73	S 5.10	822.			
74	S 13.78	2220.			
75	S 46.47	7488.			
76	S 5.03	811.			
77	S 1.12	180.			
79	S 3.92	632.			
81	S 1.77	285.			
87	S 7.11	1146.			
88	S 4.94	796.			
89	S 1.02	154.			
91	S 0.29	46.			
92	S 0.74	120.			
93	S 3.91	630.			
94	S 10.60	1708.			
95	S 100.00	16112.			
96	S 8.97	1446.			
103	S 0.11	18.			
105	S 0.60	96.			
117	S 2.87	462.			
119	S 0.14	22.			
133	S 0.05	8.			
134	S 0.32	52.			
147	S 0.06	10.			
174	S 75.47	12160.			
175	S 5.12	825.			
176	S 75.17	12112.			
177	S 5.28	850.			

Tuning Report

09/14/90 12:31:00 + 7:12

Instrument: I50C

* #288 to #289 averaged - #297

Case Number:

Data: BF091490C1 # 288

Cali: CALTAB # 3

Analyst: BPB

Laboratory:

Base m/z: 95

RIC: 6160.

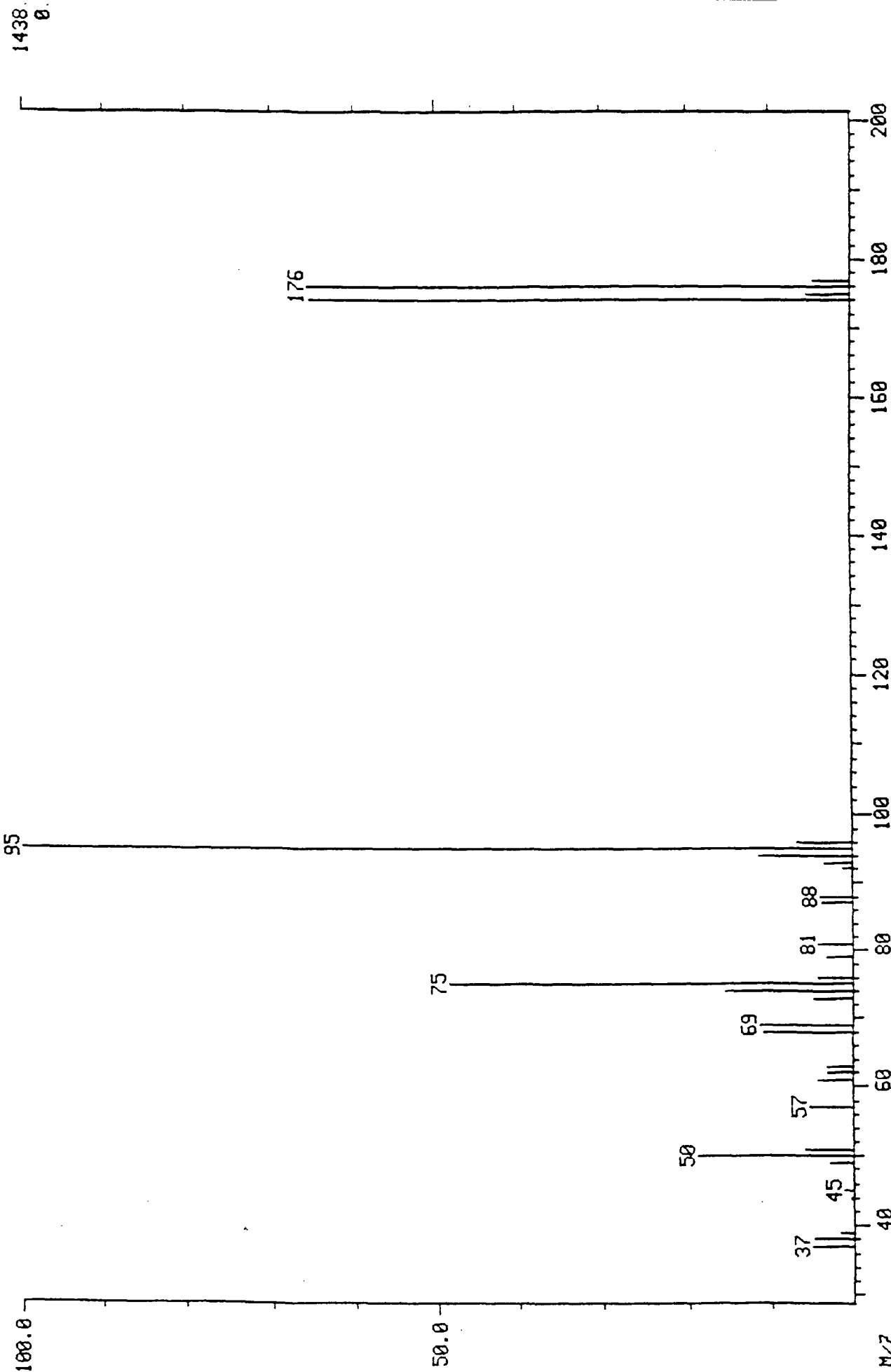
Acct. No.: 8506-090

Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	270.	18.8	15.0	40.0	95	18.8	PASS
75	698.	48.5	30.0	60.0	95	48.5	PASS
95	1438.	100.0	100.0	---	---	100.0	PASS
96	97.	6.7	5.0	9.0	95	6.7	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	938.	65.2	50.0	---	95	65.2	PASS
175	75.	5.2	5.0	9.0	174	8.0	PASS
176	941.	65.4	95.0	101.0	174	100.3	PASS
177	64.	4.5	5.0	9.0	176	6.8	PASS

MASS SPECTRUM
09/14/90 12:31:00 + 7:12
SAMPLE: BFB CALIBRATION
CONDS.: 150C
TEMP: 225 DEG. C
#288 TO #289 AVERAGED - #297 - #274 TO #275

DATA: BF091490C1 #288
CALI: CALTAB #3
BASE M/Z: 95
RIC: 6150.



09/14/90 12:31:00 + 7:12

Cali: CALTAB # 3

RIC:

6160.

Sample: BFB CALIBRATION

Conds.: I50C

#288 to #289 averaged - #297

37	0.00	0.	Minima	Min	Inten:	0.
177			Maxima	#	0	
Mass	% RA	Inten.				
37?	S	4.87	70.			
38?	S	4.73	68.			
39?	S	1.60	23.			
43?	S	0.07	1.			
44?	S	0.35	5.			
45?	S	1.04	15.			
49?	S	2.85	41.			
50?	S	18.78	270.			
51?	S	5.84	84.			
57?	S	5.15	74.			
61?	S	4.10	59.			
62?	S	3.13	45.			
63?	S	2.92	42.			
68?	S	10.78	155.			
69	S	11.34	163.			
73	S	4.73	68.			
74	S	15.44	222.			
75	S	48.54	698.			
76	S	4.10	59.			
79	S	2.99	43.			
81	S	4.17	60.			
87	S	3.55	51.			
88	S	3.76	54.			
92	S	1.11	16.			
93	S	3.27	47.			
94	S	11.40	164.			
95	S	100.00	1438.			
96	S	6.75	97.			
174	S	65.23	938.			
175	S	5.22	75.			
176	S	65.44	941.			
177	S	4.45	64.			

CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:
Instrument ID: I50C

Region:

Calibration Date: 09/05/90
Time: 15:25
Laboratory ID: CC090590C1
Initial Cali. Date: 08/23/90

Minimum RF for SPCC is 0.300 (1)

Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	1.252	1.207	3.6		* *
Bromomethane	1.365	1.169	14.4		
Vinyl Chloride	1.225	1.018	16.9	*	
Chloroethane	0.753	0.637	15.4		
Methylene Chloride	1.763	1.499	15.0		
Acetone	0.328	0.381	-16.2		
Carbon Disulfide	3.160	2.416	23.5		
1,1-Dichloroethene	1.416	1.147	19.0	*	
1,1-Dichloroethane	3.103	2.620	15.6		* *
trans-1,2-Dichloroethene	1.462	1.085	25.8		
Chloroform	3.417	2.683	21.5	*	
1,2-Dichloroethane	2.375	1.989	16.3		
2-Butanone	0.015	0.015	0.0		
1,1,1-Trichloroethane	0.688	0.546	20.6		
Carbon Tetrachloride	0.666	0.036	94.6		
Vinyl Acetate	0.284	0.488	-71.8		
Bromodichloromethane	0.663	0.548	17.3		
1,2-Dichloropropane	0.453	0.411	9.3	*	
cis-1,3-Dichloropropene	0.515	0.438	15.0		
Trichloroethene	0.562	0.446	20.6		
Dibromochloromethane	0.558	0.480	14.0		
1,1,2-Trichloroethane	0.343	0.324	5.5		
Benzene	1.027	0.876	14.7		
trans-1,3-Dichloropropene	0.455	0.396	13.0		
2-Chloroethylvinylether	0.207	0.206	0.5		
Bromoform	0.416	0.342	17.8		* *
4-Methyl-2-Pentanone	0.300	0.193	35.7		
2-Hexanone	0.085	0.072	15.3		
Tetrachloroethene	0.642	0.563	12.3		
1,1,2,2-Tetrachloroethane	0.462	0.448	3.0		* *
Toluene	0.806	0.654	18.9	*	
Chlorobenzene	1.139	1.002	12.0		* *
Ethylbenzene	0.552	0.433	21.6	*	
Styrene	0.876	0.793	9.5		
Xylene (Total)	0.538	0.471	12.5		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

CCC - - Calibration Check Compounds (*)

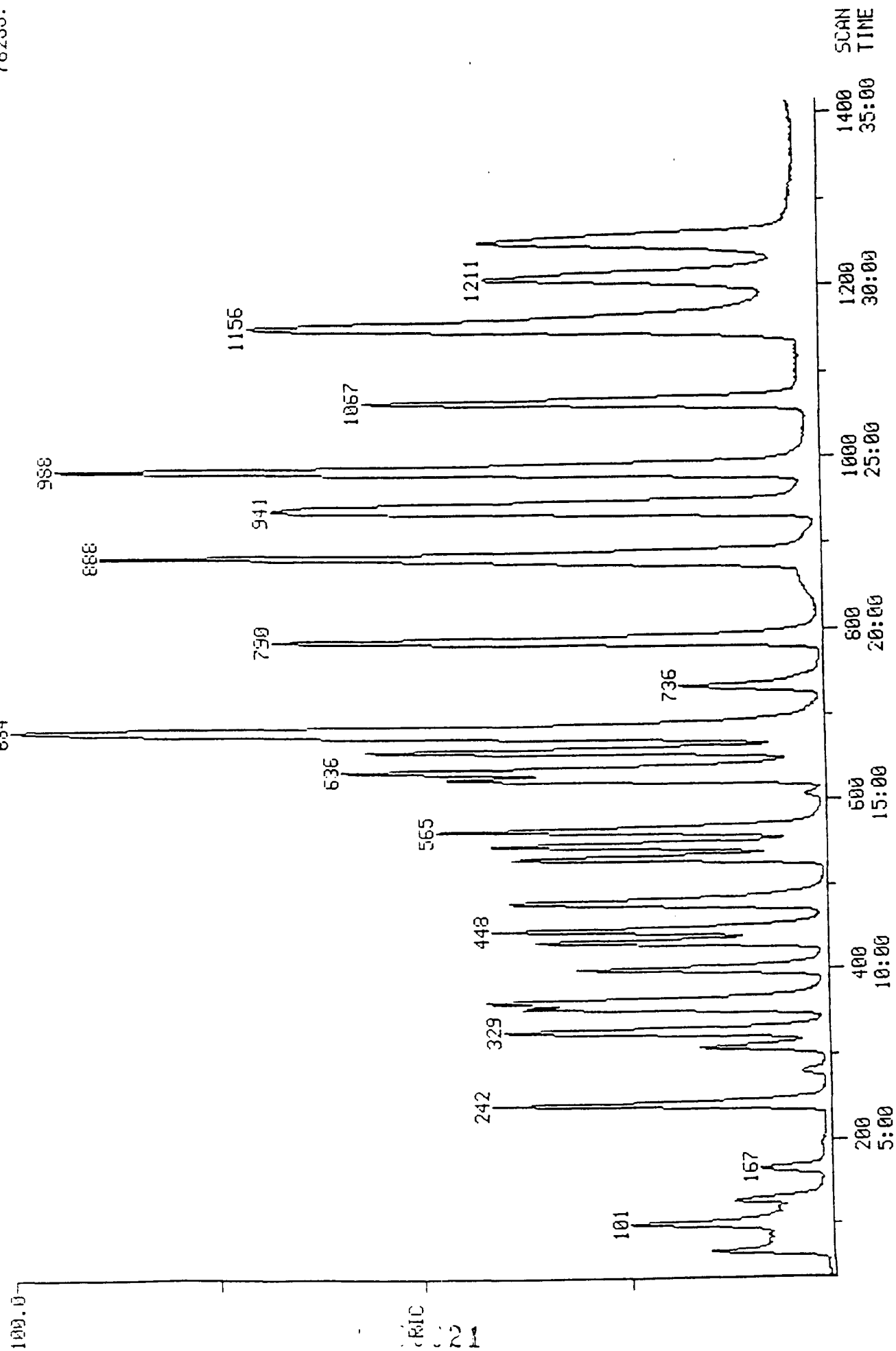
SPCC - - System Performance Check Compounds (**)

(1) - - Minimum RF for Bromoform is 0.250

RIC
03/05/90 15:25:00
SAMPLE: CONTINUING CALIBRATION
CONDS.: 150C
RANGE: G 1.1425 LABEL: H 0, 4.0 QUANT: A 0, 1.0 J 0 BASE: U 20, 3

DATA: CC090590C1 #1
CALI: CC090590C1 #3
SCANS 35 TO 1415

76233.



CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:
Instrument ID: I50D

Region:

Calibration Date: 09/12/90
Time: 15:33
Laboratory ID: CC091190D2
Initial Cali. Date: 08/01/90

Minimum RF for SPCC is 0.300 (1)

Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	0.884	0.689	22.1		* *
Bromomethane	1.166	1.301	-11.6		
Vinyl Chloride	1.133	0.919	18.9	*	
Chloroethane	0.861	0.876	-1.7		
Methylene Chloride	1.609	2.661	-65.4		
Acetone	0.761	1.162	-52.7		
Carbon Disulfide	3.053	3.364	-10.2		
1,1-Dichloroethene	1.280	1.111	13.2	*	
1,1-Dichloroethane	2.598	2.907	-11.9		* *
trans-1,2-Dichloroethene	1.375	0.977	28.9		
Chloroform	2.704	2.252	16.7	*	
1,2-Dichloroethane	1.751	1.552	11.4		
2-Butanone	0.064	0.029	54.7		
1,1,1-Trichloroethane	0.617	0.413	33.1		
Carbon Tetrachloride	0.535	0.371	30.7		
Vinyl Acetate	0.810	0.678	16.3		
Bromodichloromethane	0.710	0.560	21.1		
1,2-Dichloropropane	0.413	0.439	-6.3	*	
cis-1,3-Dichloropropene	0.580	0.676	-16.6		
Trichloroethene	0.436	0.362	17.0		
Dibromochloromethane	0.623	0.464	25.5		
1,1 2-Trichloroethane	0.413	0.334	19.1		
Benzene	0.933	0.891	4.5		
trans-1,3-Dichloropropene	0.528	0.275	47.9		
2-Chloroethylvinylether	0.268	0.223	16.8		
Bromoform	0.443	0.342	22.8		* *
4-Methyl-2-Pentanone	0.694	0.466	32.9		
2-Hexanone	0.570	0.321	43.7		
Tetrachloroethene	0.407	0.378	7.1		
1,1,2,2-Tetrachloroethane	0.924	0.632	31.6		* *
Toluene	0.790	0.687	13.0	*	
Chlorobenzene	1.093	0.950	13.1		* *
Ethylbenzene	0.555	0.461	16.9	*	
Styrene	1.007	0.796	21.0		
Xylene (Total)	0.615	0.521	15.3		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

CCC - - - Calibration Check Compounds (*)

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

(1) - - - Minimum RF for Bromoform is 0.250

Form VII

RIC

09/12/90 15:33:00

SAMPLE: CONTINUING CALIBRATION

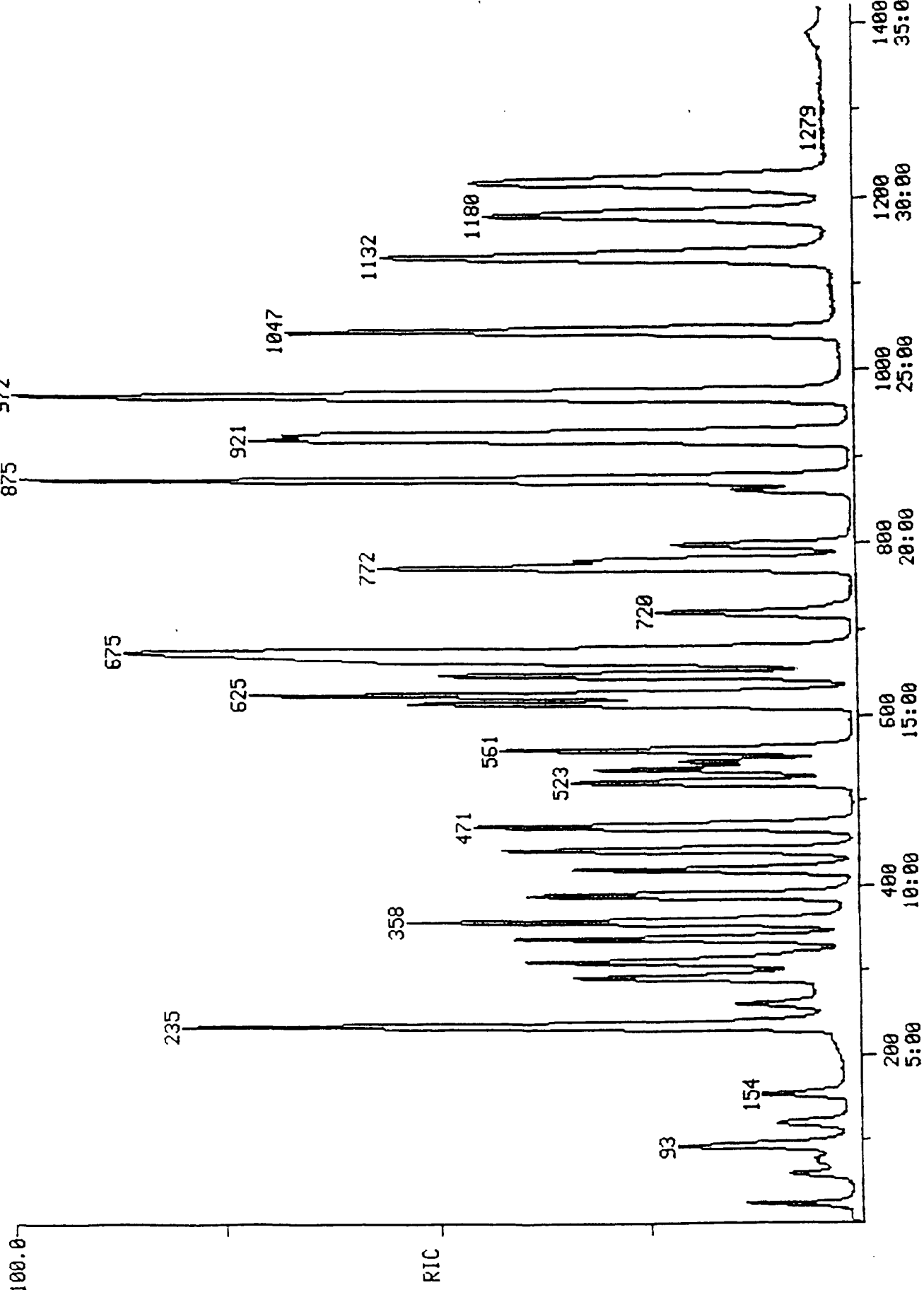
CONDS.: I500

RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: CC091190D2 #1
CALI: CC091190D2 #3
SCANS 1 TO 1420

100.0

44864.



SCAN
TIME

CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:
Instrument ID: I50C

Region:

Calibration Date: 09/14/90
Time: 12:50
Laboratory ID: CC091490C1
Initial Cali. Date: 09/13/90

Minimum RF for SPCC is 0.300 (1)

Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	1.044	0.819	21.6		* *
Bromomethane	1.486	1.559	-4.9		
Vinyl Chloride	1.316	1.273	3.3	*	
Chloroethane	1.036	0.994	4.1		
Methylene Chloride	2.564	2.003	21.9		
Acetone	0.344	0.187	45.6		
Carbon Disulfide	3.946	3.186	19.3		
1,1-Dichloroethene	1.720	1.556	9.9	*	
1,1-Dichloroethane	3.427	2.107	9.4		* *
trans-1,2-Dichloroethene	1.519	1.007	33.7		
Chloroform	2.701	2.115	21.7	*	
1,2-Dichloroethane	1.556	1.318	15.3		
2-Butanone	0.024	0.027	-4.2		
1,1,1-Trichloroethane	0.753	0.871	-15.8		
Carbon Tetrachloride	0.630	0.752	-19.4		
Vinyl Acetate	0.607	0.474	21.9		
Bromodichloromethane	0.876	0.843	3.8		
1,2-Dichloropropane	0.585	0.447	23.6	*	
cis-1,3-Dichloropropene	0.792	0.729	8.0		
Trichloroethene	0.546	0.570	-5.5		
Dibromochloromethane	0.748	0.779	-4.1		
1,1,2-Trichloroethane	0.538	0.480	10.8		
Benzene	1.351	1.206	10.7		
trans-1,3-Dichloropropene	0.734	0.668	9.0		
2-Chloroethylvinylether	0.304	0.241	20.7		
Bromoform	0.424	0.470	-10.8		* *
4-Methyl-2-Pentanone	0.465	0.263	43.4		
2-Hexanone	0.267	0.179	36.3		
Tetrachloroethene	0.507	0.501	1.2		
1,1,2,2-Tetrachloroethane	0.883	0.678	23.2		* *
Toluene	1.011	0.801	20.8	*	
Chlorobenzene	1.296	1.134	12.5		* *
Ethylbenzene	0.641	0.578	9.8	*	
Styrene	1.057	0.949	10.2		
Xylene (Total)	0.667	0.584	12.4		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

% D - - - Percent Difference

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Minimum RF for Bromoform is 0.250

RIC

09/14/90 12:50:00

SAMPLE: CONTINUING CALIBRATION

CONDS.: I50C

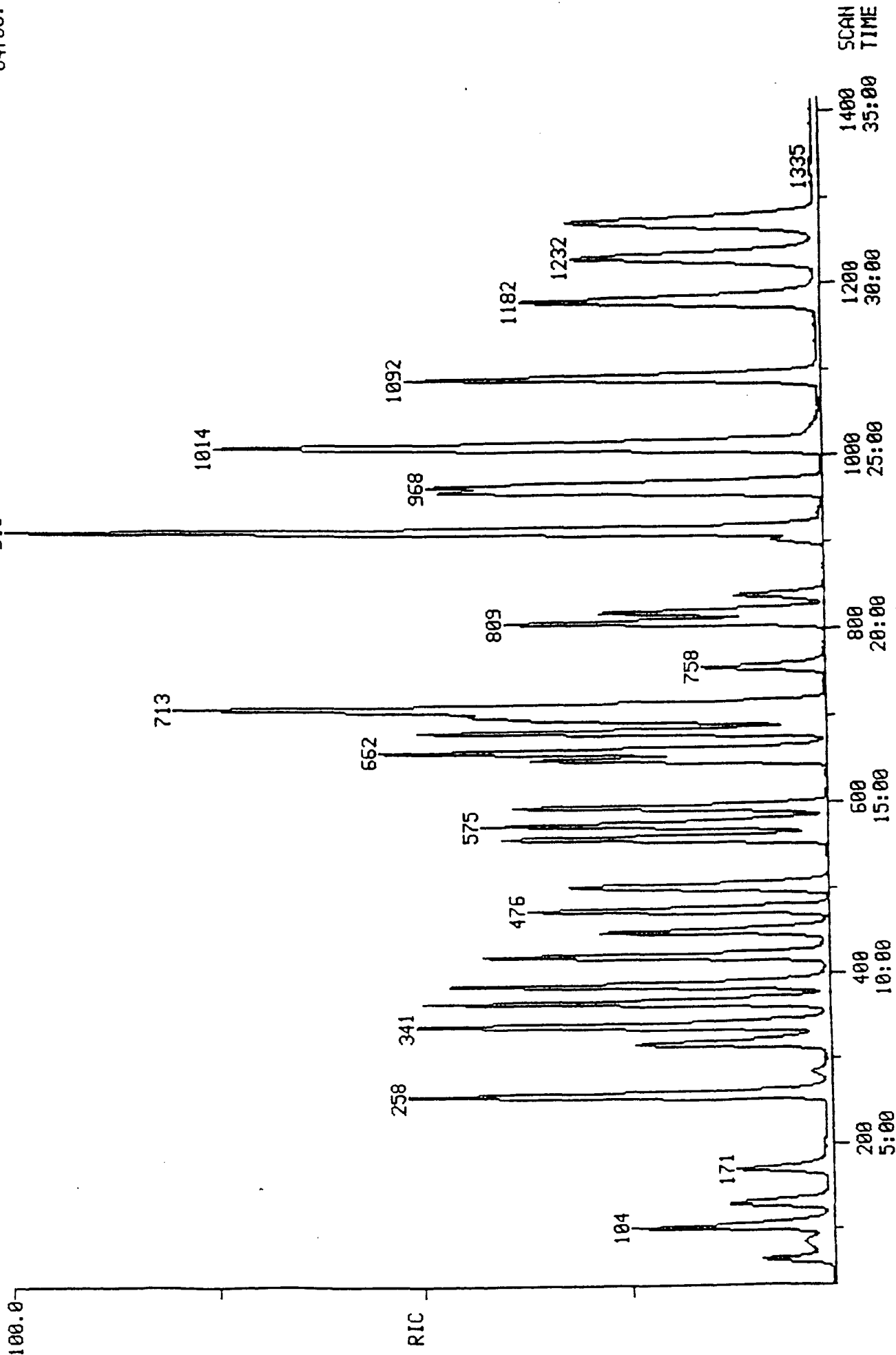
RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

SCANS 35 TO 1415

DATA: CC091490C1 #1

CALI: CC091490C1 #3

64768.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: MB090590C1
 Client Sample ID: MB090590C1

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/05/90
 Date Analyzed: 09/05/90
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane . . .	5 <
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene .	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5 <
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane . . .	5 <
75-09-2	Methylene Chloride	8	79-00-5	1,1,2-Trichloroethane . .	5 <
67-64-1	Acetone	14	71-43-2	Benzene	5 <
75-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5 <
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether .	10 <
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
136-60-5	trans-1,2-Dichloroethene .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10 <
67-66-3	Chloroform	5 <	591-78-6	2-Hexanone	10 <
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
78-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5 <
71-55-6	1,1,1-Trichloroethane . .	5 <	108-88-3	Toluene	5 <
56-23-5	Carbon Tetrachloride . . .	5 <	108-90-7	Chlorobenzene	5 <
108-05-4	Vinyl Acetate	10 <	100-41-4	Ethylbenzene	5 <
75-27-4	Bromodichloromethane . . .	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (Total)	5 <

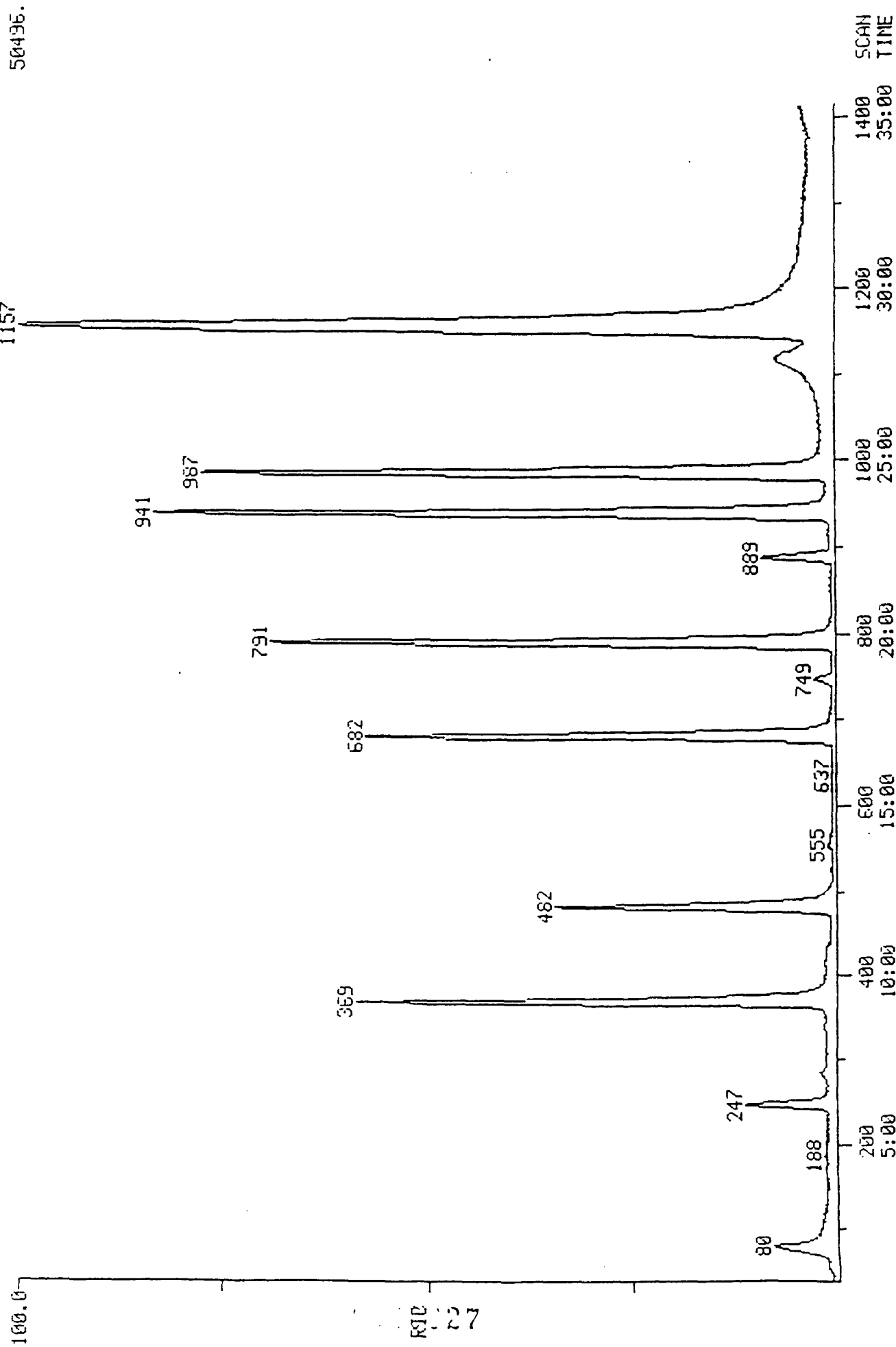
The Lab ID for data on this page is MB090590C1.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC
09/05/90 16:27:00
SAMPLE: METHOD BLANK
CONDS.: 150C
RANGE: G 1.1420 LABEL: H 0. 4.0 QUAN: A 0. 1.0 J 0 BASE: U 20, 3

DATA: MB090590C1 #1
CALI: MB090590C1 #3
SCANS 35 TO 1415



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
 Lab Sample ID: MB091190D2
 Client Sample ID: MB091190D2

Concentration: LOW
 Sample Matrix: SOIL
 Percent Moisture: 100.0

Date Extracted: 09/12/90
 Date Analyzed: 09/12/90
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

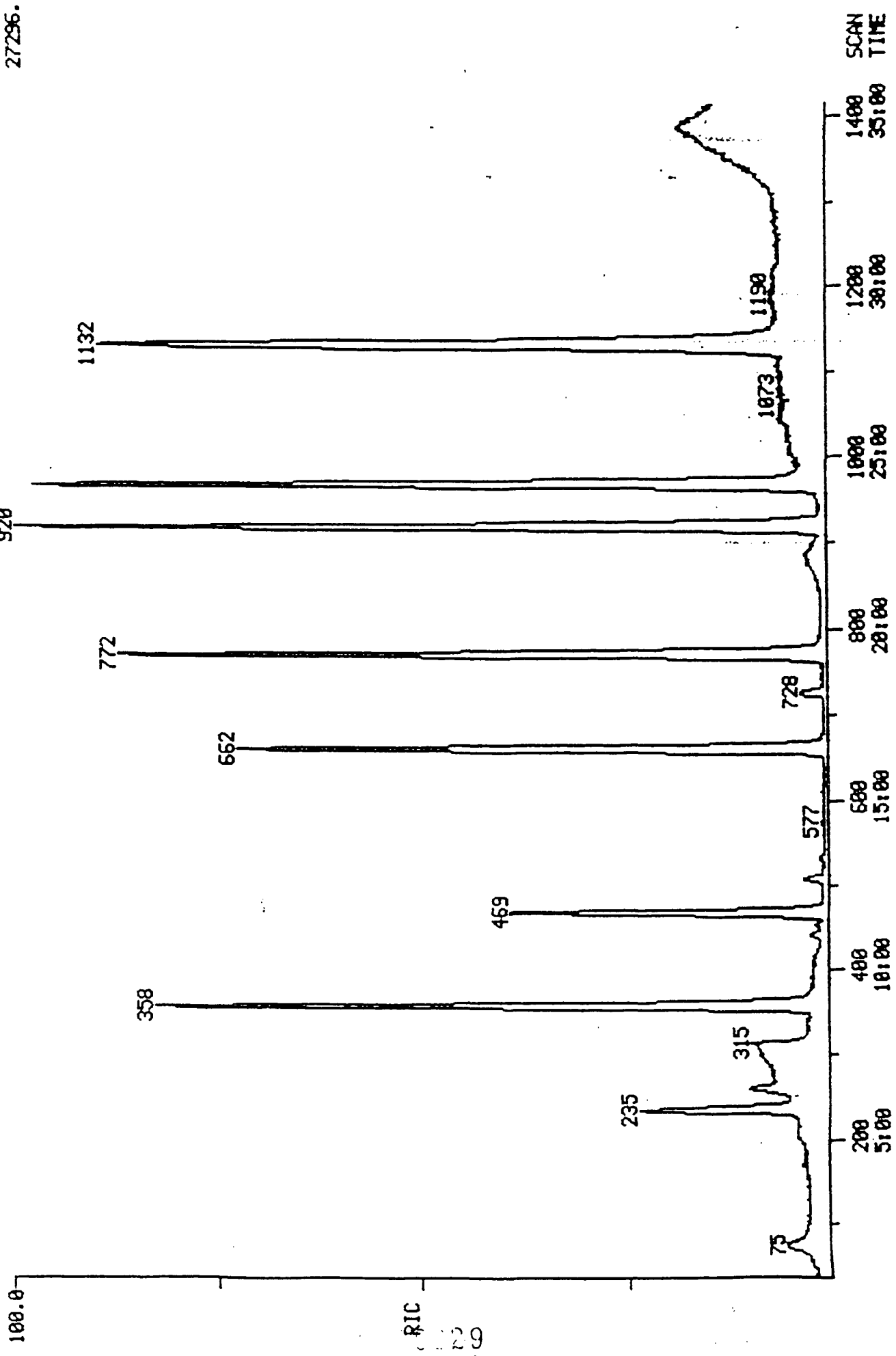
CAS Number		UG/KG	CAS Number		UG/KG
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane . . .	5 <
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene .	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5 <
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane . . .	5 <
75-09-2	Methylene Chloride	13	79-00-5	1,1,2-Trichloroethane . .	5 <
67-64-1	Acetone	20	71-43-2	Benzene	5 <
75-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5 <
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether .	10 <
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
156-60-5	trans-1,2-Dichloroethene .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10 <
67-66-3	Chloroform	5 <	591-78-6	2-Hexanone	10 <
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
78-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5 <
71-55-6	1,1,1-Trichloroethane . .	5 <	108-88-3	Toluene	5 <
56-23-5	Carbon Tetrachloride . . .	5 <	108-90-7	Chlorobenzene	5 <
108-05-4	Vinyl Acetate	10 <	100-41-4	Ethylbenzene	5 <
75-27-4	Bromodichloromethane . . .	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (Total)	5 <

The Lab ID for data on this page is MB091190D2.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

RIC
09/12/90 16:27:00
SAMPLE: METHOD BLANK
COND.S.: I500
RANGE: G 1,1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: M8091190D2 #1
CALI: M8091190D2 #3
SCANS 35 TO 1415
27296.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
Lab Sample ID: MB091490C1
Client Sample ID: MB091490C1

Concentration: LOW
Sample Matrix: WATER
Percent Moisture: 100.0

Date Extracted: 09/14/90
Date Analyzed: 09/14/90
Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane	5
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene	5
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane	5
75-09-2	Methylene Chloride	5 <	79-00-5	1,1,2-Trichloroethane	5
67-64-1	Acetone	10 <	71-43-2	Benzene	5
75-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether	10
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5
156-60-5	trans-1,2-Dichloroethene	5 <	108-10-1	4-Methyl-2-Pentanone	10
67-66-3	Chloroform	5	591-78-6	2-Hexanone	10
107-06-2	1,2-Dichloroethane	5	127-18-4	Tetrachloroethene	5
78-93-3	2-Butanone	10	79-34-5	1,1,2,2-Tetrachloroethane	5
71-55-6	1,1,1-Trichloroethane	5	108-88-3	Toluene	5
56-23-5	Carbon Tetrachloride	5	108-90-7	Chlorobenzene	5
108-05-4	Vinyl Acetate	10	100-41-4	Ethylbenzene	5
75-27-4	Bromodichloromethane	5	100-42-5	Styrene	5
			1330-20-7	Xylene (Total)	5

The Lab ID for data on this page is MB091490C1.

- Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

0000

RIC

09/14/90 14:04:00

SAMPLE: METHOD BLANK

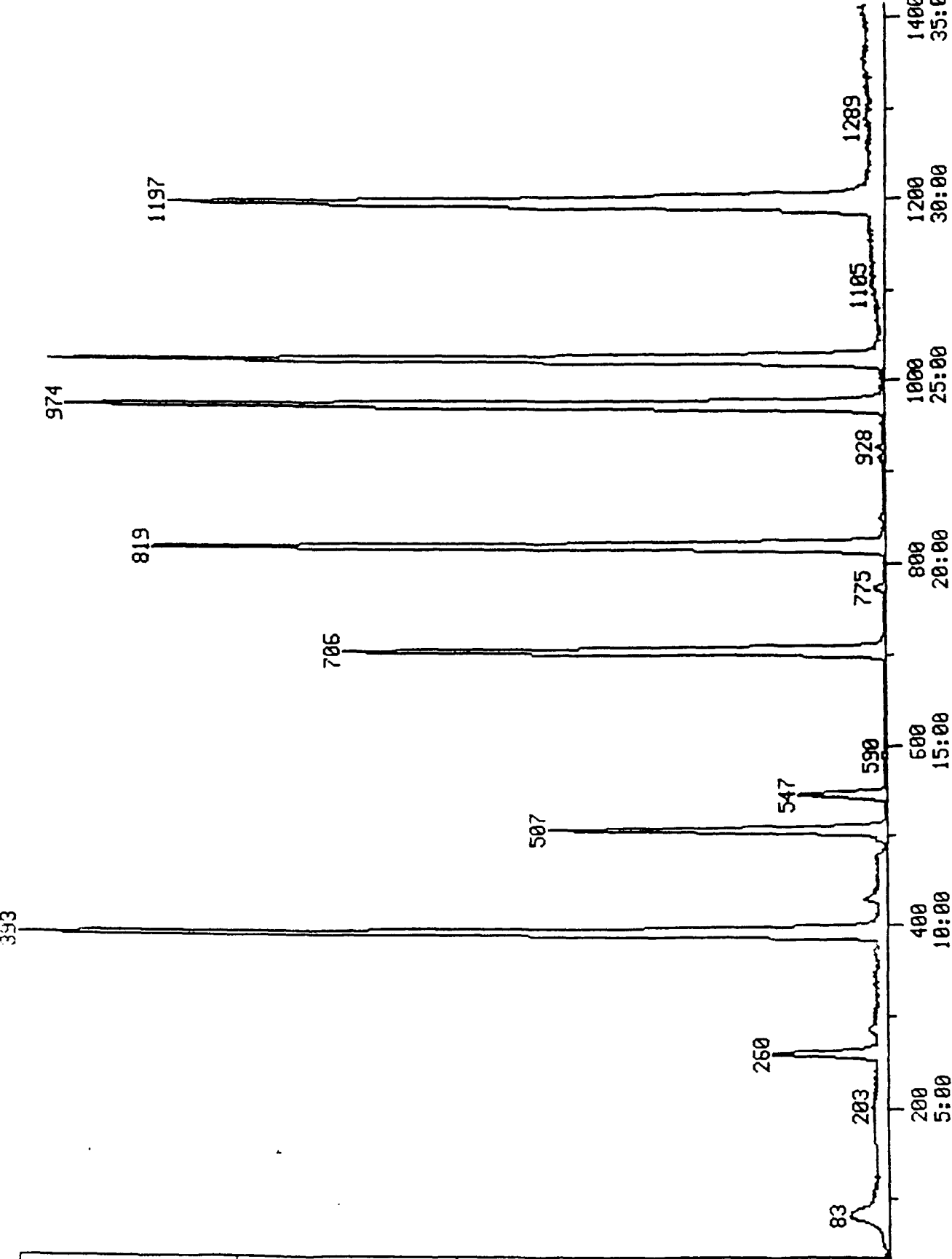
COND5.: 150C

RANGE: G 1,1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: MB091490C1 #1
CALI: MB091490C1 #3

SCANS 35 TO 1415

100.0



RIC

00001

27104.

Case No. A4793

Contract No.

* VALUES ARE OUTSIDE OF CONTRACT
REQUIRED QC LIMITS

Volatiles:	2	out of	28;	outside of QC limits
Semi-Volatiles:	0	out of	0;	outside of QC limits
Pesticides:	0	out of	0;	outside of QC limits

Comments:

FORM II

0032

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: A4793 SAS No.: _____ SDG No.: _____
 Matrix Spike - EPA Sample No.: A4793-17T

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethane	50	0	39.1	78	61-145
Trichloroethane	50	0	45.3	91	71-120
Benzene	50	0	36.3	73*	76-127
Toluene	50	0	42.7	85	76-125
Chlorobenzene	50	0	44.1	88	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethane	50	33.0	66	17*	14	61-145
Trichloroethane	50	44.6	89	2	14	71-120
Benzene	50	36.9	74*	1	11	76-127
Toluene	50	42.3	85	0	13	76-125
Chlorobenzene	50	45.2	90	2	13	75-130

* Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 outside limits
 Spike Recovery: 2 out of 10 outside limits

COMMENTS: _____

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: ENSR LAB-Hou
Lab Sample ID: A4793-17T-MS
Client Sample ID: LE-SSC-A T-MS

Concentration: LOW
Sample Matrix: WATER
Percent Moisture: 100.0

Date Extracted: 09/14/90
Date Analyzed: 09/14/90
Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane . . .	5 <
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene .	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	45
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane . . .	5 <
75-09-2	Methylene Chloride	11	79-00-5	1,1,2-Trichloroethane . .	5 <
67-64-1	Acetone	490	71-43-2	Benzene	36
75-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5 <
75-35-4	1,1-Dichloroethene	39	110-75-8	2-Chloroethylvinylether .	10 <
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
156-60-5	trans-1,2-Dichloroethene .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10 <
67-66-3	Chloroform	6	591-78-6	2-Hexanone	10 <
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
78-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5 <
71-55-6	1,1,1-Trichloroethane . .	5 <	108-88-3	Toluene	43
56-23-5	Carbon Tetrachloride . . .	5 <	108-90-7	Chlorobenzene	44
108-05-4	Vinyl Acetate	10 <	100-41-4	Ethylbenzene	5 <
75-27-4	Bromodichloromethane . . .	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (Total)	5 <

The Lab ID for data on this page is A479317TMS.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

100004

ORGANICS ANALYSIS DATA SHEET

laboratory Name: ENSR LAB-Hou
 Lab Sample ID: A4793-17T-MSD
 Client Sample ID: LE-SSC-A-TMSD

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 09/14/90
 Date Analyzed: 09/14/90
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
4-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane . . .	5 <
4-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene .	5 <
5-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	45
5-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane . . .	5 <
5-09-2	Methylene Chloride	7	79-00-5	1,1,2-Trichloroethane . .	5 <
7-64-1	Acetone	630	71-43-2	Benzene	37
5-15-0	Carbon Disulfide	5 <	10061-02-6	trans-1,3-Dichloropropene	5 <
5-35-4	1,1-Dichloroethene	33	110-75-8	2-Chloroethylvinylether .	10 <
5-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
56-60-5	trans-1,2-Dichloroethene .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10 <
7-66-3	Chloroform	5 <	591-78-6	2-Hexanone	33
07-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
8-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5 <
1-55-6	1,1,1-Trichloroethane . .	5 <	108-88-3	Toluene	42
6-23-5	Carbon Tetrachloride . . .	5 <	108-90-7	Chlorobenzene	45
08-05-4	Vinyl Acetate	10 <	100-41-4	Ethylbenzene	5 <
5-27-4	Bromodichloromethane . . .	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (Total)	5 <

The Lab ID for data on this page is A479317TMSD.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

Form I

INITIAL CALIBRATION DATA
VOLATILE HSL COMPOUNDS

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:

Region:

Instrument ID: I50C
Calibration Date: 08/23/90

Min AVE RF for SPCC is 0.300 (1)

Max %RSD for CCC is 30%

Laboratory ID	IC0823020C1	IC0823100C1	IC0823200C1					
Compound	IC0823050C1	IC0823150C1						CCC*
	RF(20)	RF(50)	RF(100)	RF(150)	RF(200)	AVE RF	% RSD	SPCC**
Chloromethane	1.382	1.119	1.252	1.367	1.138	1.252	9.9	* *
Bromomethane	1.579	1.262	1.357	1.446	1.179	1.365	11.4	
Vinyl Chloride	1.386	1.129	1.238	1.316	1.055	1.225	11.0	*
Chloroethane	0.807	0.723	0.766	0.803	0.666	0.753	7.9	
Methylene Chloride	2.498	1.577	1.600	1.717	1.421	1.763	24.1	
Acetone	0.724	0.292	0.210	0.228	0.184	0.328	68.7	
Carbon Disulfide	2.901	2.625	3.281	3.706	3.285	3.160	13.1	
1,1-Dichloroethene	1.514	1.261	1.407	1.568	1.330	1.416	8.9	*
1,1-Dichloroethane	3.163	2.724	3.198	3.443	2.987	3.103	8.6	* *
trans-1,2-Dichloroethene	1.545	1.297	1.462	1.629	1.378	1.462	9.0	
Chloroform	3.330	2.976	3.459	3.924	3.395	3.417	9.9	*
1,2-Dichloroethane	2.370	2.123	2.415	2.696	2.270	2.375	8.9	
2-Butanone	0.012	0.015	0.017	0.017	0.016	0.015	13.5	
1,1,1-Trichloroethane	0.712	0.611	0.722	0.750	0.644	0.688	8.4	
Carbon Tetrachloride	0.654	0.572	0.710	0.742	0.653	0.666	9.7	
Vinyl Acetate	0.493	0.142	0.386	0.327	0.074	0.284	61.0	
Bromodichloromethane	0.625	0.566	0.711	0.753	0.658	0.663	11.0	
1,2-Dichloropropane	0.476	0.410	0.476	0.476	0.428	0.453	7.0	*
cis-1,3-Dichloropropene	0.463	0.441	0.557	0.581	0.533	0.515	11.7	
Trichloroethene	0.529	0.522	0.569	0.577	0.615	0.562	6.8	
Dibromochloromethane	0.479	0.476	0.604	0.633	0.597	0.558	13.4	
1,1,2-Trichloroethane	0.370	0.297	0.353	0.366	0.331	0.343	8.8	
Benzene	1.073	0.920	1.083	1.094	0.963	1.027	7.7	
trans-1,3-Dichloropropene	0.440	0.386	0.477	0.508	0.464	0.455	10.0	
2-Chloroethylvinylether	0.202	0.183	0.211	0.230	0.211	0.207	8.2	
Bromoform	0.326	0.345	0.438	0.496	0.473	0.416	18.4	* *
4-Methyl-2-Pentanone	0.348	0.139	0.268	0.390	0.355	0.300	33.5	
2-Hexanone	0.121	0.108	0.073	0.096	0.028	0.085	42.9	
Tetrachloroethene	0.658	0.577	0.666	0.692	0.589	0.642	8.6	
1,1,2,2-Tetrachloroethane	0.593	0.387	0.509	0.543	0.366	0.462	17.2	* *
Toluene	0.863	0.716	0.830	0.873	0.747	0.806	8.8	*
Chlorobenzene	1.180	1.032	1.180	1.234	1.070	1.139	7.4	* *
Ethylbenzene	0.606	0.499	0.558	0.590	0.509	0.552	8.6	*
Styrene	0.878	0.808	0.942	0.940	0.810	0.876	7.5	
Xylene (Total)	0.586	0.487	0.572	0.555	0.491	0.538	8.6	

Response Factor (number is the amount of ug/L)

AVE RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*)

SPCC - System Performance Check Compounds (**)

(1) - Minimum AVE RF for Bromoform is 0.250

Form VI

0036

**INITIAL CALIBRATION DATA
VOLATILE HSL COMPOUNDS**

Case No: CALIB
Contractor: ENSR LAB-Hou
Contract No:

Region:

Instrument ID: I50D
Calibration Date: 08/01/90

Min AVE RF for SPCC is 0.300 (1)

Max %RSD for CCC is 30%

Laboratory ID	IC0801020D2		IC0801100D1		IC0801200D1				CCC*
	IC0801050D1		IC0801150D1						SPCC**
Compound	RF(20)	RF(50)	RF(100)	RF(150)	RF(200)	AVE RF	% RSD		
Chloromethane	0.853	0.841	1.085	0.804	0.839	0.884	12.8	*	*
Bromomethane	1.186	1.154	1.341	1.090	1.060	1.166	9.4		
Vinyl Chloride	1.123	1.115	1.260	1.055	1.111	1.133	6.7	*	
Chloroethane	0.848	0.826	0.942	0.807	0.881	0.861	6.2		
Methylene Chloride	1.998	1.546	1.546	1.401	1.556	1.609	14.1		
Acetone	1.096	0.771	0.941	0.444	0.555	0.761	35.2		
Carbon Disulfide	2.716	2.938	3.133	3.086	3.392	3.053	8.2		
1,1-Dichloroethene	1.254	1.210	1.347	1.258	1.333	1.280	4.5	*	
1,1-Dichloroethane	2.611	2.443	2.692	2.499	2.745	2.598	4.9	*	*
trans-1,2-Dichloroethene	1.335	1.304	1.461	1.314	1.459	1.375	5.7		
Chloroform	2.670	2.575	2.821	2.578	2.875	2.704	5.1	*	
1,2-Dichloroethane	1.815	1.629	1.844	1.583	1.882	1.751	7.7		
2-Butanone	0.067	0.058	0.074	0.053	0.069	0.064	13.3		
1,1,1-Trichloroethane	0.639	0.582	0.641	0.579	0.645	0.617	5.4		
Carbon Tetrachloride	0.542	0.513	0.533	0.527	0.561	0.535	3.3		
Vinyl Acetate	0.945	0.933	0.952	0.889	0.331	0.810	33.2		
Bromodichloromethane	0.714	0.679	0.694	0.669	0.793	0.710	7.0		
1,2-Dichloropropane	0.411	0.378	0.440	0.392	0.446	0.413	7.1	*	
cis-1,3-Dichloropropene	0.573	0.553	0.602	0.540	0.634	0.580	6.5		
Trichloroethene	0.417	0.398	0.436	0.400	0.527	0.436	12.2		
Dibromochloromethane	0.587	0.566	0.652	0.605	0.706	0.623	9.0		
1,1,2-Trichloroethane	0.414	0.375	0.448	0.380	0.446	0.413	8.4		
Benzene	0.948	0.879	1.002	0.868	0.968	0.933	6.2		
trans-1,3-Dichloropropene	0.535	0.483	0.559	0.486	0.576	0.528	8.0		
2-Chloroethylvinylether	0.252	0.244	0.295	0.248	0.302	0.268	10.4		
Bromoform	0.377	0.389	0.468	0.431	0.548	0.443	15.6	*	*
4-Methyl-2-Pentanone	0.715	0.577	0.757	0.620	0.802	0.694	13.5		
2-Hexanone	0.547	0.440	0.626	0.523	0.715	0.570	18.4		
Tetrachloroethene	0.405	0.387	0.417	0.398	0.429	0.407	4.0		
1,1,2,2-Tetrachloroethane	0.954	0.879	1.050	0.867	0.860	0.924	8.9	*	*
Toluene	0.806	0.758	0.833	0.730	0.822	0.790	5.6	*	
Chlorobenzene	1.110	1.039	1.140	1.030	1.148	1.093	5.1	*	*
Ethylbenzene	0.587	0.564	0.565	0.500	0.559	0.555	5.9	*	
Styrene	0.998	0.951	1.032	0.977	1.075	1.007	4.8		
Xylene (Total)	0.641	0.580	0.652	0.571	0.633	0.615	6.0		

Response Factor (number is the amount of ug/L)

AVE RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*)

SPCC - System Performance Check Compounds (**)

(1) - Minimum AVE RF for Bromoform is 0.250

Form VI

00008

V. Analytical ResultsReactivity

The observations for Reactivity were as follows:

- . The sample(s) did not undergo violent changes under normal conditions.
- . The sample(s) did not react violently or form a potentially explosive mixture with water.
- . The sample(s) did not appear readily capable of detonation, explosive decomposition or reaction at standard temperature or pressure.
- . The sample(s) did not generate toxic gases, vapors or fumes when exposed to pH conditions between 2 and 12.5.
- . The results for reactive sulfide and cyanide are as follows:

<u>Parameter</u>	<u>Sample Designation</u>	
	<u>Method</u> <u>Blank</u>	A22751-1 4793-1 <u>HSA-C1-WDA</u>
Reactivity-Sulfide	<50	<54
Reactivity-Cyanide	<50	<54
Units	(mg/kg)	(mg/kg dw)

General Chemistry

<u>Parameter</u>	<u>Sample Designation</u>	
	<u>Method</u> <u>Blank</u>	A22751-1 4793-1 <u>HSA-C1-WDA</u>
Flashpoint, closed cup, °F	--	>180
Total Solids, %	0.1 U	93

AnalytiKEM Inc.
2925 Richmond Avenue
Houston, TX 77098
713/520-1495
713/520-9900
Fax: 713/523-7107

DATE: 03/19/91

TO: Krishna Day

FROM: Bo Blankfield, Lab Director

PROJ. NO.: 3519-003-133 LAB NO.: A5519

Attached are reports of chemical analyses of samples received March 1, 1991. These analyses are:

Count	Test Code	Test Name	Test Method	Sampled	Matrix
1	Ag - -TCL-HOU	TCLP SILVER	EPA SW-846: 7760, ATOMIC ABSORPTION		TCLP EXT
1	Ag -S- -HOU	SILVER ON SOLID	EPA SW-846: 3050, 7760, AA	02/28/91	SOIL/SLG
1	Al -S-ICP-HOU	ALUMINUM, SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	As - -TCL-HOU	TCLP ARSENIC	EPA SW-846: 7060, GRAPHITE FURNACE		TCLP EXT
1	As -S-GFA-HOU	ARSENIC ON SOLID	EPA SW-846: 7060, GRAPHITE FURNACE	02/28/91	SOIL/SLG
1	BNA - - -HOU	SEMIVOLATILE ORGANICS	EPA SW-846: 3520,8270, LLE,GC/MS		TCLP EXT
1	BNA -S- -HOU	SEMIVOLATILE ORGANICS/SOLID	EPA SW-846: 3550,8270, SON.,GC/MS	02/28/91	SOIL/SLG
1	Ba - -TCL-HOU	TCLP BARIUM	EPA SW-846: 6010, ICP		TCLP EXT
1	Ba -S-ICP-HOU	BARIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Be -S-ICP-HOU	BERYLLIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	CN -S- -AKM	CYANIDE ON SOLID	EPA 846:9010 DISTILL., COLORIMETRIC	02/28/91	SOIL/SLG
1	CORR -S- -HOU	CORROSIVITY ON SOLID	EPA SW-846: 1110, NACE STEEL COUPON	02/28/91	SOIL/SLG
1	Ca -S-ICP-HOU	CALCIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Cd - -TCL-HOU	TCLP CADMIUM	EPA SW-846: 6010, ICP		TCLP EXT
1	Cd -S-ICP-HOU	CADMIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Co -S-ICP-HOU	COBALT ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Cr - -TCL-HOU	TCLP CHROMIUM	EPA SW-846: 6010, ICP		TCLP EXT
1	Cr -S-ICP-HOU	CHROMIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Cu -S-ICP-HOU	COPPER ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	FP -S- -AKM	IGNITABILITY ON SOLID	EPA SW-846: 1010, PENSKEY MARTIN	02/28/91	SOIL/SLG
1	Fe -S-ICP-HOU	IRON ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	H2S -S-REA-AKM	HYDROGEN SULFIDE, REACTIVE/SLD	EPA SW-846: 7.3.4.2, 9030	02/28/91	SOIL/SLG
1	HCN -S-REA-AKM	HYDROCYANIC ACID, REACTIVE/SLD	EPA SW-846: 7.3.3.2, 9010	02/28/91	SOIL/SLG
1	HERB - - -AKM	HERBICIDES	EPA SW-846:3550,8150,SONIC.GC(MOD.)		TCLP EXT
1	Hg - -TCL-HOU	TCLP MERCURY	EPA SW-846: 7470, COLD VAPOR		TCLP EXT
1	Hg -S- -HOU	MERCURY ON SOLID	EPA SW-846: 7471, COLD VAPOR	02/28/91	SOIL/SLG
1	K -S- -HOU	POTASSIUM ON SOLID	EPA SW-846:3050; K:600:258.1,AA	02/28/91	SOIL/SLG
1	Mg -S-ICP-HOU	MAGNESIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Mn -S-ICP-HOU	MANGANESE ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Na -S-ICP-HOU	SODIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG

1	Ni	-S-ICP-HOU	NICKEL ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	P/PCB-S-	-HOU	PESTICIDES/PCBs ON SOLID	EPA SW-846: 3550,8080, SONICATN,GC	02/28/91	SOIL/SLG
1	PEST - -	-HOU	PESTICIDES	EPA SW-846: 3520,8080, LLE,GC		TCLP EXT
1	Pb	- -TCL-HOU	TCLP LEAD	EPA SW-846: 6010, ICP		TCLP EXT
1	Pb	-S-ICP-HOU	LEAD ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	Sb	-S-GFA-HOU	ANTIMONY ON SOLID	EPA SW-846: 7041, GRAPHITE FURNACE	02/28/91	SOIL/SLG
1	Se	- -TCL-HOU	TCLP SELENIUM	EPA SW-846: 7740, GRAPHITE FURNACE		TCLP EXT
1	Se	-S-GFA-HOU	SELENIUM ON SOLID	EPA SW-846: 7740, GRAPHITE FURNACE	02/28/91	SOIL/SLG
1	TPH	-S- -HOU	TOTAL PET. HYDROCARBONS/SOLID	EPA 600:418.1, SW-846:9071	02/28/91	SOIL/SLG
1	Tl	-S-GFA-HOU	THALLIUM ON SOLID	EPA SW-846: 7841, GRAPHITE FURNACE	02/28/91	SOIL/SLG
1	V	-S-ICP-HOU	VANADIUM ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
2	VOA - -	-HOU	VOLATILE ORGANIC ANALYSES	EPA SW-846: 8240, GC/MS	02/25/91	WATER
						TCLP EXT
1	VOA -S-	-HOU	VOLATILE ORGANICS ON SOLID	EPA SW-846: 8240, GC/MS	02/28/91	SOIL/SLG
1	Zn	-S-ICP-HOU	ZINC ON SOLID	EPA SW-846: 3050,6010, ICP	02/28/91	SOIL/SLG
1	pH	-S-COR-HOU	pH CORROSION ON SOLID	EPA SW-846: 9045	02/28/91	SOIL/SLG

Data contained in this report reflect a full quality control review and have met all applicable standards established by AnalytikEM. AnalytikEM quality assurance protocols are in accordance with EPA guidelines.

Should you have any questions, do not hesitate to contact me at (713) 520-9900.

BB/lis

Enclosures: Analytical Summary, Analytical Report, Chain of Custody, Sample Receipt Checklist, Quality Control Logs, ANALYTIKEM ID #A23982-2, ANALYTIKEM ID #A5519-1T, ANALYTIKEM ID #A5519-2, Billing Summary

LAB NO. A5519
PROJECT 3519-003-133 Homco - Odessa, TX

AnalytikEM

An American NUKEM Company
2925 RICHMOND AVENUE HOUSTON, TX 77098 (713) 520-1495 FAX: (713) 523-7107

Analysis Request and Chain of Custody Record

Project no. 3519-003-133			Client/Project Name HOMCO			Project Location Odessa, Texas					
Lab ID No	Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS		
1	LF-W04C1	2-28-91 1130	X		32.02 Amber W.M.	Soil/Sludge	4%	TECP Metals			
1	LF-W04C1	2-28-91 1130	X		402.54 (x2) Amber W.M.			TECP Volatile			
1	LF-W04C1	2-28-91 1130	X		32.02 Amber W.M.			TECP BNAs			
1	LF-W04C1	2-28-91 1130	X		32.02 Amber W.M.			TECP Pesticides			
1	LF-W04C1	2-28-91 1130	X		32.02 Amber W.M.			TECP Herbicides			
1	LF-W04C1	2-28-91 1130	X		8.02 SSWM			HSL Metals			
1	LF-W04C1	2-28-91 1130	X		402 slurry			HSL Volatile			
1	LF-W04C1	2-28-91 1130	X		32.02 Amber W.M.			HSL BNAs Organo Pesticides, and PCBs			
1	LF-W04C1	2-28-91 1130	X		8.02 Amber W.M.			Cyanide			
1	LF-W04C1	2-28-91 1130	X		8.02 Amber W.M.			Reactivity			
Samplers: (Signature) <i>Samuel Romero</i>			Relinquished by: (Signature) <i>Samuel Romero</i>			Date: 2-28-91 Time: 1700			Received by: (Signature) <i>[Signature]</i>	Date: Time:	COC Seal No. 39124
Relinquished by: (Signature) <i>[Signature]</i>			Relinquished by: (Signature) <i>[Signature]</i>			Date: Time:			Received by: (Signature) <i>[Signature]</i>	Date: Time:	
Relinquished by: (Signature) <i>[Signature]</i>			Relinquished by: (Signature) <i>[Signature]</i>			Date: Time:			Received by: (Signature) <i>[Signature]</i>	Date: Time:	
REMARKS: Results sent to: said in my be hazardous die by dose RUSH ANALYSIS of March 12/1991 del Sam Heert & Brenda Beaul 2:15 pm									Date Results To: <i>[Signature]</i>	Laboratory No. A5519	

An American NUKEM Company

2925 RICHMOND AVENUE HOUSTON, TX 77098 (713) 520-1495 FAX: (713) 523-7107

Analysis Request and Chain of Custody Record

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AnalytiKEM Laboratories
SAMPLE RECEIPT CHECKLIST

Client Homco Project Number 3519-003-133 Laboratory Number A 5519

- 1 ☒ Shipped Notes: Fedex -9490423040
☐ Hand Delivered
- 2 ☒ COC Present on Receipt Notes: _____
☐ No COC
- 3 ☒ COC Tape on Shipping Container Notes: # 39124
☐ No COC Tape on Shipping Container Notes: _____
- 4 ☐ Samples Broken/Leaking Notes: Intact
☒ Sample Intact on Receipt
☐ Other (See Notes)
- 5 ☐ Ambient on Receipt Notes: _____
☒ Chilled on Receipt
- 6 ☒ Samples Preserved Correctly Notes: _____
☐ Improper Preservatives
☐ N/A (None Recommended)
☐ Other (See Notes)
- 7 ☒ Received Within Holding Time Notes: _____
☐ Not Received Within Holding Time
☐ N/A (None Recommended)
☐ Other (See Notes)
- 8 ☐ COC Tapes on Samples Notes: _____
☒ No COC Tapes on Samples
- 9 ☐ Discrepancies Between COC and Sample Labels Notes: _____
☒ No Discrepancies Noted
☐ N/A (No COC Received)

Additional Comments: _____

Julie Holub

8-1-94
1/21/95

AnalytiKEM-Houston

Analytical Summary

03/19/91 12:16

Lab Number: A5519 Project: 3519-003-133 Homco - Odessa, TX			
Lab ID Field ID Test /Matrix	1 LF-WDA- C1 SOIL/SLG	2 TRIP BLANK * WATER	1T LF-WDA- C1/TCLP TCLP EXT
Ag - -TCL-HOU (MDL)	--	--	<0.01 MG/L (0.01)
Ag -S- -HOU (MDL)	<1 MG/KG (1)	--	--
Al -S-ICP-HOU (MDL)	1.1 PERCENT (0.01)	--	--
As - -TCL-HOU (MDL)	--	--	0.02 MG/L (0.005)
As -S-GFA-HOU (MDL)	2.2 MG/KG (0.8)	--	--
BNA - - -HOU (MDL)	--	--	ATTACHED UG/L (*)
BNA -S- -HOU (MDL)	ATTACHED UG/KG (*)	--	--
Ba - -TCL-HOU (MDL)	--	--	0.6 MG/L (0.02)
Ba -S-ICP-HOU (MDL)	81 MG/KG (2)	--	--

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals:

Date:

Shonda P. Hawke

Date:

3/27/91

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Summary
03/19/91 12:16

Lab Number: A5519				
Project: 3519-003-133				
Homco - Odessa, TX				
Lab ID	1	2	1T	
Field ID	LF-WDA-	TRIP	LF-WDA-	
Test /Matrix	C1	BLANK *	C1/TCLP	
	SOIL/SLG	WATER	TCLP EXT	
Be	-S-ICP-HOU	<2	--	--
	(MDL)	MG/KG		
		(2)		
CN	-S- -AKM	<0.3	--	--
	(MDL)	MG/KG		
		(0.3)		
CORR	-S- -HOU	SEE REM*	--	--
	(MDL)	()*		
Ca	-S-ICP-HOU	2.9	--	--
	(MDL)	PERCENT		
		(0.025)		
Cd	- -TCL-HOU	--	--	<0.010
	(MDL)			MG/L
				(0.010)
Cd	-S-ICP-HOU	<2.0	--	--
	(MDL)	MG/KG		
		(2.0)		
Co	-S-ICP-HOU	6.4	--	--
	(MDL)	MG/KG		
		(5)		
Cr	- -TCL-HOU	--	--	<0.02
	(MDL)			MG/L
				(0.02)
Cr	-S-ICP-HOU	9	--	--
	(MDL)	MG/KG		
		(2)		

Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: 10:00 AM 3/27/91

Date: 3/27/91

Shonda K. Asike

Date: 3/27/91

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Summary
03/20/91 09:54

Lab Number: A5519			
Project: 3519-003-133			
Home - Odessa, TX			
Lab ID Field ID Test /Matrix	1 LF-WDA- C1 SOIL/SLG	2 TRIP BLANK * WATER	1T LF-WDA- C1/TCLP TCLP EXT
Cu -S-ICP-HOU (MDL)	7.2 MG/KG (2)	--	--
FP -S- -AKM (MDL)	>180 °F ()	--	--
Fe -S-ICP-HOU (MDL)	7200 MG/KG (2)	--	--
H2S -S-REA-AKM (MDL)	<60* PPM (60)*	--	--
HCN -S-REA-AKM (MDL)	<60* PPM (60)*	--	--
HERB - - -AKM (NDL)	--	--	ATTACHED ()*
Hg - -TCL-HOU (NDL)	--	--	<0.001 MG/L (0.001)
Hg -S- -HOU (MDL)	0.06 MG/KG (0.05)	--	--
K -S- -HOU (MDL)	2200 MG/KG (120)	--	--

ched Analytical Report for remarks.

toval indicate quality assurance-quality control verification of analytical
and enclosed documentation.

on 3/20/91 Date: 3/17/91 Linda R. Basile Date: 3/27/91

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Summary

03/19/91 12:16

Lab Number: A5519 Project: 3519-003-133 Homco - Odessa, TX			
Lab ID Field ID Test /Matrix	1 LF-WDA- C1 SOIL/SLG	2 TRIP BLANK * WATER	1T LF-WDA- C1/TCLP TCLP EXT
Mg -S-ICP-HOU (MDL)	2400 MG/KG (50)	--	--
Mn -S-ICP-HOU (MDL)	78 MG/KG (2)	--	--
Na -S-ICP-HOU (MDL)	560 MG/KG (250)	--	--
Ni -S-ICP-HOU (MDL)	6.1 MG/KG (2)	--	--
P/PCB-S- -HOU (MDL)	ATTACHED UG/KG ()*	--	--
PEST - - -HOU (MDL)	--	--	ATTACHED UG/L ()*
Pb - -TCL-HOU (MDL)	--	--	<0.025 MG/L (0.025)
Pb -S-ICP-HOU (MDL)	10 MG/KG (5)	--	--
Sb -S-GFA-HOU (MDL)	<0.5 MG/KG (0.5)	--	--

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

Approvals: James H. HootchDate: 3/27/91Scinda R. SmithDate: 3/27/91

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Summary

03/19/91 12:17

Lab Number: A5519 Project: 3519-003-133 Homco - Odessa, TX			
Lab ID Field ID Test /Matrix	1 LF-WDA- C1 SOIL/SIG	2 TRIP BLANK * WATER	1T LF-WDA- C1/TCLP TCLP EXT
Se - -TCL-HOU (MDL)	--	--	<0.005 MG/L (0.005)
Se -S-GFA-HOU (MDL)	<0.25 MG/KG (0.25)	--	--
TPH -S- -HOU (MDL)	500 MG/KG (40)	--	--
Tl -S-GFA-HOU (MDL)	<0.5 MG/KG (0.5)	--	--
V -S-ICP-HOU (MDL)	24 MG/KG (5)	--	--
VOA - - -HOU (MDL)	--	ATTACHED UG/L ()*	ATTACHED UG/L ()*
VOA -S- -HOU (MDL)	ATTACHED UG/KG ()*	--	--
Zn -S-ICP-HOU (MDL)	35 MG/KG (2)	--	--
pH -S-COR-HOU (MDL)	8.35 UNITS (0.01)	--	--

* Please see attached Analytical Report for remarks.

Signatures of approval indicate quality assurance-quality control verification of analytical results, billing and enclosed documentation.

 Approvals: Carmen M. M. [Signature] Date: 3/19/91 Granda K. [Signature] Date: 3/27/91

AnalytiKEM-Houston

Analytical Report

03/19/91 12:15

Homco - Odessa, TX	Field ID: LF-WDA-C1	Date Sampled: 02/28/91
Proj. No.: 3519-003-133	Lab ID: 1	Time Sampled: 1130
Lab No.: A5519	Matrix: SOIL/SLG(COMPOSITE)	Date Received: 03/01/91

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Ag -S- -HOU SILVER ON SOLID EPA SW-846: 3050, 7760, AA	<1	MG/KG	1	03/08/91 1630
Al -S-ICP-HOU ALUMINUM, SOLID EPA SW-846: 3050,6010, ICP	1.1	PERCENT	0.01	03/08/91 1837
As -S-GFA-HOU ARSENIC ON SOLID EPA SW-846: 7060, GRAPHITE FURNACE	2.2	MG/KG	0.8	03/08/91 1835
BNA -S- -HOU SEMIVOLATILE ORGANICS/SOLID EPA SW-846: 3550,8270, SON.,GC/MS	ATTACHED *1	UG/KG		Ext.: 03/04/91 Anal.: 03/05/91
Ba -S-ICP-HOU BARIUM ON SOLID EPA SW-846: 3050,6010, ICP	81	MG/KG	2	03/08/91 1100
Be -S-ICP-HOU BERYLLIUM ON SOLID EPA SW-846: 3050,6010, ICP	<2	MG/KG	2	03/08/91 1100
CN -S- -AKM CYANIDE ON SOLID EPA 846:9010 DISTILL., COLORIMETRIC	<0.3	MG/KG	0.3	03/07/91
CORR -S- -HOU CORROSIVITY ON SOLID EPA SW-846: 1110, NACE STEEL COUPON	SEE REM* *2			/ /
Ca -S-ICP-HOU CALCIUM ON SOLID EPA SW-846: 3050,6010, ICP	2.9	PERCENT	0.025	03/08/91 2147

*1 SEE ANALYTIKEM ID #A5519-1

*2 *UNABLE TO ANALYZE DUE TO MATRIX

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Report

03/19/91 12:15

Homco - Odessa, TX		Field ID: LF-WDA-C1	Date Sampled: 02/28/91	
Proj. No.: 3519-003-133		Lab ID: 1	Time Sampled: 1130	
Lab No.: A5519		Matrix: SOIL/SLG(COMPOSITE)	Date Received: 03/01/91	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Cd -S-ICP-HOU CADMIUM ON SOLID EPA SW-846: 3050,6010, ICP	<2.0	MG/KG	2.0	03/08/91 1100
Co -S-ICP-HOU COBALT ON SOLID EPA SW-846: 3050,6010, ICP	6.4	MG/KG	5	03/08/91 1837
Cr -S-ICP-HOU CHROMIUM ON SOLID EPA SW-846: 3050,6010, ICP	9	MG/KG	2	03/08/91 1100
Cu -S-ICP-HOU COPPER ON SOLID EPA SW-846: 3050,6010, ICP	7.2	MC/KG	2	03/08/91 1100
FP -S- -AKM IGNITABILITY ON SOLID EPA SW-846: 1010, PENSKE MARTIN	>180	"F		03/06/91
Fe -S-ICP-HOU IRON ON SOLID EPA SW-846: 3050,6010, ICP	7200	MG/KG	2	03/08/91 1100
H2S -S-REA-AKM HYDROGEN SULFIDE, REACTIVE/SLD EPA SW-846: 7.3.4.2, 9030	<60* *1	PPM	60	03/06/91
HCN -S-REA-AKM HYDROCYANIC ACID, REACTIVE/SLD EPA SW-846: 7.3.3.2, 9010	<60* *2	PPM	60	03/06/91
Hg -S- -HOU MERCURY ON SOLID EPA SW-846: 7471, COLD VAPOR	0.06	MG/KG	0.05	03/07/91 730

*1 *TOTAL AVAILABLE H2S

*2 *TOTAL AVAILABLE HCN

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Report

03/19/91 12:15

Homco - Odessa, TX		Field ID: LF-WDA-C1	Date Sampled: 02/28/91	
Proj. No.: 3519-003-133		Lab ID: 1	Time Sampled: 1130	
Lab No.: A5519		Matrix: SOIL/SLG(COMPOSITE)	Date Received: 03/01/91	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
K -S- -HOU POTASSIUM ON SOLID EPA SW-846: 3050; K: 600:258.1, AA	2200	MG/KG	120	03/08/91 1800
Mg -S-ICP-HOU MAGNESIUM ON SOLID EPA SW-846: 3050, 6010, ICP	2400	MG/KG	50	03/08/91 2147
Mn -S-ICP-HOU MANGANESE ON SOLID EPA SW-846: 3050, 6010, ICP	78	MG/KG	2	03/08/91 1100
Na -S-ICP-HOU SODIUM ON SOLID EPA SW-846: 3050, 6010, ICP	560	MG/KG	250	03/08/91 2147
Ni -S-ICP-HOU NICKEL ON SOLID EPA SW-846: 3050, 6010, ICP	6.1	MG/KG	2	03/08/91 1100
P/PCB-S- -HOU PESTICIDES/PCBs ON SOLID EPA SW-846: 3550, 8080, SONICATN, GC	ATTACHED *1	UG/KG		Ext.: 03/04/91 Anal.: 03/08/91
Pb -S-ICP-HOU LEAD ON SOLID EPA SW-846: 3050, 6010, ICP	10	MG/KG	5	03/08/91 1100
Sb -S-GFA-HOU ANTIMONY ON SOLID EPA SW-846: 7041, GRAPHITE FURNACE	<0.5	MG/KG	0.5	03/11/91 1104
Se -S-GFA-HOU SELENIUM ON SOLID EPA SW-846: 7740, GRAPHITE FURNACE	<0.25	MG/KG	0.25	03/08/91 716

*1 SEE ANALYTIKEM ID #A5519-1

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Report

03/19/91 12:15

Homco - Odessa, TX		Field ID: LF-WDA-C1	Date Sampled: 02/28/91	
Proj. No.: 3519-003-133		Lab ID: 1	Time Sampled: 1130	
Lab No.: A5519		Matrix: SOIL/SLG(COMPOSITE)	Date Received: 03/01/91	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
TPH -S- -HOU TOTAL PET. HYDROCARBONS/SOLID EPA 600:418.1, SW-846:9071	500	MG/KG	40	03/07/91 900
Tl -S-GFA-HOU THALLIUM ON SOLID EPA SW-846: 7841, GRAPHITE FURNACE	<0.5	MG/KG	0.5	03/11/91 715
V -S-ICP-HOU VANADIUM ON SOLID EPA SW-846: 3050,6010, ICP	24	MG/KG	5	03/08/91 1837
VOA -S- -HOU VOLATILE ORGANICS ON SOLID EPA SW-846: 8240, GC/MS	ATTACHED *1	UG/KG		03/05/91
Zn -S-ICP-HOU ZINC ON SOLID EPA SW-846: 3050,6010, ICP	35	MG/KG	2	03/08/91 1100
pH -S-COR-HOU pH CORROSION ON SOLID EPA SW-846: 9045	8.35	UNITS	0.01	03/01/91 1340

*1 SEE ANALYTIKEM ID #A5519-1

AnalytiKEM-Houston

Analytical Report
03/19/91 12:16

Homco - Odessa, TX	Field ID: TRIP BLANK *	Date Sampled: 02/25/91
Proj. No.: 3519-003-133	Lab ID: 2	Time Sampled: 1000
Lab No.: A5519	Matrix: WATER (GRAB)	Date Received: 03/01/91

(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
OA - - -HOU VOLATILE ORGANIC ANALYSES PA SW-846: 8240, GC/MS	ATTACHED *1,2	UG/L		03/05/91

FIELD ID CONT.: 02-25-91
E ANALYTIKEM ID #A5519-2

AnalytiKEM-Houston

Analytical Report

03/28/91 11:43

Homco - Odessa, TX Proj. No.: 3519-003-133 Lab No.: A5519		Field ID: LF-WDA-C1/TCLP Lab ID: 1T Matrix: TCLP EXT	Date Sampled: / / Time Sampled: Date Received:03/01/91	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Ag - -TCL-HOU TCLP SILVER EPA SW-846: 7760, ATOMIC ABSORPTION	<0.01	MG/L	0.01	03/08/91 1630
As - -TCL-HOU TCLP ARSENIC EPA SW-846: 7060, GRAPHITE FURNACE	0.02	MG/L	0.005	03/08/91 1835
BNA - - -HOU SEMIVOLATILE ORGANICS EPA SW-846: 3520,8270, LLE,GC/MS	ATTACHED *1	UG/L		Ext.: 03/05/91 Anal.:03/18/91
Ba - -TCL-HOU TCLP BARIUM EPA SW-846: 6010, ICP	0.6	MG/L	0.02	03/08/91 1100
Cd - -TCL-HOU TCLP CADMIUM EPA SW-846: 6010, ICP	<0.010	MG/L	0.010	03/08/91 1100
Cr - -TCL-HOU TCLP CHROMIUM EPA SW-846: 6010, ICP	<0.02	MG/L	0.02	03/08/91 1100
HERB - - -AKM HERBICIDES EPA SW-846:3550,8150,SONIC.GC(MOD.)	ATTACHED *2			03/12/91
Hg - -TCL-HOU TCLP MERCURY EPA SW-846: 7470, COLD VAPOR	<0.001	MG/L	0.001	03/12/91 1045
PEST - - -HOU PESTICIDES EPA SW-846: 3520,8080, LLE,GC	ATTACHED *1	UG/L		Ext.: 03/05/91 Anal.:03/07/91

*1 SEE ANALYTIKEM ID #A5519-1T

*2 SEE ANALYTIKEM ID #A23982-2

***** CONTINUED *****

AnalytiKEM-Houston

Analytical Report

03/19/91 12:16

Homco - Odessa, TX		Field ID: LF-WDA-C1/TCLP	Date Sampled: / /	
Proj. No.: 3519-003-133		Lab ID: 1T	Time Sampled:	
Lab No.: A5519		Matrix: TCLP EXT	Date Received: 03/01/91	
(Test Code) Parameter (Test Name) (Test Method)	Concen- tration	Units	Method Detection Limit	Date/Time Analysis Performed
Pb - -TCL-HOU TCLP LEAD EPA SW-846: 6010, ICP	<0.025	MG/L	0.025	03/08/91 1100
Se - -TCL-HOU TCLP SELENIUM EPA SW-846: 7740, GRAPHITE FURNACE	<0.005	MG/L	0.005	03/08/91 716
VOA - - -HOU VOLATILE ORGANIC ANALYSES EPA SW-846: 8240, GC/MS	ATTACHED *1	UG/L		03/05/91

*1 SEE ANALYTIKEM ID #A5519-1T

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
 Lab Sample ID: A5519-1
 Client Sample ID: LF-WDA-C1

Concentration: LOW
 Sample Matrix: SOIL
 Percent Moisture:

Date Extracted: 03/04/91
 Date Analyzed: 03/08/91
 Dilution Factor: 12

PESTICIDE/PCB COMPOUNDS

CAS Number		ug/Kg	CAS Number		ug/Kg
319-84-6	alpha-BHC	2 <	1031-07-8	Endosulfan sulfate	2 <
319-85-7	beta-BHC	2 <	50-29-3	4,4'-DDT	2 <
319-86-8	delta-BHC	2 <	72-43-5	Methoxychlor	2 <
58-89-9	gamma-BHC (Lindane)	2 <	7421-93-4	Endrin aldehyde	2 <
77-44-8	Heptachlor	2 <	57-74-9	Chlordane (technical)	2 <
309-00-2	Aldrin	2 <	8001-35-2	Toxaphene	40 <
1024-57-3	Heptachlor epoxide	2 <	12674-11-2	Aroclor-1016	40 <
959-98-8	Endosulfan I.	2 <	11104-28-2	Aroclor-1221	40 <
60-57-1	Dieldrin	2 <	11141-16-5	Aroclor-1232	40 <
72-55-9	4,4'-DDE	2 <	53469-21-9	Aroclor-1242	40 <
72-20-8	Endrin	2 <	12672-29-6	Aroclor-1248	40 <
33213-65-9	Endosulfan II	2 <	11097-69-1	Aroclor-1254	40 <
72-54-8	4,4'-DDD	2 <	11096-82-5	Aroclor-1260	40 <

The Lab ID for data on this page is A55191P.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: Analyt1KEM-Hou
Lab Sample ID: A5519-1T
Client Sample ID: LF-WDA-CI T

Concentration: LOW
Sample Matrix: WATER
Percent Moisture: 100.0

Date Extracted: 03/05/91
Date Analyzed: 03/07/91
Dilution Factor: 10

TCLP PESTICIDES

CAS Number		ug/L	CAS Number		ug/L
58-89-9	gamma-BHC (Lindane)	0.05<	72-43-5	Methoxychlor	0.05<
77-44-8	Heptachlor	0.05<	57-74-9	Chlordane (technical)	0.05<
1024-57-3	Heptachlor epoxide	0.05<	8001-35-2	Toxaphene	1 <
72-20-8	Endrin	0.05<			

The Lab ID for data on this page is A55191TP.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytikEM-Hou
Lab Sample ID: A5519-1
Client Sample ID: LF-WDA-C1

Concentration: LOW
Sample Matrix: SOIL
Percent Moisture: 15.3

Date Extracted: 03/05/91
Date Analyzed: 03/05/91
Dilution Factor: 5.0

VOLATILE COMPOUNDS

CAS Number		UG/KG	CAS Number		UG/KG
74-87-3	Chloromethane	59 <	78-87-5	1,2-Dichloropropane . . .	30 <
74-83-9	Bromomethane	59 <	10061-01-5	cis-1,3-Dichloropropene .	30 <
75-01-4	Vinyl Chloride	59 <	79-01-6	Trichloroethene	42
75-00-3	Chloroethane	59 <	124-48-1	Dibromochloromethane . . .	30 <
75-09-2	Methylene Chloride	30 <	79-00-5	1,1,2-Trichloroethane . .	30 <
67-64-1	Acetone	30 ≈	71-43-2	Benzene	30 <
75-15-0	Carbon Disulfide	30 <	10061-02-6	Trans-1,3-Dichloropropene	30
75-35-4	1,1-Dichloroethene	30 <	110-75-8	2-Chloroethylvinylether .	59
75-34-3	1,1-Dichloroethane	30 <	75-25-2	Bromoform	30 <
156-60-5	trans-1,2-Dichloroethene .	120	108-10-1	4-Methyl-2-Pentanone . . .	59 <
67-66-3	Chloroform	30 <	591-78-6	2-Hexanone	59 <
107-06-2	1,2-Dichloroethane	30 <	127-18-4	Tetrachloroethene	55
78-93-3	2-Butanone	59 <	79-34-5	1,1,2,2-Tetrachloroethane	30 <
71-55-6	1,1,1-Trichloroethane . .	30 <	108-88-3	Toluene	30 <
56-23-5	Carbon Tetrachloride . . .	30 <	108-90-7	Chlorobenzene	30
108-05-4	Vinyl Acetate	59 <	100-41-4	Ethylbenzene	86
75-27-4	Bromodichloromethane . . .	30 <	100-42-5	Styrene	30 <
			1330-20-7	Xylene (total)	70

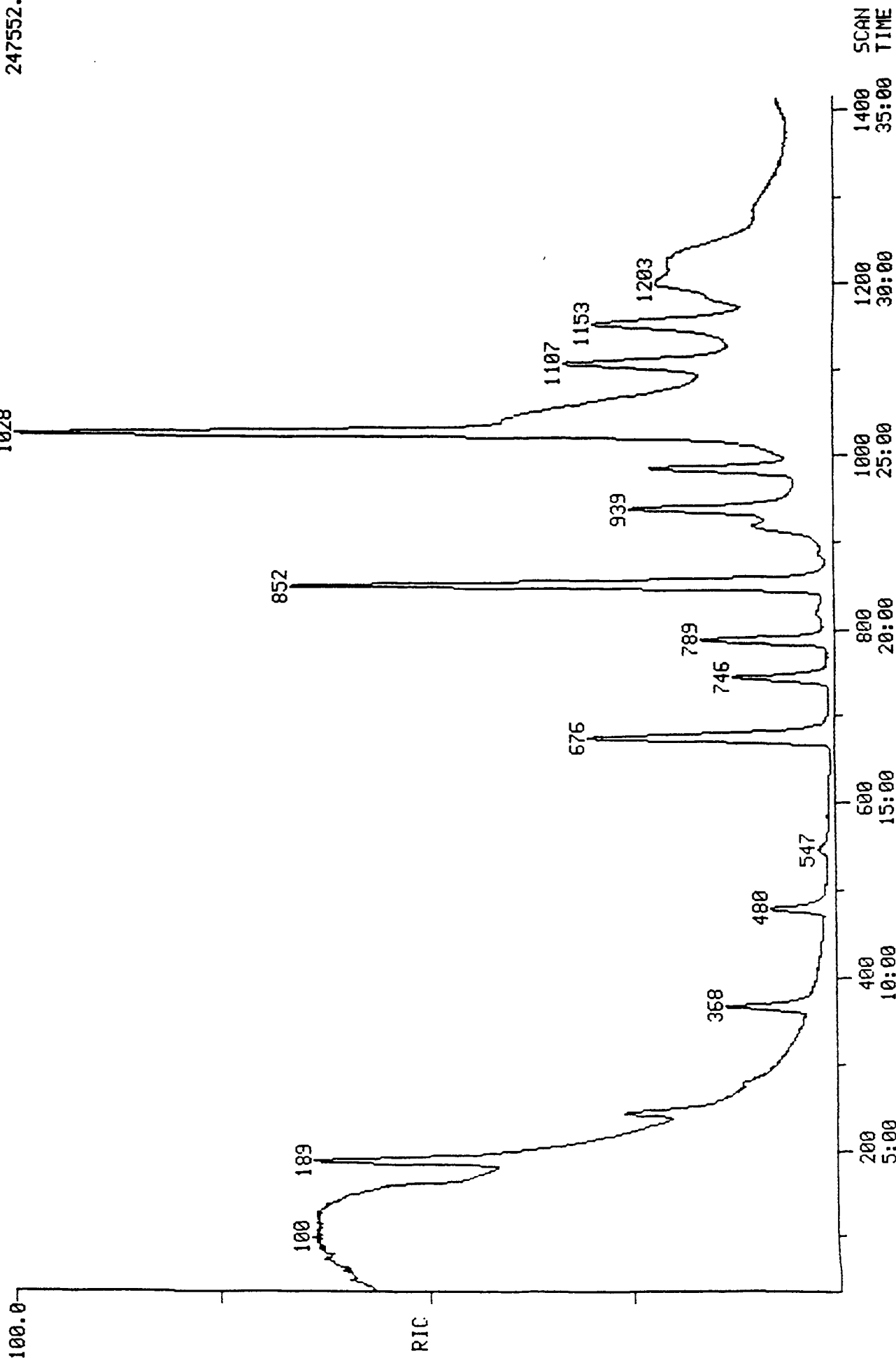
The Lab ID for data on this page is A55191A.

≈ - Reported value is less than the detection limit.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

00001

RIC
03/05/91 19:25:00
SAMPLE: LF-WDA-CL, TCLP
CONDS.: I500
RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
SCANS 35 TO 1415
DATA: A55191T #1
CALI: A55191T #3
247552.



RIC

03/05/91 16:34:00

SAMPLE: LF-WDA-C1

CONDS.: I500

RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

SCANS 35 TO 1415

DATA: A55191A #1

CALI: A55191A #3

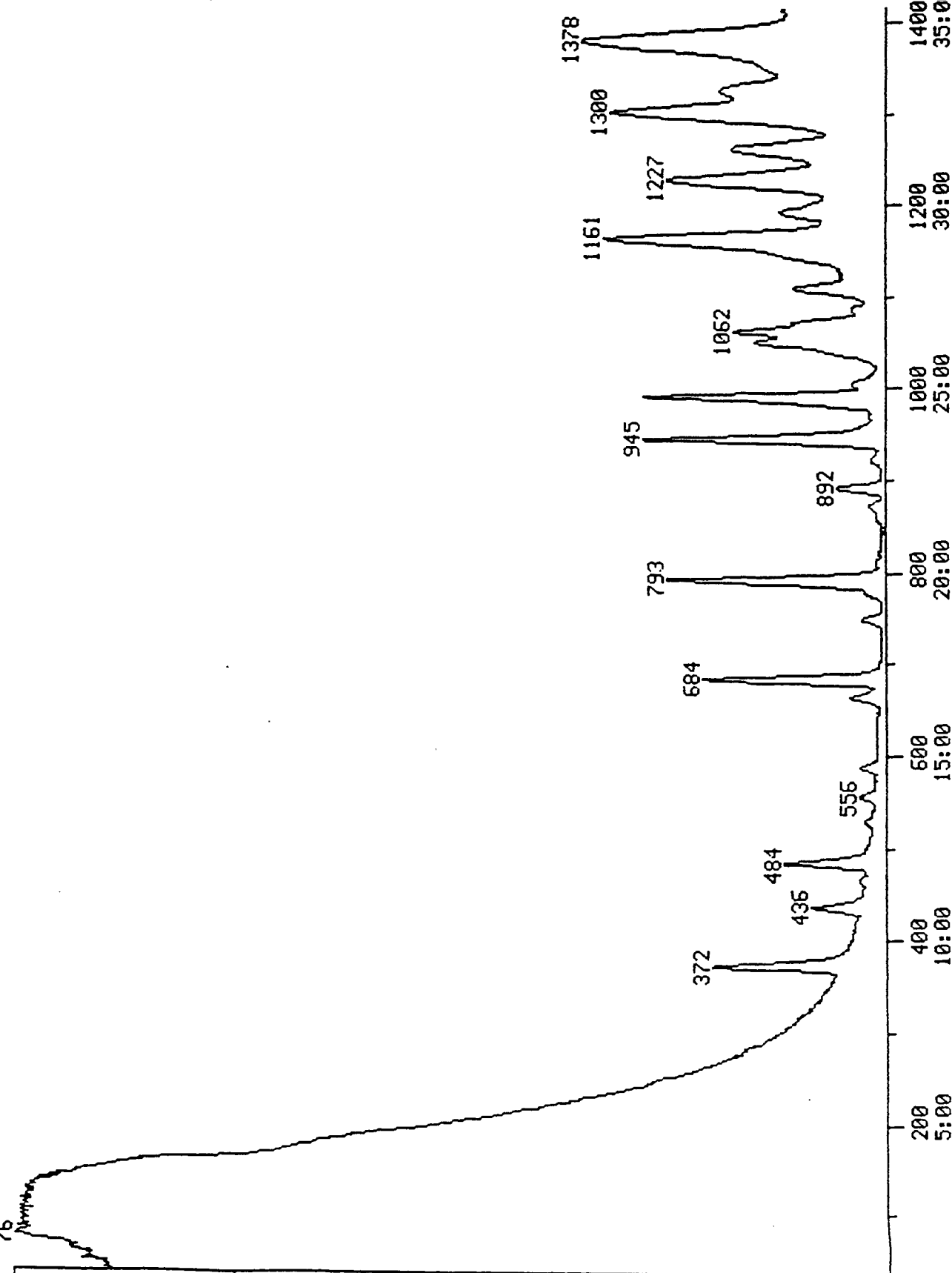
100.0

76

RIC

RIC

000002



127744.

SCAN
TIME

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
Lab Sample ID: A5519-1T
Client Sample ID: LEWDAC1-TCLP

Concentration: LOW
Sample Matrix: WATER
Percent Moisture: 100.0

Date Extracted: 03/05/91
Date Analyzed: 03/05/91
Dilution Factor: 1.0

TCLP VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
110-86-1	Pyridine	25 <	56-23-5	Carbon Tetrachloride . . .	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5 <
75-35-4	1,1-Dichloroethene	5 <	71-43-2	Benzene	5 <
67-66-3	Chloroform	5 <	127-18-4	Tetrachloroethene	5 <
107-06-2	1,2-Dichloroethane	5 <	108-90-7	Chlorobenzene	5 <
78-93-3	2-Butanone	10 <			

The Lab ID for data on this page is A55191T.

- Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
 Lab Sample ID: A5519-2
 Client Sample ID: TRIP-BLANK

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 03/05/91
 Date Analyzed: 03/05/91
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane . . .	5 <
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene .	5 <
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5 <
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane . . .	5 <
75-09-2	Methylene Chloride	5 <	79-00-5	1,1,2-Trichloroethane . .	5 <
67-64-1	Acetone	12 B	71-43-2	Benzene	5 <
75-15-0	Carbon Disulfide	5 <	10061-02-6	Trans-1,3-Dichloropropene	5 <
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether .	10 <
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5 <
156-60-5	trans-1,2-Dichloroethene .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10 <
67-66-3	Chloroform	5 <	591-78-6	2-Hexanone	10 <
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5 <
78-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5 <
71-55-6	1,1,1-Trichloroethane . .	5 <	108-88-3	Toluene	5 <
56-23-5	Carbon Tetrachloride . . .	5 <	108-90-7	Chlorobenzene	5 <
108-05-4	Vinyl Acetate	5 <	100-41-4	Ethylbenzene	5 <
75-27-4	Bromodichloromethane . . .	5 <	100-42-5	Styrene	5 <
			1330-20-7	Xylene (total)	5 <

The Lab ID for data on this page is A55192A.

B - Compound was detected in the QC blank.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC

03/05/91 11:02:00

SAMPLE: TRIP BLANK

COND.: 150C

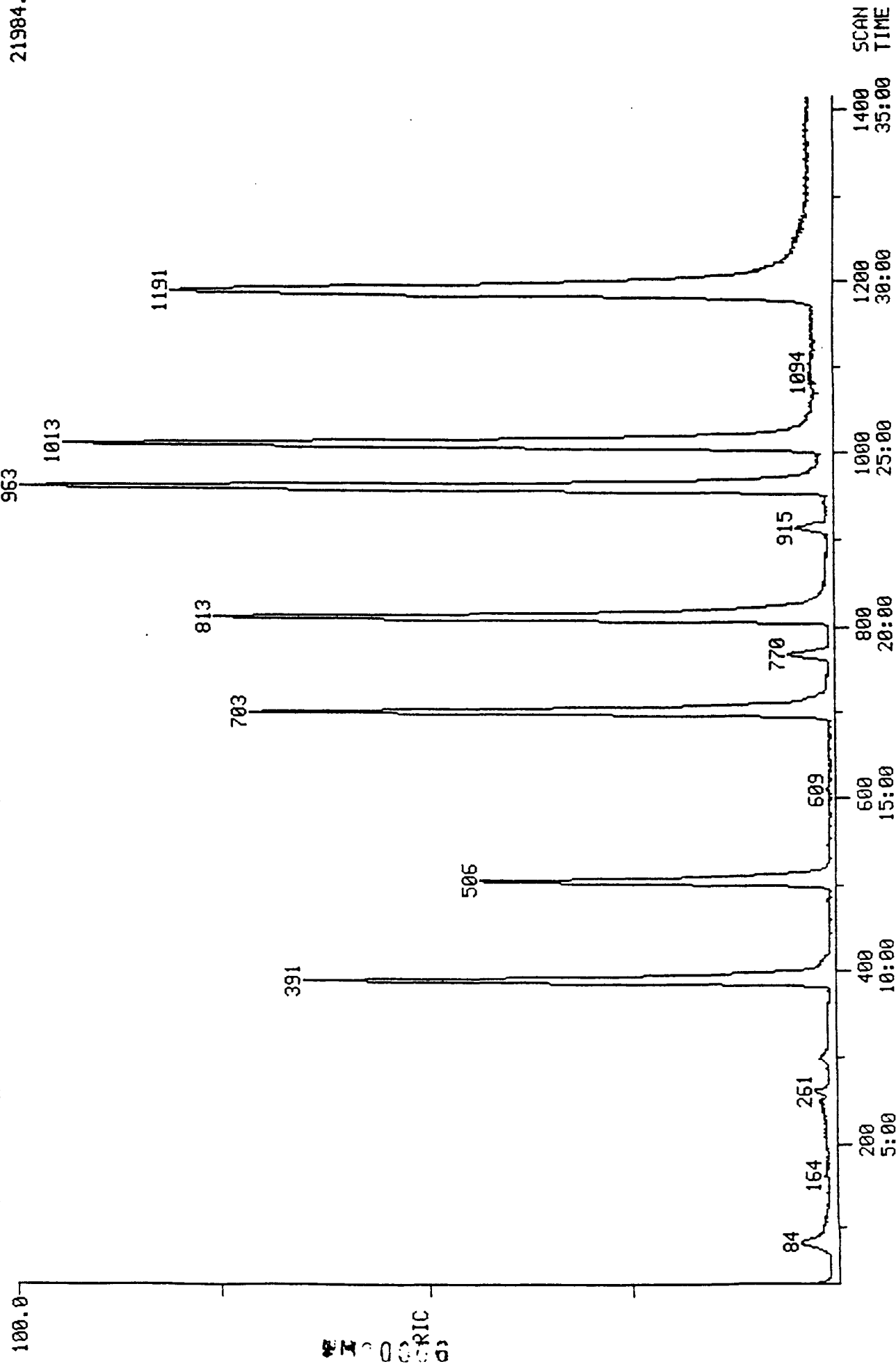
RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

SCANS 35 TO 1415

DATA: A55192A #1

CALI: A55192A #3

21984.

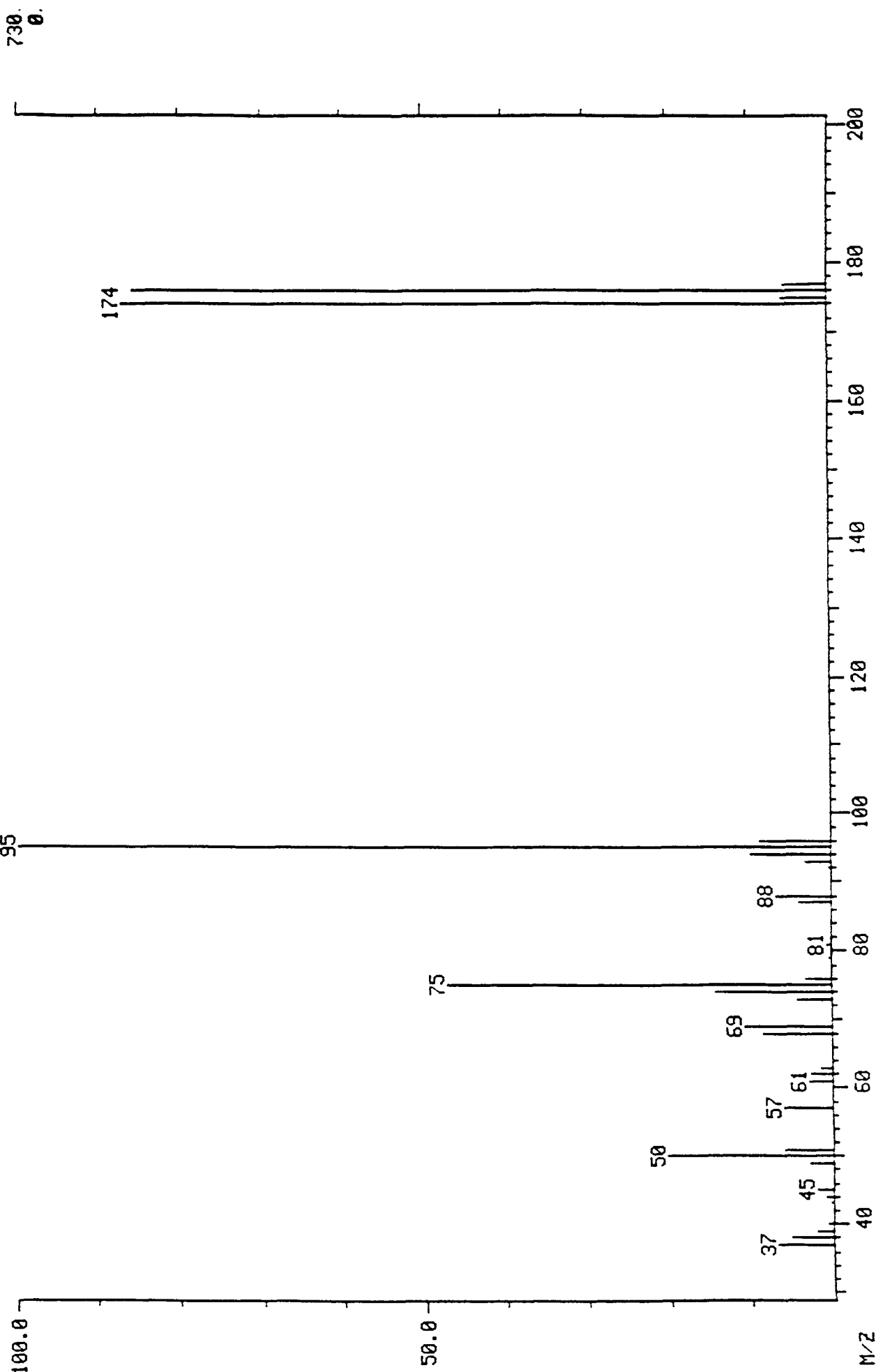


Tuning Report	Data: BF030591C1 # 306	Base m/z: 95
03/05/91 7:13:00 + 7:39	Cali: CALTAB # 3	RIC: 3388.
Instrument: I50C	Analyst: BPB	Acct. No.: 8506-091
#294 to #319 averaged - #329		
Case Number:	Laboratory:	Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	147.	20.1	15.0	40.0	95	20.1	PASS
75	345.	47.3	30.0	60.0	95	47.3	PASS
95	730.	100.0	100.0	---	---	100.0	PASS
96	63.	8.6	5.0	9.0	95	8.6	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	635.	87.0	50.0	---	95	87.0	PASS
175	41.	5.6	5.0	9.0	174	6.5	PASS
176	625.	85.6	95.0	101.0	174	98.4	PASS
177	38.	5.2	5.0	9.0	176	6.1	PASS

MASS SPECTRUM
03/05/91 7:13:00 + 7:39
SAMPLE: BFB CALIBRATION
CONDS.: 150C
TEMP: 225 DEG. C
#294 TO #319 AVERAGED - #329 - #286

DATA: BF030591C1 #306
CALI: CALTAB #3
BASE M/Z: 95
RIC: 3388.



03/05/91 7:13:00 + 7:39

Cali: CALTAB # 3

RIC: 3388.

Sample: BFB CALIBRATION

Conds.: I50C

#294 to #319 averaged - #329

37 177 Mass	0.00 % RA	0. Inten.	Minima Maxima	Min Inten: # 0	0.
37?	S	6.58	48.		
38?	S	5.07	37.		
39?	S	2.05	15.		
40?	S	0.68	5.		
41?	S	0.14	1.		
43?	S	0.27	2.		
44?	S	0.96	7.		
45?	S	2.05	15.		
49?	S	2.88	21.		
50?	S	20.14	147.		
51?	S	5.89	43.		
57?	S	5.89	43.		
61?	S	2.88	21.		
62?	S	2.60	19.		
63?	S	1.51	11.		
68?	S	8.36	61.		
69	S	10.41	76.		
73	S	4.11	30.		
74	S	14.11	103.		
75	S	47.26	345.		
76	S	3.15	23.		
79	S	0.41	3.		
81	S	0.55	4.		
87	S	3.84	28.		
88	S	6.58	48.		
92	S	0.27	2.		
93	S	3.01	22.		
94	S	9.73	71.		
95	S	100.00	730.		
96	S	8.63	63.		
174	S	86.99	635.		
175	S	5.62	41.		
176	S	85.62	625.		
177	S	5.21	38.		

000009

BROMOFLUOROBENZENE

Tuning Report

03/05/91 7:27:00 + 7:21

Instrument: I50D

#294 - #313

Case Number:

Data: BF030591D1 # 294

Cali: BF030591D1 # 3

Analyst: CK

Laboratory:

Base m/z: 95

RIC: 6216.

Acct. No.: 8506-091

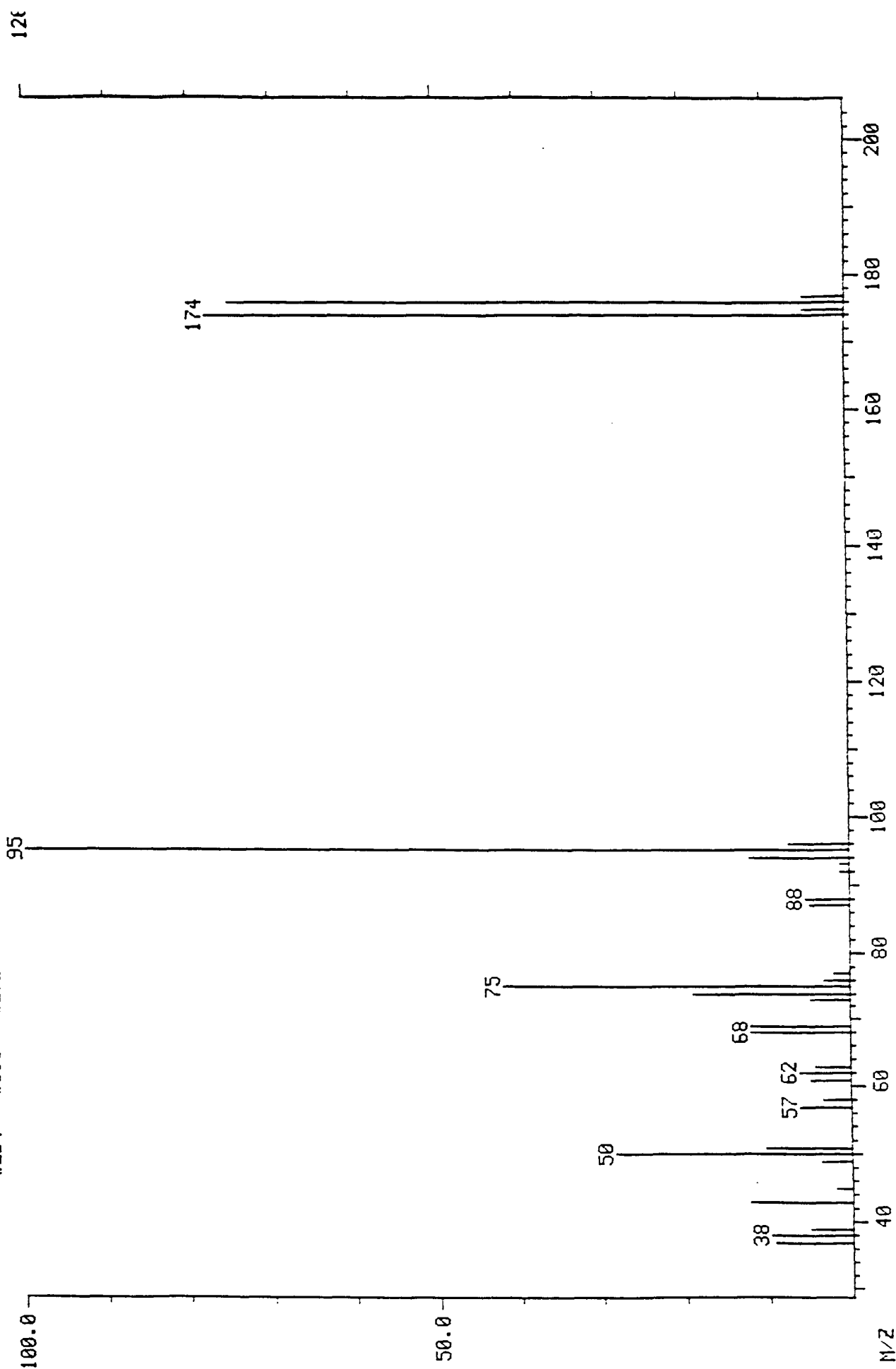
Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
50	359.	28.5	15.0	40.0	95	28.5	PASS
75	529.	42.0	30.0	60.0	95	42.0	PASS
95	1260.	100.0	100.0	---	---	100.0	PASS
96	91.	7.2	5.0	9.0	95	7.2	PASS
173	0.	0.0	---	2.0	174	0.0	PASS
174	980.	77.8	50.0	---	95	77.8	PASS
175	63.	5.0	5.0	9.0	174	6.4	PASS
176	946.	75.1	95.0	101.0	174	96.5	PASS
177	62.	4.9	5.0	9.0	176	6.6	PASS

BF00010

MASS SPECTRUM
03/05/91 7:27:00 + 7:21
SAMPLE: BFB CALIBRATION
CONDS.: I500
TEMP: 225 DEG. C
#294 - #313 - #279

DATA: BF030591D1 #294
CALI: BF030591D1 #3
BASE M/Z: 95
RIC: 6216.



000001

Mass List

03/05/91 7:27:00 + 7:21

Sample: BFB CALIBRATION

Conds.: I50D

#294 - #313

Data: BF030591D1 # 294

Cali: BF030591D1 # 3

Base m/z: 95

RIC: 6216.

37	0.00	0.	Minima	Min Inten:	0.
177			Maxima	# 0	
Mass	% RA	Inten.			
37?	9.05	114.			
38?	9.68	122.			
39? S	4.92	62.			
43? S	12.22	154.			
45? S	1.98	25.			
49?	3.57	45.			
50?	28.49	359.			
51?	10.32	130.			
57? S	6.11	77.			
58? S	3.33	42.			
61?	4.68	59.			
62?	6.11	77.			
63?	4.13	52.			
68?	11.75	148.			
69	11.75	148.			
73	4.76	60.			
74	18.65	235.			
75	41.98	529.			
76	3.17	40.			
77	1.83	23.			
87	4.68	59.			
88 S	5.16	65.			
92	1.19	15.			
93	1.19	15.			
94	11.98	151.			
95 S	100.00	1260.			
96 S	7.22	91.			
174	77.78	980.			
175	5.00	63.			
176 S	75.08	946.			
177	4.92	62.			

CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS

Case No: CALIB
Contractor: AnalytiKEM-Hou
Contract No:
Instrument ID: I50C

Region:

Calibration Date: 03/05/91
Time: 07:37
Laboratory ID: CC030591C1
Initial Cali. Date: 01/14/91

Minimum RF for SPCC is 0.300 (1)

Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	1.103	0.831	24.7		* *
Bromomethane	1.054	1.108	-5.1		
Vinyl Chloride	1.025	0.913	10.9	*	
Chloroethane	0.677	0.718	-6.1		
Methylene Chloride	1.157	1.344	-16.2		
Acetone	0.514	0.546	-6.2		
Carbon Disulfide	2.278	2.770	-21.6		
1,1-Dichloroethene	1.207	1.233	-2.2	*	
1,1-Dichloroethane	2.687	2.610	2.9		* *
trans-1,2-Dichloroethene	1.313	1.469	-11.9		
Chloroform	3.006	3.273	-8.9	*	
1,2-Dichloroethane	2.230	2.282	-2.3		
2-Butanone	0.044	0.051	-15.9		
1,1,1-Trichloroethane	0.585	0.679	-16.1		
Carbon Tetrachloride	0.530	0.592	-11.7		
Vinyl Acetate	0.650	0.615	5.4		
Bromodichloromethane	0.656	0.660	-0.6		
1,2-Dichloropropane	0.387	0.371	4.1	*	
cis-1,3-Dichloropropene	0.544	0.484	11.0		
Trichloroethene	0.475	0.480	-1.1		
Dibromochloromethane	0.677	0.550	18.8		
1,1,2-Trichloroethane	0.399	0.331	17.0		
Benzene	1.022	0.899	11.9		
Trans-1,3-Dichloropropene	0.545	0.442	18.9		
2-Chloroethylvinylether	0.302	0.219	27.5		
Bromoform	0.591	0.449	24.0		* *
4-Methyl-2-Pentanone	0.528	0.388	26.5		
2-Hexanone	0.215	0.226	-5.1		
Tetrachloroethene	0.493	0.522	-5.9		
1,1,2,2-Tetrachloroethane	0.681	0.495	27.3		* *
Toluene	0.779	0.727	6.7	*	
Chlorobenzene	1.076	1.028	4.5		* *
Ethylbenzene	0.534	0.542	-1.5	*	
Styrene	0.912	0.879	3.6		
Xylene (total)	0.607	0.615	-1.3		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Minimum RF for Bromoform is 0.250

Form VII

0400013

RIC

03/05/91 7:37:00

SAMPLE: CONTINUING CALIBRATION

COND.: 150C

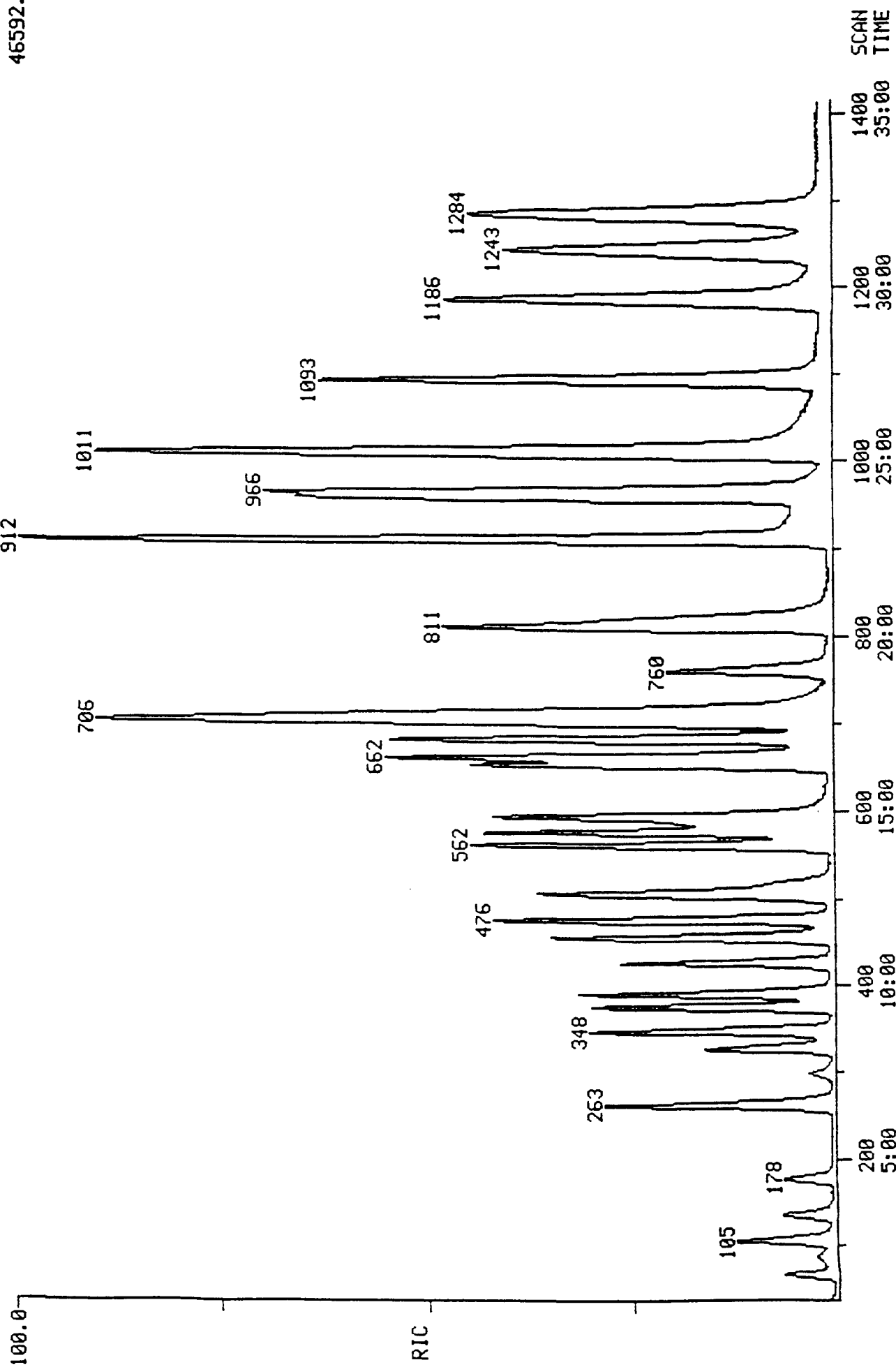
RANGE: G 1,1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

SCANS 35 TO 1415

DATA: CC03059IC1 #1

CALI: CC03059IC1 #3

46592.



CC03059IC1

**CONTINUING CALIBRATION CHECK
VOLATILE HSL COMPOUNDS**

Case No: CALIB
Contractor: AnalytiKEM-Hou
Contract No:
Instrument ID: I50D

Region:

Calibration Date: 03/05/91
Time: 07:45
Laboratory ID: CC030591D1
Initial Cali. Date: 02/25/91

Minimum RF for SPCC is 0.300 (1)

Maximum %D for CCC is 25%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Chloromethane	0.908	0.625	30.1		* *
Bromomethane	1.535	1.461	4.8		
Vinyl Chloride	1.400	1.116	20.3	*	
Chloroethane	1.034	0.937	9.4		
Methylene Chloride	2.225	1.488	33.1		
Acetone	1.096	0.762	30.5		
Carbon Disulfide	4.129	3.632	12.0		
1,1-Dichloroethene	1.372	1.304	5.0	*	
1,1-Dichloroethane	3.090	2.980	3.6		* *
trans-1,2-Dichloroethene	1.551	1.433	7.6		
Chloroform	3.254	3.070	5.7	*	
1,2-Dichloroethane	2.436	2.169	11.0		
2-Butanone	0.057	0.049	14.0		
1,1,1-Trichloroethane	0.474	0.396	16.5		
Carbon Tetrachloride	0.488	0.423	13.3		
Vinyl Acetate	0.365	0.333	8.8		
Bromodichloromethane	0.725	0.635	12.4		
1,2-Dichloropropane	0.392	0.365	6.9	*	
cis-1,3-Dichloropropene	0.457	0.297	13.1		
Trichloroethene	0.470	0.474	-0.9		
Dibromochloromethane	0.539	0.514	4.6		
1,1,2-Trichloroethane	0.366	0.331	9.6		
Benzene	0.983	0.952	3.2		
Trans-1,3-Dichloropropene	0.352	0.283	19.6		
2-Chloroethylvinylether	0.204	0.167	18.1		
Bromoform	0.358	0.280	21.8		* *
4-Methyl-2-Pentanone	0.565	0.452	20.0		
2-Hexanone	0.309	0.299	3.2		
Tetrachloroethene	0.475	0.555	-16.8		
1,1,2,2-Tetrachloroethane	0.719	0.641	10.8		* *
Toluene	0.755	0.716	5.2	*	
Chlorobenzene	1.038	0.241	76.8		* *
Ethylbenzene	0.484	0.470	2.9	*	
Styrene	0.720	0.651	9.6		
Xylene (total)	0.489	0.461	5.7		

RF(50) - Response Factor from daily standard file at
50 ug/l

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Minimum RF for Bromoform is 0.250

Form VII

8800015

DATA: CC030591D1 #1
CALI: CC030591D1 #3

SCANS 35 TO 1415

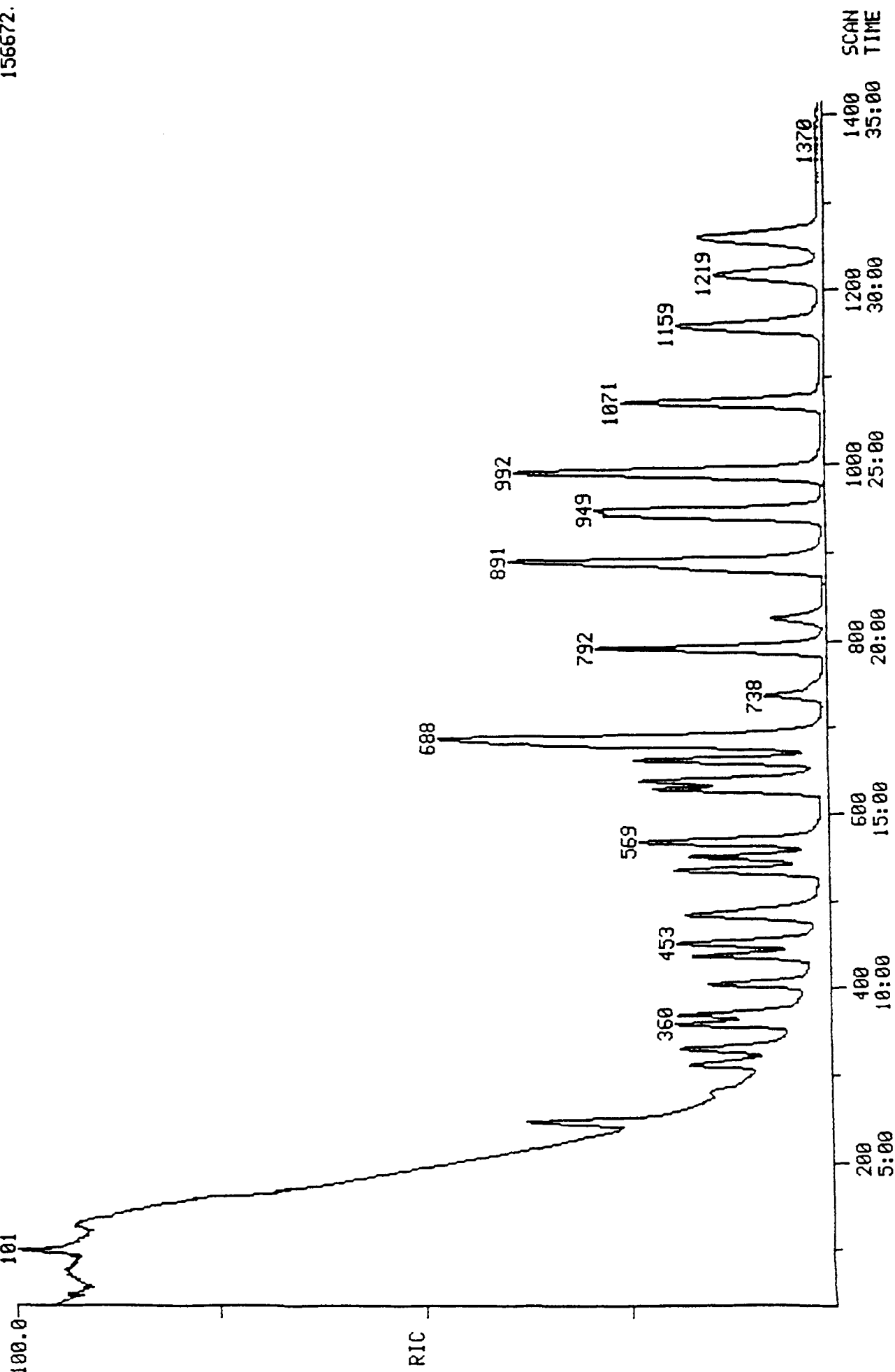
03/05/91 7:45:00

SAMPLE: CONTINUING CALIBRATION

CONDS.: I500

RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

156672.



000016

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
 Lab Sample ID: MB030591C1
 Client Sample ID: MB030591C1

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 03/05/91
 Date Analyzed: 03/05/91
 Dilution Factor: 1.0

VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10	78-87-5	1,2-Dichloropropane . . .	5
74-83-9	Bromomethane	10	10061-01-5	cis-1,3-Dichloropropene .	5
75-01-4	Vinyl Chloride	10	79-01-6	Trichloroethene	5
75-00-3	Chloroethane	10	124-48-1	Dibromochloromethane . . .	5
75-09-2	Methylene Chloride	5	79-00-5	1,1,2-Trichloroethane . .	5
67-64-1	Acetone	14	71-43-2	Benzene	5
75-15-0	Carbon Disulfide	5	10061-02-6	Trans-1,3-Dichloropropene	5
75-35-4	1,1-Dichloroethene	5	110-75-8	2-Chloroethylvinylether .	10
75-34-3	1,1-Dichloroethane	5	75-25-2	Bromoform	5
156-60-5	trans-1,2-Dichloroethene .	5	108-10-1	4-Methyl-2-Pentanone . . .	10
67-66-3	Chloroform	5	591-78-6	2-Hexanone	10
107-06-2	1,2-Dichloroethane	5	127-18-4	Tetrachloroethene	5
78-93-3	2-Butanone	10	79-34-5	1,1,2,2-Tetrachloroethane	5
71-55-6	1,1,1-Trichloroethane . .	5	108-88-3	Toluene	5
56-23-5	Carbon Tetrachloride . . .	5	108-90-7	Chlorobenzene	5
108-05-4	Vinyl Acetate	5	100-41-4	Ethylbenzene	5
75-27-4	Bromodichloromethane . . .	5	100-42-5	Styrene	5
			1330-20-7	Xylene (total)	5

The Lab ID for data on this page is MB030591C1.

- Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC

03/05/91 8:27:00

SAMPLE: METHOD BLANK

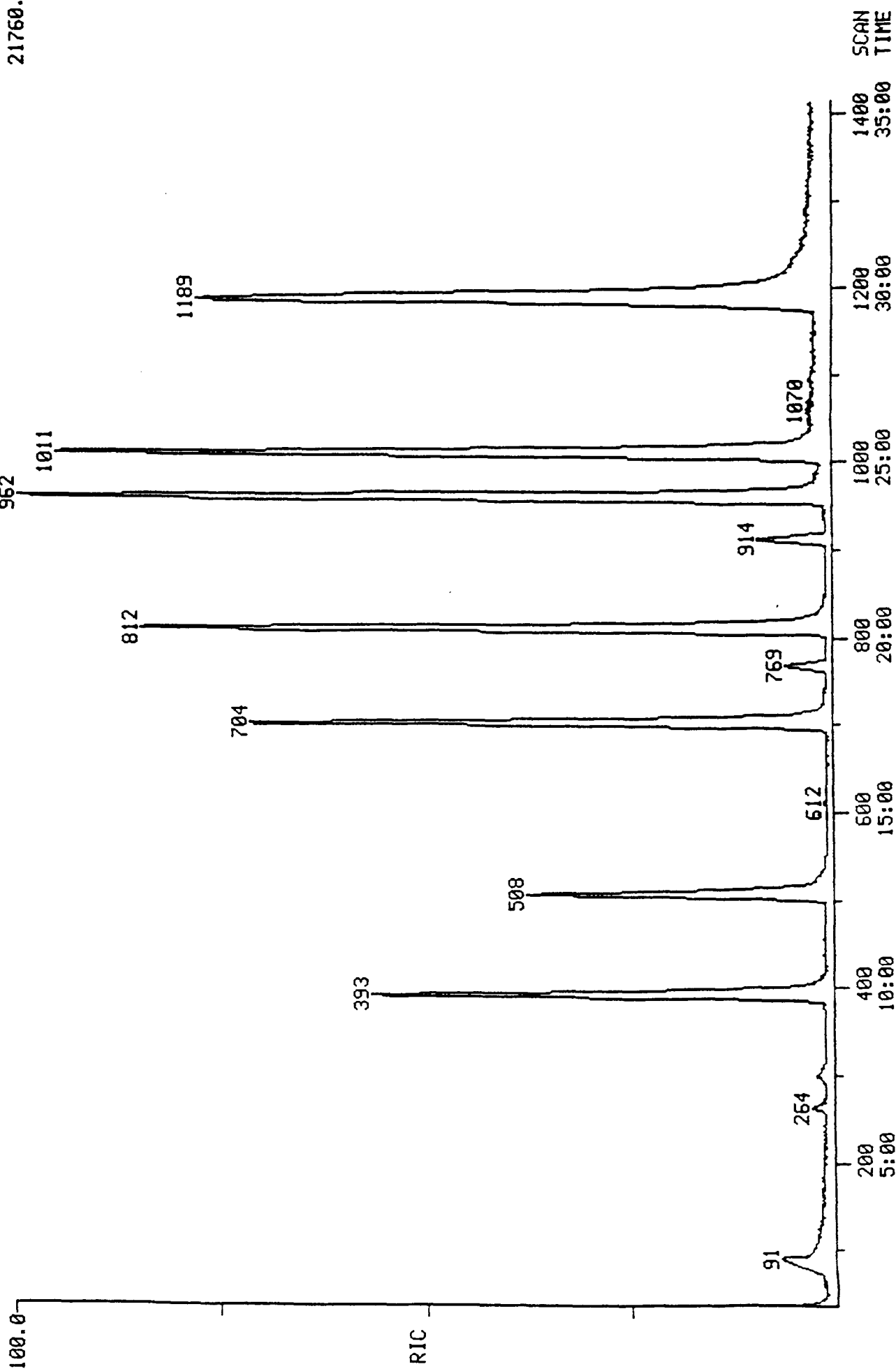
COND5.: 150C

RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: MB030591C1 #1
CALI: MB030591C1 #3

SCANS 35 TO 1415

21760.



ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
 Lab Sample ID: MB030591D1
 Client Sample ID: MB030591D1

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 03/05/91
 Date Analyzed: 03/05/91
 Dilution Factor: 1.0

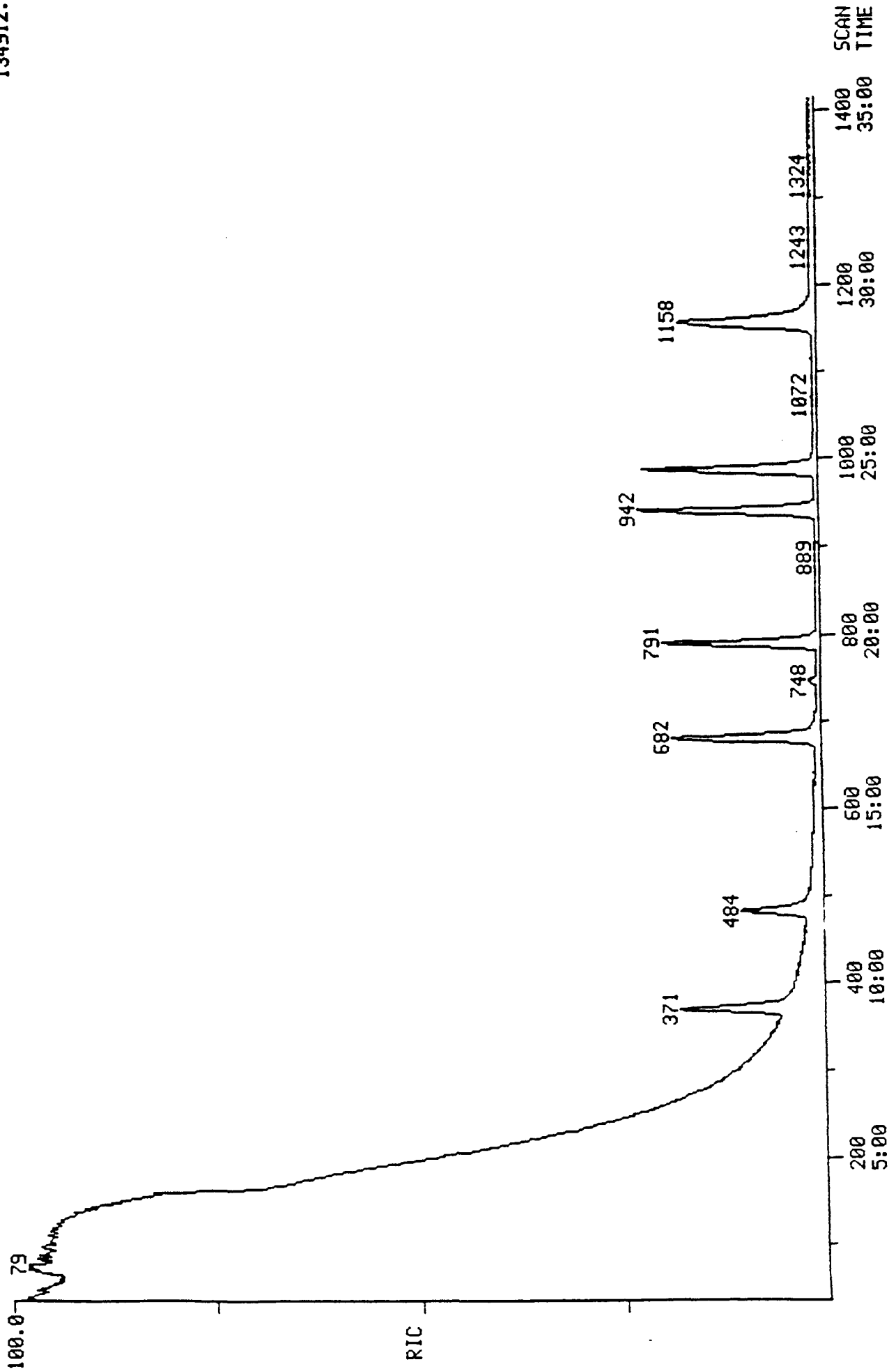
VOLATILE COMPOUNDS

CAS Number		UG/L	CAS Number		UG/L
74-87-3	Chloromethane	10 <	78-87-5	1,2-Dichloropropane	5
74-83-9	Bromomethane	10 <	10061-01-5	cis-1,3-Dichloropropene . .	5
75-01-4	Vinyl Chloride	10 <	79-01-6	Trichloroethene	5
75-00-3	Chloroethane	10 <	124-48-1	Dibromochloromethane	5
75-09-2	Methylene Chloride	5 <	79-00-5	1,1,2-Trichloroethane . . .	5
67-64-1	Acetone	10 <	71-43-2	Benzene	5
75-15-0	Carbon Disulfide	5 <	10061-02-6	Trans-1,3-Dichloropropene	5
75-35-4	1,1-Dichloroethene	5 <	110-75-8	2-Chloroethylvinylether . .	10
75-34-3	1,1-Dichloroethane	5 <	75-25-2	Bromoform	5
156-60-5	trans-1,2-Dichloroethene . .	5 <	108-10-1	4-Methyl-2-Pentanone . . .	10
67-66-3	Chloroform	5 <	591-78-6	2-Hexanone	10
107-06-2	1,2-Dichloroethane	5 <	127-18-4	Tetrachloroethene	5
78-93-3	2-Butanone	10 <	79-34-5	1,1,2,2-Tetrachloroethane	5
71-55-6	1,1,1-Trichloroethane . . .	5 <	108-88-3	Toluene	5
56-23-5	Carbon Tetrachloride	5 <	108-90-7	Chlorobenzene	5
108-05-4	Vinyl Acetate	5 <	100-41-4	Ethylbenzene	5
75-27-4	Bromodichloromethane	5 <	100-42-5	Styrene	5
			1330-20-7	Xylene (total)	5

The Lab ID for data on this page is MB030591D1.

* - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RIC
 03/05/91 9:09:00
 SAMPLE: METHOD BLANK
 CONDS.: I500
 RANGE: G 1.1420 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
 134912.



WATER SURROGATE PERCENT RECOVERY SUMMARY
(Page 1)

Case No. A5519

Contract Laboratory AnalytiKEM-Hou

Contract No.

	VOLATILE				SEMI-VOLATILE				PEST			
	Toluen e-d8	Bromof luorob enzyme	1,2-Di chloro ethane -d4	Nitrob enzyme -d5	2-Fluo robiph enyl	Terphe nyl-d1 4	Benzen e-d6		Phenol -d5	2-Fluo rophen ol	2,4,6- Tribro mophen ol	Dibuty lchlor endate **
SMD												
TRAFFIC	88	86	76	35	43	33	75		10	21	19	48
NO.	110	115	114	114	116	141	125		94	100	122	136
LFWDAC1-TCL	103	108	94				102					
TRIP-BLANK	99	98	90				104					

* VALUES ARE OUTSIDE OF CONTRACT
REQUIRED QC LIMITS
** ADVISORY LIMITS ONLY

Volatiles: 0 out of 8; outside of QC limits
Semi-Volatiles: out of 12; outside of QC limits
Pesticides: out of 2; outside of QC limits

Comments:

FORM II

R1100021

SOIL SURROGATE PERCENT RECOVERY SUMMARY
(Page 1)

Case No. A5519

Contract Laboratory AnalytiKEM-Hou

Contract No.

Low XXX

Medium

	- - - - VOLATILE - - - - -				- - - - - SEMI-VOLATILE - - - - -				- - - - - PEST - - - - -			
	Toluen e-d8	Bromof luorob enzene	1,2-Di chloro ethane -d4	Nitrob enzene -d5	2-Fluo robiph enyl 4	Terphe nyl-dl 4	Benzen e-d6		Phenol -d5	2-Fluo rophen ol	Tribro mophen ol	2,4,6- Dibuty lchlor endate **
SMO												
TRAFFIC	81	74	70	23	30	18	75		24	25	10	20
NO.	117	121	121	120	115	137	125		113	121	123	150
LF-WDA-C1	102	113	88				98					

* VALUES ARE OUTSIDE OF CONTRACT
REQUIRED QC LIMITS
** ADVISORY LIMITS ONLY

Volatiles: 0 out of 4; outside of QC limits
Semi-Volatiles: out of 6; outside of QC limits
Pesticides: out of 1; outside of QC limits

Comments:

FORM II

M170022

**INITIAL CALIBRATION DATA
VOLATILE HSL COMPOUNDS**

Case No: CAL
Contractor: ENSR LAB-HOU
Contract No:

Region:

Instrument ID: I50C
Calibration Date: 01/14/91

Min AVE RF for SPCC is 0.300 (1)

Max %RSD for CCC is 30%

Laboratory ID	IC0114020C1		IC0114100C1		IC0114200C1		AVE RF	% RSD	CCC*
Compound	RF(20)	RF(50)	RF(100)	RF(150)	RF(200)				SPCC**
Chloromethane	1.207	1.126	1.025	1.036	1.119	1.103	6.8	* *	
Bromomethane	1.368	1.066	1.096	0.957	0.785	1.054	20.2		
Vinyl Chloride	1.166	0.987	1.026	0.995	0.950	1.025	8.1	*	
Chloroethane	0.730	0.676	0.688	0.643	0.649	0.677	5.2		
Methylene Chloride	1.336	1.132	0.983	1.132	1.203	1.157	11.1		
Acetone	0.717	0.484	0.378	0.523	0.469	0.514	24.4		
Carbon Disulfide	2.166	2.015	2.044	2.544	2.621	2.278	12.5		
1,1-Dichloroethene	1.155	1.277	1.223	1.179	1.201	1.207	3.9	*	
1,1-Dichloroethane	2.508	2.788	2.808	2.611	2.722	2.687	4.7	* *	
trans-1,2-Dichloroethene	1.221	1.380	1.341	1.268	1.353	1.313	5.0		
Chloroform	2.854	3.147	3.135	2.900	2.995	3.006	4.4	*	
1,2-Dichloroethane	2.009	2.299	2.366	2.231	2.245	2.230	6.0		
2-Butanone	0.034	0.047	0.048	0.048	0.042	0.044	13.7		
1,1,1-Trichloroethane	0.583	0.610	0.649	0.537	0.548	0.585	7.8		
Carbon Tetrachloride	0.493	0.563	0.589	0.499	0.508	0.530	8.1		
Vinyl Acetate	0.536	0.719	0.769	0.398	0.827	0.650	27.4		
Bromodichloromethane	0.581	0.676	0.707	0.631	0.685	0.656	7.7		
1,2-Dichloropropane	0.331	0.401	0.400	0.374	0.427	0.387	9.4	*	
cis-1,3-Dichloropropene	0.418	0.540	0.597	0.555	0.612	0.544	14.1		
Trichloroethene	0.414	0.486	0.498	0.489	0.488	0.475	7.2		
Dibromochloromethane	0.583	0.693	0.726	0.681	0.700	0.677	8.1		
1,1,2-Trichloroethane	0.343	0.425	0.422	0.395	0.411	0.399	8.4		
Benzene	0.937	1.075	1.089	0.985	1.015	1.020	6.2		
Trans-1,3-Dichloropropene	0.500	0.528	0.579	0.540	0.576	0.545	6.1		
2-Chloroethylvinylether	0.219	0.300	0.317	0.323	0.351	0.302	16.5		
Bromoform	0.444	0.552	0.659	0.648	0.654	0.591	15.8	* *	
4-Methyl-2-Pentanone	0.257	0.386	0.569	0.694	0.736	0.528	38.6		
2-Hexanone	0.054	0.096	0.245	0.365	0.313	0.215	63.0		
Tetrachloroethene	0.456	0.502	0.514	0.498	0.496	0.493	4.4		
1,1,2,2-Tetrachloroethane	0.536	0.684	0.702	0.708	0.773	0.681	12.9	* *	
Toluene	0.714	0.724	0.844	0.788	0.824	0.779	7.5	*	
Chlorobenzene	1.006	1.089	1.145	1.068	1.074	1.076	4.6	* *	
Ethylbenzene	0.502	0.541	0.569	0.524	0.535	0.534	4.6	*	
Styrene	0.775	0.957	0.980	0.906	0.941	0.912	8.9		
Xylene (total)	0.584	0.643	0.626	0.571	0.610	0.607	4.9		

Response Factor (number is the amount of ug/L)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Minimum AVE RF for Bromoform is 0.250

Form VI

5500023

**INITIAL CALIBRATION DATA
VOLATILE HSL COMPOUNDS**

Case No: CAL
Contractor: AnalytiKEM-Hou
Contract No:

Region:

Instrument ID: I50D
Calibration Date: 02/25/91

Min AVE RF for SPCC is 0.300 (1)

Max %RSD for CCC is 30%

Laboratory ID	IC0225020D2		IC0225100D1		IC0225200D1					
	IC0225050D1		IC0225150D1						CCC*	
Compound	RF(20)	RF(50)	RF(100)	RF(150)	RF(200)		AVE RF	% RSD	SPCC**	
Chloromethane	0.759	1.126	0.982	0.831	0.840		0.908	16.1	* *	
Bromomethane	1.570	1.538	1.641	1.474	1.454		1.535	4.9		
Vinyl Chloride	1.253	1.514	1.477	1.378	1.376		1.400	7.3	*	
Chloroethane	1.037	1.061	1.105	0.991	0.977		1.034	5.0		
Methylene Chloride	3.502	2.229	1.936	1.765	1.694		2.225	33.4		
Acetone	1.451	0.982	1.028	1.177	0.843		1.096	21.1		
Carbon Disulfide	3.868	4.080	4.627	4.120	3.951		4.129	7.2		
1,1-Dichloroethene	1.372	1.389	1.435	1.355	1.311		1.372	3.3	*	
1,1-Dichloroethane	2.878	3.205	3.379	3.007	2.983		3.090	6.5	* *	
trans-1,2-Dichloroethene	1.517	1.557	1.660	1.513	1.506		1.551	4.1		
Chloroform	3.239	3.278	3.460	3.191	3.103		3.254	4.1	*	
1,2-Dichloroethane	2.490	2.452	2.437	2.437	2.363		2.436	1.9		
2-Butanone	0.065	0.047	0.055	0.061	0.055		0.057	12.1		
1,1,1-Trichloroethane	0.481	0.479	0.472	0.442	0.496		0.474	4.2		
Carbon Tetrachloride	0.472	0.484	0.495	0.470	0.520		0.488	4.2		
Vinyl Acetate	0.445	0.316	0.338	0.370	0.356		0.365	13.4		
Bromodichloromethane	0.754	0.714	0.718	0.686	0.753		0.725	4.0		
1,2-Dichloropropane	0.361	0.411	0.397	0.386	0.403		0.392	5.0	*	
cis-1,3-Dichloropropene	0.354	0.434	0.485	0.496	0.514		0.457	14.1		
Trichloroethene	0.462	0.468	0.491	0.472	0.459		0.470	2.7		
Dibromochloromethane	0.453	0.492	0.578	0.573	0.599		0.539	11.7		
1,1,2-Trichloroethane	0.390	0.364	0.350	0.355	0.373		0.366	4.3		
Benzene	1.006	0.976	1.040	0.925	0.967		0.983	4.4		
Trans-1,3-Dichloropropene	0.288	0.308	0.369	0.384	0.413		0.352	14.9		
2-Chloroethylvinylether	0.163	0.181	0.211	0.220	0.247		0.204	16.2		
Bromoform	0.271	0.300	0.372	0.398	0.448		0.358	20.2	* *	
4-Methyl-2-Pentanone	0.505	0.489	0.546	0.614	0.673		0.565	13.6		
2-Hexanone	0.214	0.291	0.327	0.325	0.390		0.309	20.8		
Tetrachloroethene	0.464	0.496	0.499	0.467	0.449		0.475	4.6		
1,1,2,2-Tetrachloroethane	0.662	0.721	0.732	0.696	0.785		0.719	6.3	* *	
Toluene	0.762	0.771	0.796	0.732	0.716		0.755	4.2	*	
Chlorobenzene	1.053	1.050	1.083	1.005	1.001		1.038	3.4	* *	
Ethylbenzene	0.459	0.472	0.515	0.490	0.486		0.484	4.3	*	
Styrene	0.590	0.703	0.737	0.802	0.766		0.720	11.3		
Xylene (total)	0.474	0.510	0.500	0.495	0.465		0.489	3.8		
Toluene-d8	1.076	1.099	1.059	1.082	1.080		1.079	1.3		
Bromofluorobenzene	0.638	0.650	0.620	0.667	0.670		0.649	3.2		
1,2-Dichloroethane-d4	1.719	1.844	1.814	1.956	1.921		1.851	5.0		
Benzene-d6	0.967	1.012	0.942	0.942	1.001		0.973	3.4		

Response Factor (number is the amount of ug/L)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

0024

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
 Lab Sample ID: A5519-1
 Client Sample ID: LF-WDA-C1

Concentration: LOW
 Sample Matrix: SOIL
 Percent Moisture: 15.3

Date Extracted: 03/04/91
 Date Analyzed: 03/05/91
 Dilution Factor: 0.99

SEMIVOLATILE COMPOUNDS

CAS Number		ug/Kg		CAS Number		ug/Kg	
108-95-2	Phenol	380	<	606-20-2	2,6-Dinitrotoluene	380	<
62-53-3	Aniline	380	<	99-09-2	3-Nitroaniline	1900	<
111-44-4	bis(2-Chloroethyl)Ether	380	<	83-32-9	Acenaphthene	380	<
95-57-8	2-Chlorophenol	380	<	51-28-5	2,4-Dinitrophenol	1900	<
541-73-1	1,3-Dichlorobenzene	380	<	100-02-7	4-Nitrophenol	1900	<
106-46-7	1,4-Dichlorobenzene	380	<	132-64-9	Dibenzofuran	380	<
100-51-6	Benzyl Alcohol	380	<	121-14-2	2,4-Dinitrotoluene	380	<
95-50-1	1,2-Dichlorobenzene	380	<	84-66-2	Diethylphthalate	380	<
95-48-7	2-Methylphenol	380	<	7005-72-3	4-Chlorophenyl phenyl ether	380	<
39638-32-9	bis(2-Chloroisopropyl)Ether	380	<	86-73-7	Fluorene	380	<
106-44-5	4-Methylphenol	380	<	100-01-6	4-Nitroaniline	1900	<
621-64-7	N-Nitroso-Di-n-Propylamine	380	<	534-52-1	4,6-Dinitro-2-Methylphenol	1900	<
67-72-1	Hexachloroethane	380	<	86-30-6	N-Nitrosodiphenylamine (1)	290	w
98-95-3	Nitrobenzene	380	<	101-55-3	4-Bromophenyl phenyl ether	380	<
78-59-1	Isophorone	380	<	118-74-1	Hexachlorobenzene	380	<
88-75-5	2-Nitrophenol	380	<	87-86-5	Pentachlorophenol	1900	<
105-67-9	2,4-Dimethylphenol	380	<	85-01-8	Phenanthrene	270	w
65-85-0	Benzoic Acid	1900	<	120-12-7	Anthracene	270	w
111-91-1	bis(2-Chloroethoxy)Methane	380	<	84-74-2	Di-n-Butylphthalate	2300	B
120-83-2	2,4-Dichlorophenol	380	<	206-44-0	Fluoranthene	380	<
120-82-1	1,2,4-Trichlorobenzene	380	<	129-00-0	Pyrene	380	<
91-20-3	Naphthalene	380	<	85-68-7	Butylbenzylphthalate	1100	B
106-47-8	4-Chloroaniline	380	<	91-94-1	3,3'-Dichlorobenzidine	770	<
87-68-3	Hexachlorobutadiene	380	<	56-55-3	Benzo(a)Anthracene	380	<
59-50-7	4-Chloro-3-Methylphenol	380	<	117-81-7	bis(2-Ethylhexyl)Phthalate	380	B<
91-57-6	2-Methylnaphthalene	880		218-01-9	Chrysene	380	<
77-47-4	Hexachlorocyclopentadiene	380	<	117-84-0	Di-n-Octyl Phthalate	380	<
88-06-2	2,4,6-Trichlorophenol	380	<	205-99-2	Benzo(b)Fluoranthene	380	<
95-95-4	2,4,5-Trichlorophenol	1900	<	207-08-9	Benzo(k)Fluoranthene	380	<
91-58-7	2-Chloronaphthalene	380	<	50-32-8	Benzo(a)Pyrene	380	<
88-74-4	2-Nitroaniline	1900	<	193-39-5	Indeno(1,2,3-cd)Pyrene	380	<
131-11-3	Dimethyl Phthalate	380	<	53-70-3	Dibenz(a,h)Anthracene	380	<
208-96-8	Acenaphthylene	380	<	191-24-2	Benzo(g,h,i)Perylene	380	<

The Lab ID for data on this page is A55191.

(1) - Cannot be separated from diphenylamine

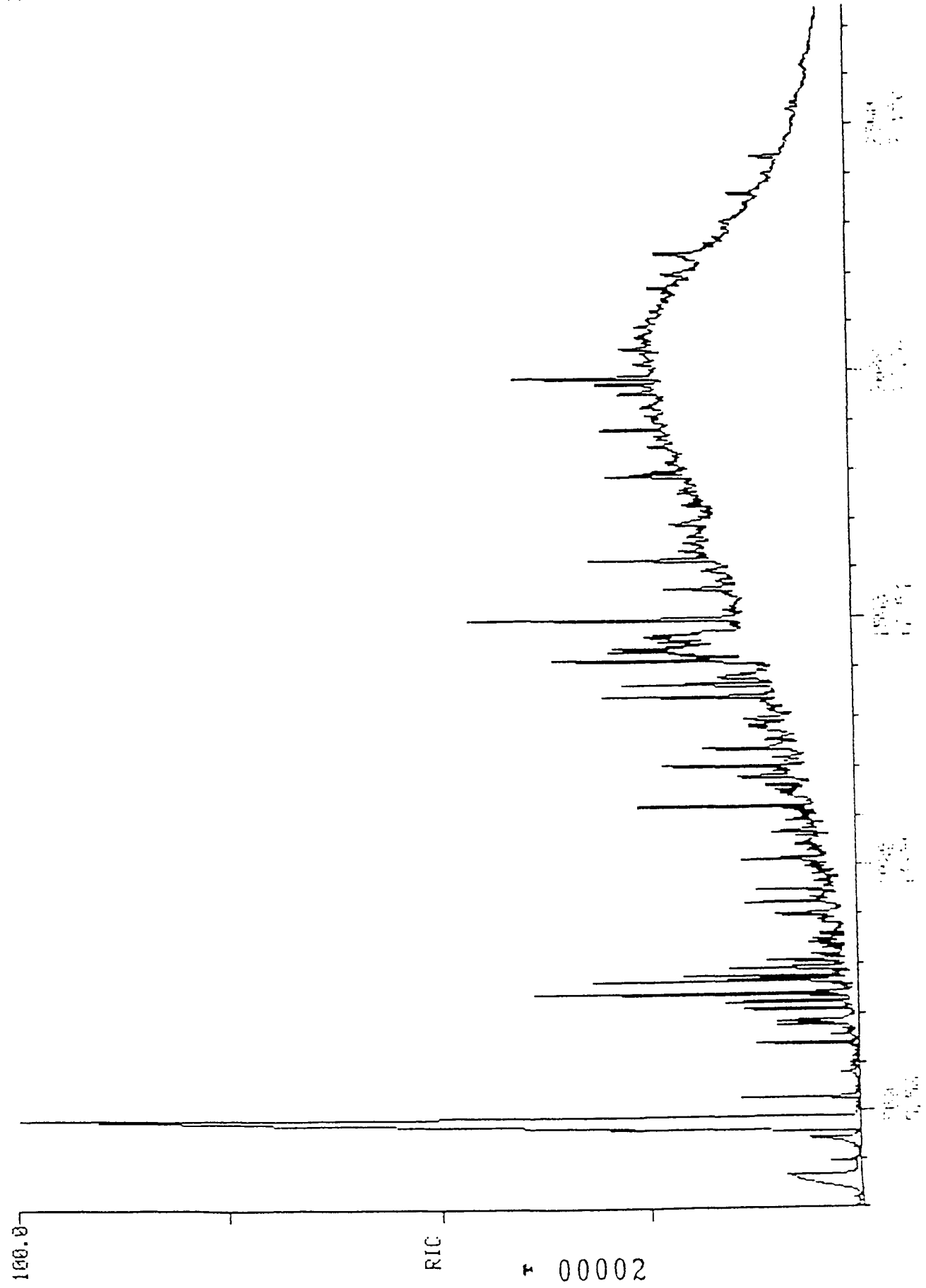
B - Compound was detected in QC blank.

w - Reported value is less than the quantitation limit.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

00001

RIC
 03/05/91 19:31:00
 DATA: A55191 #1
 CALI: A55191 #3
 SAMPLE: CLP, A55191, LF-HWA-C1, LOW SOIL, A55191-1, BHA-EPA
 CONDS.: J50E
 RANGE: G 1,2741 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



1398780.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
Lab Sample ID: A5519-1T
Client Sample ID: LF-WDA-CI T

Concentration: LOW
Sample Matrix: WATER
Percent Moisture: 100.0

Date Extracted: 03/05/91
Date Analyzed: 03/18/91
Dilution Factor: 1.0

TCLP SEMIVOLATILES

CAS Number		ug/L	CAS Number		ug/L
110-86-1	Pyridine	51 <	98-95-3	Nitrobenzene	10 <
106-46-7	1,4-Dichlorobenzene	10 <	87-68-3	Hexachlorobutadiene	10 <
95-48-7	2-Methylphenol	10 <	88-06-2	2,4,6-Trichlorophenol	10 <
106-44-5	4-Methylphenol	10 <	95-95-4	2,4,5-Trichlorophenol	51 <
108-39-4	3-Methylphenol	10 <	121-14-2	2,4-Dinitrotoluene	10 <
67-72-1	Hexachloroethane	10 <	118-74-1	Hexachlorobenzene	10 <
			87-86-5	Pentachlorophenol	51 <

The Lab ID for data on this page is A55191TR.

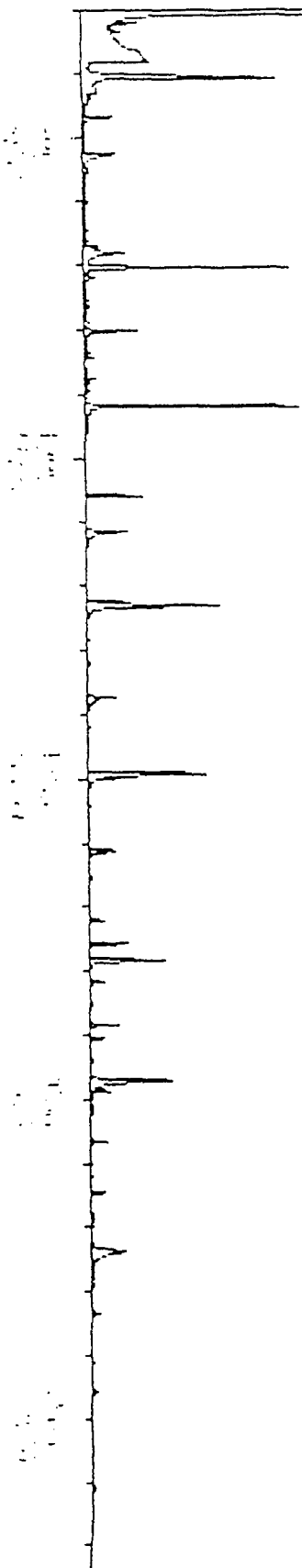
< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

RID
 03/18/91 19:38:00
 DATE: 05/19/91
 CAL: 05/19/91 #3
 SAMPLE: CLP, 05513, 05513, LF-HDD-CL/T, LOW WATER, 05513-11, RIA, EPA
 C0405, 150E
 RANGE: 6 1,2741 LABEL: N 0, 4.0 QUANT: A 0, 1.0 J 0 BASE: U 20, 3

100.0

RIC

000004



29409380.

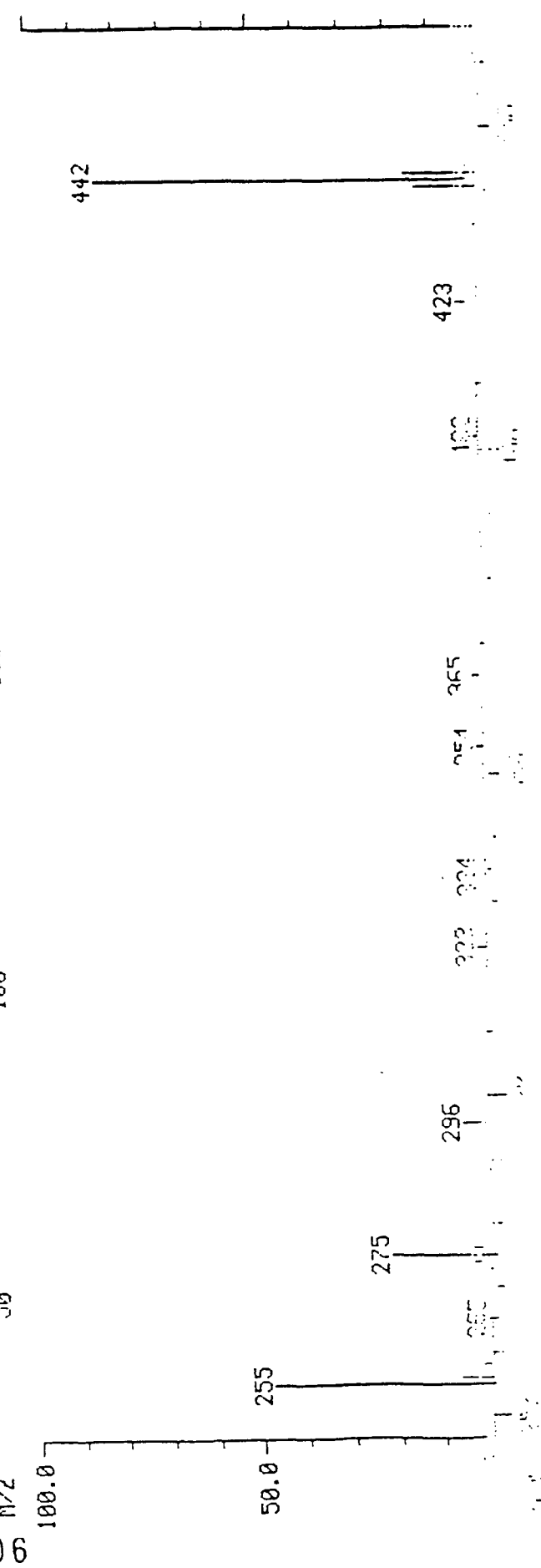
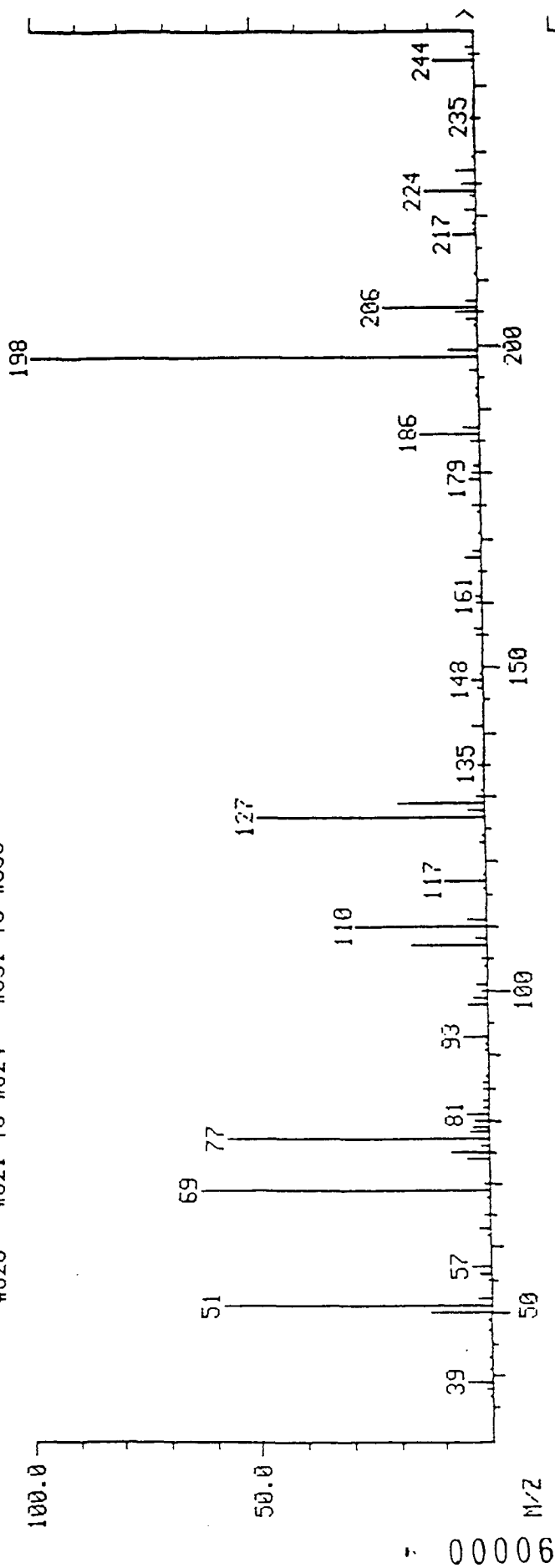
Testing Report
 10/05/91 12:15:00 + 7:30
 Instrument: FINN
 #628 - #621 to #624 - #631 to #636
 Data: DF030591E1 # 628
 Cali: CALTAB # 3
 Analyst: BPB
 Laboratory:
 Base m/z: 198
 RIC: 46272
 Acct. No.: 8506-091
 Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
51	3104.	58.6	30.0	60.0	198	58.6	PASS
68	38.	0.7	---	2.0	69	1.1	PASS
69	3348.	63.2	---	---	---	63.2	PASS
70	48.	0.9	---	2.0	69	1.4	PASS
127	2664.	50.3	40.0	60.0	198	50.3	PASS
127	0.	0.0	---	1.0	198	0.0	PASS
128	5296.	100.0	100.0	---	---	100.0	PASS
129	340.	6.4	5.0	9.0	198	6.4	PASS
175	1152.	21.8	10.0	30.0	198	21.8	PASS
175	132.	2.5	1.0	---	198	2.5	PASS
221	700.	13.2	---	100.0	443	84.3	PASS
222	4464.	84.3	40.0	---	198	84.3	PASS
223	830.	15.7	17.0	23.0	442	18.6	PASS

MASS SPECTRUM
03/05/91 12:15:00 + 7:30
SAMPLE: DFTPP 50 HG
CONDS.: 150E
TEMP: 246 DEG. C
#528 - #621 TO #624 - #631 TO #635

DATA: 0F030591E1 #528
CALL: CALTAB #3

BASE M/Z: 198
RIC: 46272.



05/91 12:15:00 + 7:30

Cal: CALTAB # 3

RIC.

7827

Sample: DFTPP 50 NG

Mass: 150E

Mass - #621 to #624 - #631 to #636

Mass		0.00	0.	Minima	Min	Inten:	43.
Mass		% RA	Inten.	Maxima	#	0	Inten.
Mass		% RA	Inten.	Mass		% RA	Inten.
167	S	1.00	53.	168		1.89	100.
177	S	5.23	277.	175		1.51	80.
187	S	13.46	713.	179		2.68	142.
197	S	58.61	3104.	180		1.74	92.
207		3.25	172.	181		0.91	48.
217		2.11	112.	185		1.81	96.
227	S	4.21	223.	186		13.37	708.
237		2.19	116.	187		3.66	194.
247		1.40	74.	196		1.85	98.
257	S	63.22	3348.	198	S	100.00	5296.
267		0.91	48.	199		6.42	340.
277		4.57	242.	204		2.53	134.
287		8.50	450.	205		4.65	246.
297		2.00	106.	206	S	20.92	1108.
307	S	57.55	3048.	207		2.64	140.
317		4.04	214.	217		4.61	244.
327		3.36	178.	221		2.61	138.
337		2.83	150.	223		1.06	56.
347		4.91	260.	224		11.37	602.
357		1.28	68.	225		2.87	152.
367		1.36	72.	227		4.12	218.
377		1.13	60.	229		0.83	44.
387	S	1.27	67.	244		8.99	476.
397		0.83	44.	245		1.36	72.
407		5.63	298.	246		1.55	82.
417		3.93	208.	255	S	47.89	2536.
427		3.25	172.	256		6.72	356.
437		0.94	50.	258		2.23	118.
447		2.38	126.	273		1.55	82.
457		1.21	64.	274		3.78	200.
467		16.62	880.	275		21.75	1152.
477		2.34	124.	276		3.40	180.
487	S	28.78	1524.	277		1.89	100.
497		4.46	236.	296		5.44	288.
507		8.84	468.	323		1.62	86.
517		1.10	58.	334		1.02	54.
527	S	50.30	2664.	354		0.91	48.
537		3.59	190.	365		2.49	132.
547		19.11	1012.	372		1.40	74.
557		1.59	84.	423		4.46	236.
567	S	0.87	46.	441		13.22	700.
577		1.44	76.	442	S	84.29	4464.
587		2.30	122.	443		15.67	830.
597		1.06	56.	444		1.59	84.
607		2.38	126.				
617		1.17	62.				
627		2.04	108.				
637		0.91	48.				
647		1.02	54.				
657		3.40	180.				

* 00007

ing Report
18/91 13:54:00 + 7:27
Instrument: FINN
S 15B 2N OT)
Number:

Data: DF031891E1 # 625
Cali: CALTAB # 3
Analyst: BPB

Base m/z: 198
RIC: 136448.
Acct. No.: 8506-091

Laboratory:

Contract:

m/z	Intensity	% RA	Ion Abundance Criteria			Actual	Status
			Min %	Max %	Mass		
51	9888.	58.0	30.0	60.0	198	58.0	PASS
58	99.	0.6	---	2.0	69	1.0	PASS
59	10160.	59.6	---	---	---	59.6	PASS
60	58.	0.3	---	2.0	69	0.6	PASS
67	8576.	50.3	40.0	60.0	198	50.3	PASS
67	0.	0.0	---	1.0	198	0.0	PASS
68	17056.	100.0	100.0	---	---	100.0	PASS
69	1086.	6.4	5.0	9.0	198	6.4	PASS
75	3524.	20.7	10.0	30.0	198	20.7	PASS
75	258.	1.5	1.0	---	198	1.5	PASS
111	1662.	9.7	---	100.0	443	77.2	PASS
112	11728.	68.8	40.0	---	198	68.8	PASS
113	2152.	12.6	17.0	23.0	442	18.3	PASS

MASS SPECTRUM

03/18/91 13:54:00 + 7:27

SAMPLE: DFTFP 50.105

COND.: 150E

TEMP: 247 DEG. C

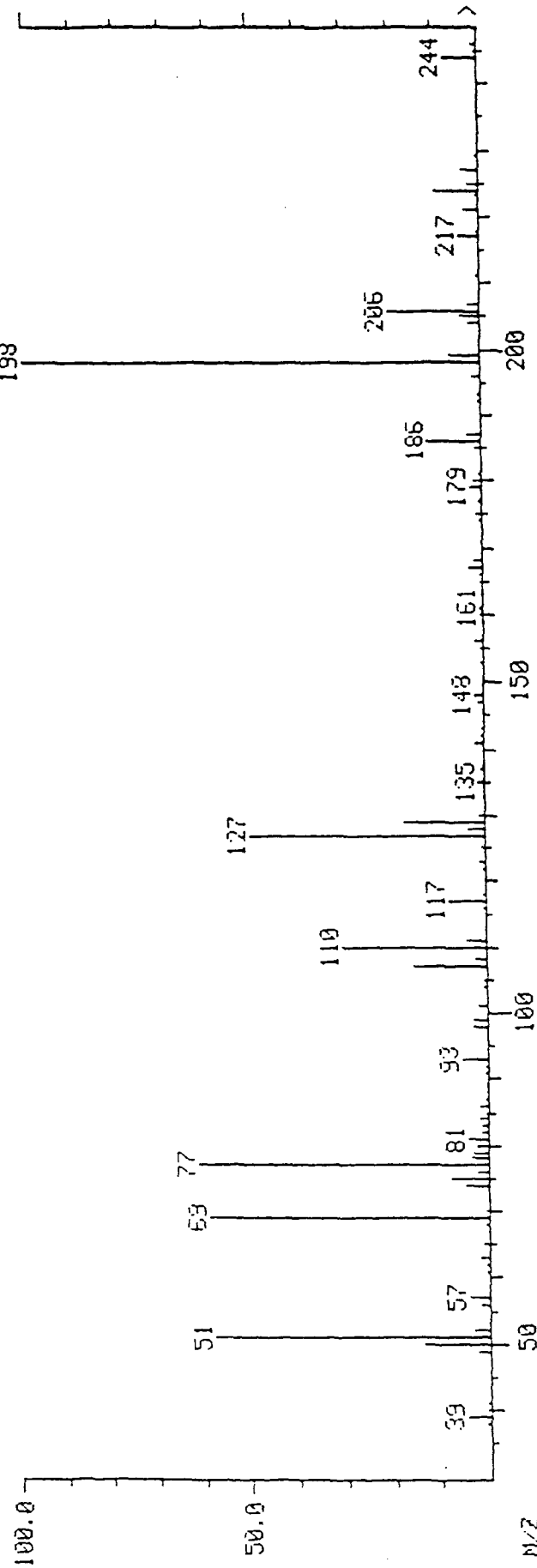
ENHANCED (S 156 2H 0T)

Date: 06/01/91 11:05:25

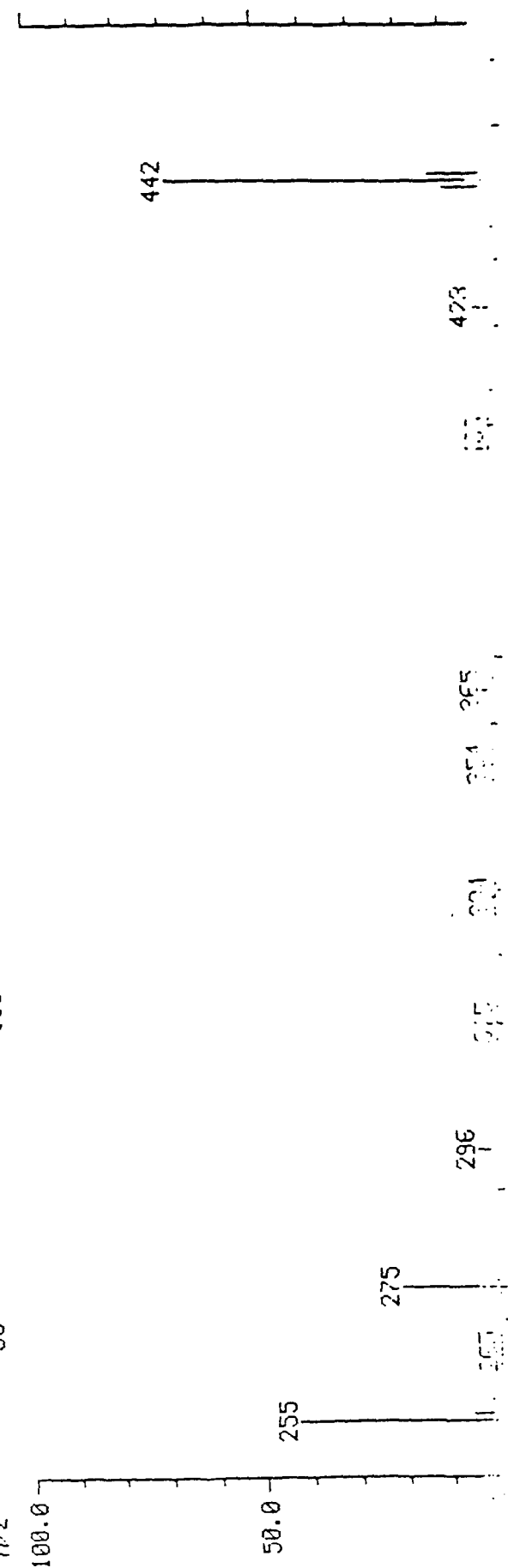
CU1: CULFAB #3

BASE M/Z: 198

RIC: 136448.



000009



11:18/91 13:54:00 + 7:27
Sample: DFTPP 50 NG
Mass: 150E
Balanced (S 15B 2N OT)

Cal: CALTAB # 3

RIC:

138440

IS	0.00	0.	Minima	Min	Inten:	75.
44			Maxima	#	0	
Mass	% RA	Inten.	Mass	% RA	Inten.	
18?	0.64	109.	153	0.45	76.	
19?	4.98	849.	155	0.74	126.	
19?	2.68	457.	156	1.54	263.	
10?	13.95	2380.	161	0.67	115.	
11?	57.97	9888.	167	3.27	558.	
12?	2.79	476.	168	1.55	265.	
16?	1.74	296.	175	1.20	204.	
17?	3.93	670.	179	2.45	418.	
11?	0.45	76.	180	1.68	286.	
12?	0.45	77.	181	0.63	107.	
13?	1.88	320.	185	0.99	169.	
15?	0.94	160.	186	11.43	1950.	
18?	0.58	99.	187	3.15	538.	
19	59.57	10160.	193	0.60	103.	
4	4.69	800.	196	1.69	288.	
5	8.06	1374.	198	100.00	17056.	
6	2.20	376.	199	6.37	1086.	
17	61.63	10512.	204	2.20	375.	
18	3.83	654.	205	4.09	697.	
19	3.15	538.	206	20.05	3420.	
10	2.47	421.	207	2.63	449.	
11	3.96	676.	211	0.46	78.	
12	0.98	167.	217	4.29	732.	
13	1.35	230.	221	2.76	471.	
14	1.51	257.	223	0.69	118.	
15	0.63	108.	224	9.79	1670.	
16	1.81	309.	225	2.31	394.	
11	0.52	89.	227	3.62	617.	
12	0.59	101.	229	0.68	116.	
13	5.33	909.	244	7.40	1262.	
18	3.24	552.	245	0.67	115.	
19	3.05	521.	246	1.14	195.	
11	1.92	327.	255	42.92	7320.	
14	0.87	149.	256	6.17	1052.	
15	0.82	140.	258	1.50	256.	
17	15.48	2640.	273	0.98	167.	
18	2.42	412.	274	3.50	597.	
10	30.49	5200.	275	20.66	3524.	
11	4.10	699.	276	2.46	419.	
17	8.01	1366.	277	1.08	185.	
13	1.16	197.	296	4.13	705.	
17	50.28	8576.	323	1.46	249.	
18	3.65	623.	334	0.84	144.	
19	17.61	3004.	365	1.51	258.	
10	1.13	193.	372	0.72	122.	
15	1.12	191.	423	2.84	485.	
17	0.46	78.	441	9.74	1662.	
11	1.79	305.	442	68.76	11728.	
17	0.92	157.	443	12.62	2152.	
18	1.71	291.	444	0.83	142.	

00010

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS

(Page 1)

Case No: <u>CALIB</u>	Region: _____	Calibration Date: <u>03/05/91</u>
Contractor: <u>AnalytiKEM-Hou</u>		Time: <u>12:34</u>
Contract No: _____		Laboratory ID: <u>CC030591E1</u>
Instrument ID: <u>FINN</u>		Initial Cali. Date: <u>02/28/91</u>

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Phenol	2.123	2.102	1.0	*	
bis(2-Chloroethyl)Ether	1.728	1.713	0.9		
2-Chlorophenol	1.404	1.430	-1.9		
1,3-Dichlorobenzene	1.574	1.596	-1.4		
1,4-Dichlorobenzene	1.653	1.685	-1.9	*	
Benzyl Alcohol	0.821	0.702	14.5		
1,2-Dichlorobenzene	1.522	1.582	-3.9		
2-Methylphenol	1.295	1.598	-23.4		
bis(2-Chloroisopropyl)Ether	2.595	2.792	-7.6		
4-Methylphenol	1.275	1.547	-21.3		
N-Nitroso-Di-n-Propylamine	1.457	1.514	-3.9		* *
Hexachloroethane	0.676	0.677	-0.1		
Nitrobenzene	0.503	0.521	-3.6		
Isophorone	0.786	0.929	-18.2		
2-Nitrophenol	0.161	0.177	-9.9	*	
2,4-Dimethylphenol	0.324	0.324	0.0		
Benzoic Acid x	0.156	0.190	-21.8		
bis(2-Chloroethoxy)Methane	0.466	0.500	-7.3		
2,4-Dichlorophenol	0.230	0.235	-2.2	*	
1,2,4-Trichlorobenzene	0.306	0.323	-5.6		
Naphthalene	1.039	1.134	-9.1		
4-Chloroaniline	0.226	0.293	-29.6		
Hexachlorobutadiene	0.163	0.165	-1.2	*	
4-Chloro-3-Methylphenol	0.288	0.299	-3.8	*	
2-Methylnaphthalene	0.621	0.637	-2.6		
Hexachlorocyclopentadiene	0.275	0.248	9.8		* *
2,4,6-Trichlorophenol	0.309	0.306	1.0	*	
2,4,5-Trichlorophenol x	0.382	0.398	-4.2		
2-Chloronaphthalene	1.150	1.173	-2.0		
2-Nitroaniline x	0.536	0.560	-4.5		
Dimethyl Phthalate	1.216	1.210	0.5		
Acenaphthylene	1.699	1.836	-8.1		
2,6-Dinitrotoluene	0.249	0.252	-1.2		
3-Nitroaniline x	0.188	0.194	-3.2		
Acenaphthene	1.249	1.290	-3.3	*	
2,4-Dinitrophenol x	0.082	0.063	23.2		* *
4-Nitrophenol x	0.133	0.069	48.1		* *

RF(50) - Response Factor from daily standard file at
concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial
calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze
at 80 total nanograms

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

00011

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS

(Page 2)

Case No: <u>CALIB</u>	Region: _____	Calibration Date: <u>03/05/91</u>
Contractor: <u>AnalytiKEM-Hou</u>		Time: <u>12:34</u>
Contract No: _____		Laboratory ID: <u>CC030591E1</u>
Instrument ID: <u>FINN</u>		Initial Cali. Date: <u>02/28/91</u>

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Dibenzofuran	1.481	1.499	-1.2		
2,4-Dinitrotoluene	0.322	0.317	1.6		
Diethylphthalate	2.623	1.227	53.2		
4-Chlorophenyl phenyl ether	0.562	0.539	4.1		
Fluorene	1.243	1.234	0.7		
4-Nitroaniline x	0.143	0.110	23.1		
4,6-Dinitro-2-Methylphenol x	0.098	0.091	7.1		
N-Nitrosodiphenylamine (1)	0.424	0.507	-19.6	*	
4-Bromophenyl phenyl ether	0.207	0.198	4.3		
Hexachlorobenzene	0.246	0.241	2.0		
Pentachlorophenol x	0.080	0.066	17.5	*	
Phenanthrene	1.065	1.042	2.2		
Anthracene	1.062	0.990	6.8		
Di-n-Butylphthalate	1.473	1.468	0.3		
Fluoranthene	1.152	1.107	3.9	*	
Pyrene	1.490	1.175	21.1		
Butylbenzylphthalate	0.783	0.704	10.1		
3,3'-Dichlorobenzidine	0.190	0.125	34.2		
Benzo(a)Anthracene	1.168	1.001	14.3		
bis(2-Ethylhexyl)Phthalate	1.144	1.024	10.5		
Chrysene	1.118	0.970	13.2		
Di-n-Octyl Phthalate	3.211	2.698	16.0	*	
Benzo(b)Fluoranthene	1.628	2.749	-68.9		
Benzo(k)Fluoranthene	1.628	2.749	-68.9		
Benzo(a)Pyrene	1.363	1.087	20.2	*	
Indeno(1,2,3-cd)Pyrene	1.309	0.954	27.1		
Dibenz(a,h)Anthracene	1.064	0.773	27.3		
Benzo(g,h,i)Perylene	0.988	0.603	39.0		

RF(50) - Response Factor from daily standard file at concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze at 80 total nanograms

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Cannot be separated from diphenylamine

Form VII

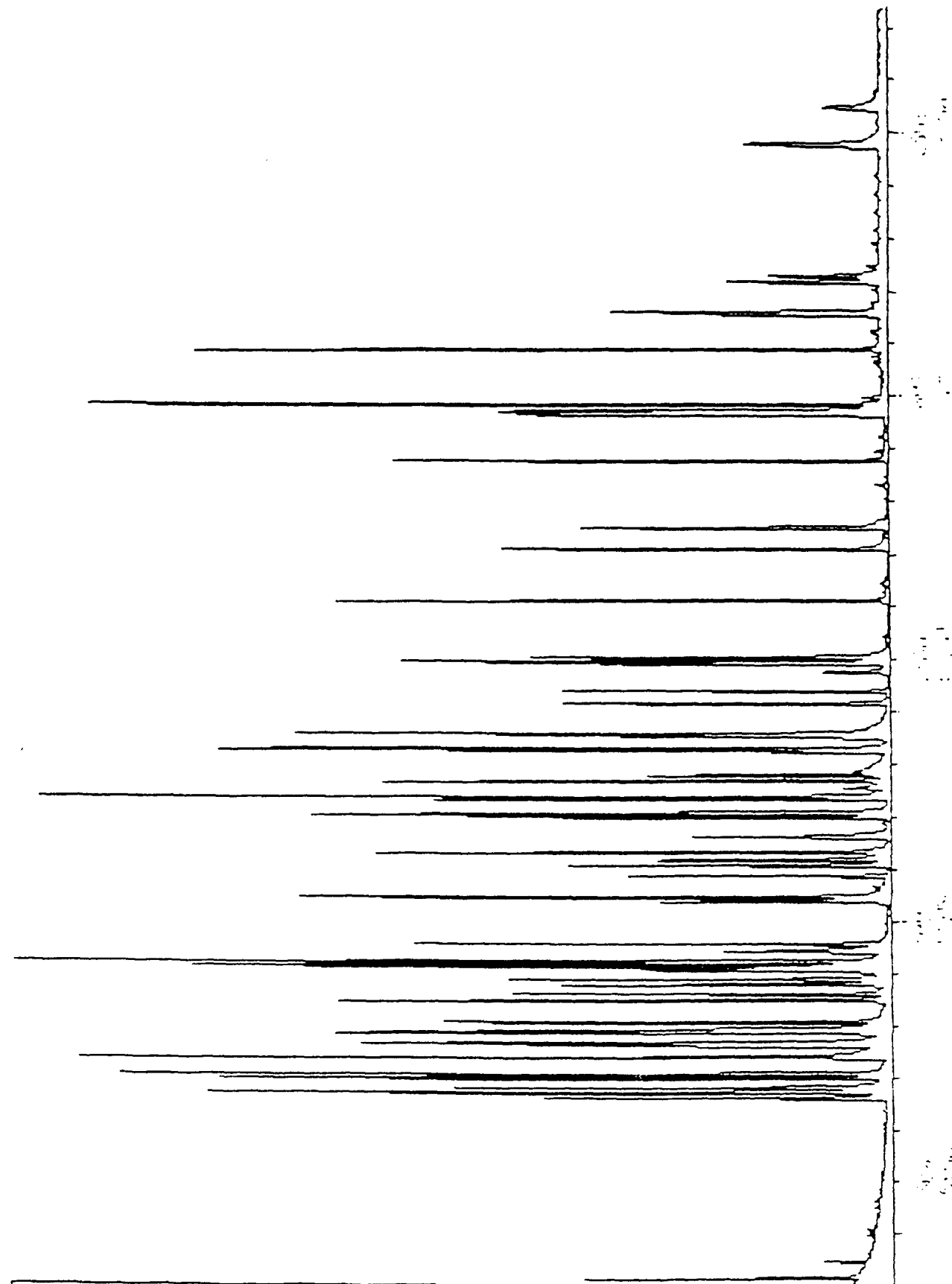
00012

RIC
03/05/91 12:34:00 DATA: 00030591E1 #1 SCALE 300 TO 2741
SAMPLE: CONTINUING CALIBRATION 50 NG BNA CALI: 00030591E1 #3
CONDS.: 150E
RANGE: G 1,2741 LABEL: H 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

100.0

RIC

00013



192000.

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS

(Page 1)

Case No: CALIB	Region:	Calibration Date: 03/18/91
Contractor: AnalytiKEM-Hou		Time: 14:17
Contract No:		Laboratory ID: CC031891E1
Instrument ID: FINN		Initial Cali. Date: 02/28/91

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Phenol	2.123	2.040	3.9	*	
bis(2-Chloroethyl)Ether	1.728	1.706	1.3		
2-Chlorophenol	1.404	1.449	-3.2		
1,3-Dichlorobenzene	1.574	1.620	-2.9		
1,4-Dichlorobenzene	1.653	1.683	-1.8	*	
Benzyl Alcohol	0.821	0.511	37.8		
1,2-Dichlorobenzene	1.522	1.574	-3.4		
2-Methylphenol	1.295	1.633	-26.1		
bis(2-Chloroisopropyl)Ether	2.595	2.261	12.9		
4-Methylphenol	1.275	1.624	-27.4		
N-Nitroso-Di-n-Propylamine	1.457	1.379	5.4		* *
Hexachloroethane	0.676	0.631	6.7		
Nitrobenzene	0.503	0.466	7.4		
Isophorone	0.786	0.774	1.5		
2-Nitrophenol	0.161	0.174	-8.1	*	
2,4-Dimethylphenol	0.324	0.318	1.9		
Benzoic Acid	x 0.156	0.168	-7.7		
bis(2-Chloroethoxy)Methane	0.466	0.533	-14.4		
2,4-Dichlorophenol	0.230	0.256	-11.3	*	
1,2,4-Trichlorobenzene	0.306	0.314	-2.6		
Naphthalene	1.039	1.111	-6.9		
4-Chloroaniline	0.226	0.311	-37.6		
Hexachlorobutadiene	0.163	0.159	2.5	*	
4-Chloro-3-Methylphenol	0.288	0.328	-13.9	*	
2-Methylnaphthalene	0.621	0.978	-57.5		
Hexachlorocyclopentadiene	0.275	0.215	21.8		* *
2,4,6-Trichlorophenol	0.309	0.306	1.0	*	
2,4,5-Trichlorophenol	x 0.382	0.398	-4.2		
2-Chloronaphthalene	1.150	1.183	-2.9		
2-Nitroaniline	x 0.536	0.481	10.3		
Dimethyl Phthalate	1.216	1.215	0.1		
Acenaphthylene	1.699	1.852	-9.0		
2,6-Dinitrotoluene	0.249	0.254	-2.0		
3-Nitroaniline	x 0.188	0.234	-24.5		
Acenaphthene	1.249	1.266	-1.4	*	
2,4-Dinitrophenol	x 0.082	0.065	20.7		* *
4-Nitrophenol	x 0.133	0.067	49.6		* *

RF(50) - Response Factor from daily standard file at concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze at 80 total nanograms

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

00014

Page VII

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS
(Page 2)

Case No: CALIB Region: _____ Calibration Date: 03/18/91
Contractor: AnalytiKEM-Hou Time: 14:17
Contract No: _____ Laboratory ID: CC031891E1
Instrument ID: FINN Initial Cali. Date: 02/28/91

Minimum RF for SPCC is 0.050

Maximum %D for CCC is 30%

Compound	AVE RF	RF(50)	% D	CCC	SPCC
Dibenzofuran	1.481	1.604	-8.3		
2,4-Dinitrotoluene	0.322	0.316	1.9		
Diethylphthalate	2.623	1.235	52.9		
4-Chlorophenyl phenyl ether	0.562	0.585	-4.1		
Fluorene	1.243	1.311	-5.5		
4-Nitroaniline	0.143	0.123	14.0		
4,6-Dinitro-2-Methylphenol	0.098	0.095	3.1		
N-Nitrosodiphenylamine (1)	0.424	0.553	-30.4	*	
4-Bromophenyl phenyl ether	0.207	0.209	-1.0		
Hexachlorobenzene	0.246	0.246	0.0		
Pentachlorophenol	0.080	0.084	-5.0	*	
Phenanthrene	1.065	1.070	-0.5		
Anthracene	1.062	0.962	9.4		
Di-n-Butylphthalate	1.473	1.379	6.4		
Fluoranthene	1.152	1.047	9.1	*	
Pyrene	1.490	1.258	15.6		
Butylbenzylphthalate	0.783	0.655	16.3		
3,3'-Dichlorobenzidine	0.190	0.127	33.2		
Benzo(a)Anthracene	1.168	1.031	11.7		
bis(2-Ethylhexyl)Phthalate	1.144	0.975	14.8		
Chrysene	1.118	0.933	16.5		
Di-n-Octyl Phthalate	3.211	2.600	19.0	*	
Benzo(b)Fluoranthene	1.628	2.780	-70.8		
Benzo(k)Fluoranthene	1.628	2.780	-70.8		
Benzo(a)Pyrene	1.363	1.078	20.9	*	
Indeno(1,2,3-cd)Pyrene	1.309	0.940	28.2		
Dibenz(a,h)Anthracene	1.064	0.738	30.6		
Benzo(g,h,i)Perylene	0.988	0.545	44.8		

RF(50) - Response Factor from daily standard file at concentration indicated (50 total nanograms)

AVE RF - Average Response Factor from initial calibration Form VI

%D - - - Percent Difference

x - - - Due to low response analyze at 80 total nanograms

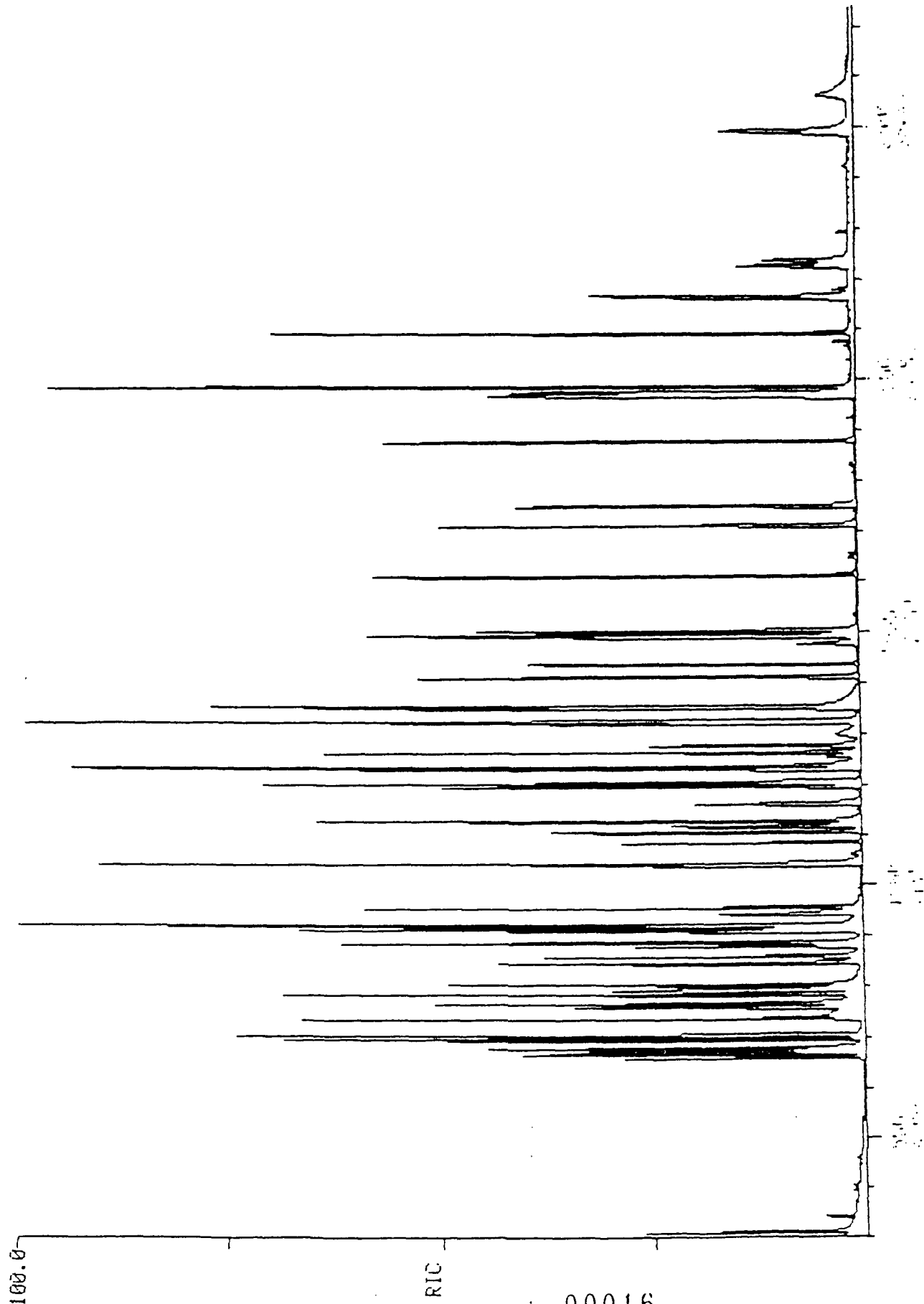
CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

(1) - - Cannot be separated from diphenylamine

Form VII

RIC
03/18/91 14:17:00 DATA: 00031831E1 #1 SCANS 300 TO 2741
SAMPLE: CONTINUING CALIBRATION 50 NG BUA CALL: 00031831E1 #3
CONDS.: 150E
RANGE: G 1,2741 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



543744.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
 Lab Sample ID: MB3150LS
 Client Sample ID: MB3150LS

Concentration: LOW
 Sample Matrix: SOIL
 Percent Moisture:

Date Extracted: 03/04/91
 Date Analyzed: 03/05/91
 Dilution Factor: 1.0

SEMIVOLATILE COMPOUNDS

CAS Number		ug/Kg		CAS Number		ug/Kg
108-95-2	Phenol	330	<	606-20-2	2,6-Dinitrotoluene	330
62-53-3	Aniline	330	<	99-09-2	3-Nitroaniline	1600
111-44-4	bis(2-Chloroethyl)Ether	330	<	83-32-9	Acenaphthene	330
95-57-8	2-Chlorophenol	330	<	51-28-5	2,4-Dinitrophenol	1600
541-73-1	1,3-Dichlorobenzene	330	<	100-02-7	4-Nitrophenol	1600
106-46-7	1,4-Dichlorobenzene	330	<	132-64-9	Dibenzofuran	330
100-51-6	Benzyl Alcohol	330	<	121-14-2	2,4-Dinitrotoluene	330
95-50-1	1,2-Dichlorobenzene	330	<	84-66-2	Diethylphthalate	330
95-48-7	2-Methylphenol	330	<	7005-72-3	4-Chlorophenyl phenyl ether	330
39638-32-9	bis(2-Chloroisopropyl)Ether	330	<	86-73-7	Fluorene	330
106-44-5	4-Methylphenol	330	<	100-01-6	4-Nitroaniline	1600
621-64-7	N-Nitroso-Di-n-Propylamine	330	<	534-52-1	4,6-Dinitro-2-Methylphenol	1600
67-72-1	Hexachloroethane	330	<	86-30-6	N-Nitrosodiphenylamine (1)	330
98-95-3	Nitrobenzene	330	<	101-55-3	4-Bromophenyl phenyl ether	330
78-59-1	Isophorone	330	<	118-74-1	Hexachlorobenzene	330
88-75-5	2-Nitrophenol	330	<	87-86-5	Pentachlorophenol	1600
105-67-9	2,4-Dimethylphenol	330	<	85-01-8	Phenanthrene	330
65-85-0	Benzoic Acid	1600	<	120-12-7	Anthracene	330
111-91-1	bis(2-Chloroethoxy)Methane	330	<	84-74-2	Di-n-Butylphthalate	33
120-83-2	2,4-Dichlorophenol	330	<	206-44-0	Fluoranthene	330
120-82-1	1,2,4-Trichlorobenzene	330	<	129-00-0	Pyrene	330
91-20-3	Naphthalene	330	<	85-68-7	Butylbenzylphthalate	26
106-47-8	4-Chloroaniline	330	<	91-94-1	3,3'-Dichlorobenzidine	660
87-68-3	Hexachlorobutadiene	330	<	56-55-3	Benzo(a)Anthracene	330
59-50-7	4-Chloro-3-Methylphenol	330	<	117-81-7	bis(2-Ethylhexyl)Phthalate	58
91-57-6	2-Methylnaphthalene	330	<	218-01-9	Chrysene	330
77-47-4	Hexachlorocyclopentadiene	330	<	117-84-0	Di-n-Octyl Phthalate	330
88-06-2	2,4,6-Trichlorophenol	330	<	205-99-2	Benzo(b)Fluoranthene	330
95-95-4	2,4,5-Trichlorophenol	1600	<	207-08-9	Benzo(k)Fluoranthene	330
91-58-7	2-Chloronaphthalene	330	<	50-32-8	Benzo(a)Pyrene	330
88-74-4	2-Nitroaniline	1600	<	193-39-5	Indeno(1,2,3-cd)Pyrene	330
131-11-3	Dimethyl Phthalate	330	<	53-70-3	Dibenz(a,h)Anthracene	330
208-96-8	Acenaphthylene	330	<	191-24-2	Benzo(g,h,i)Perylene	330

The Lab ID for data on this page is MB3150LS.

(1) - Cannot be separated from diphenylamine

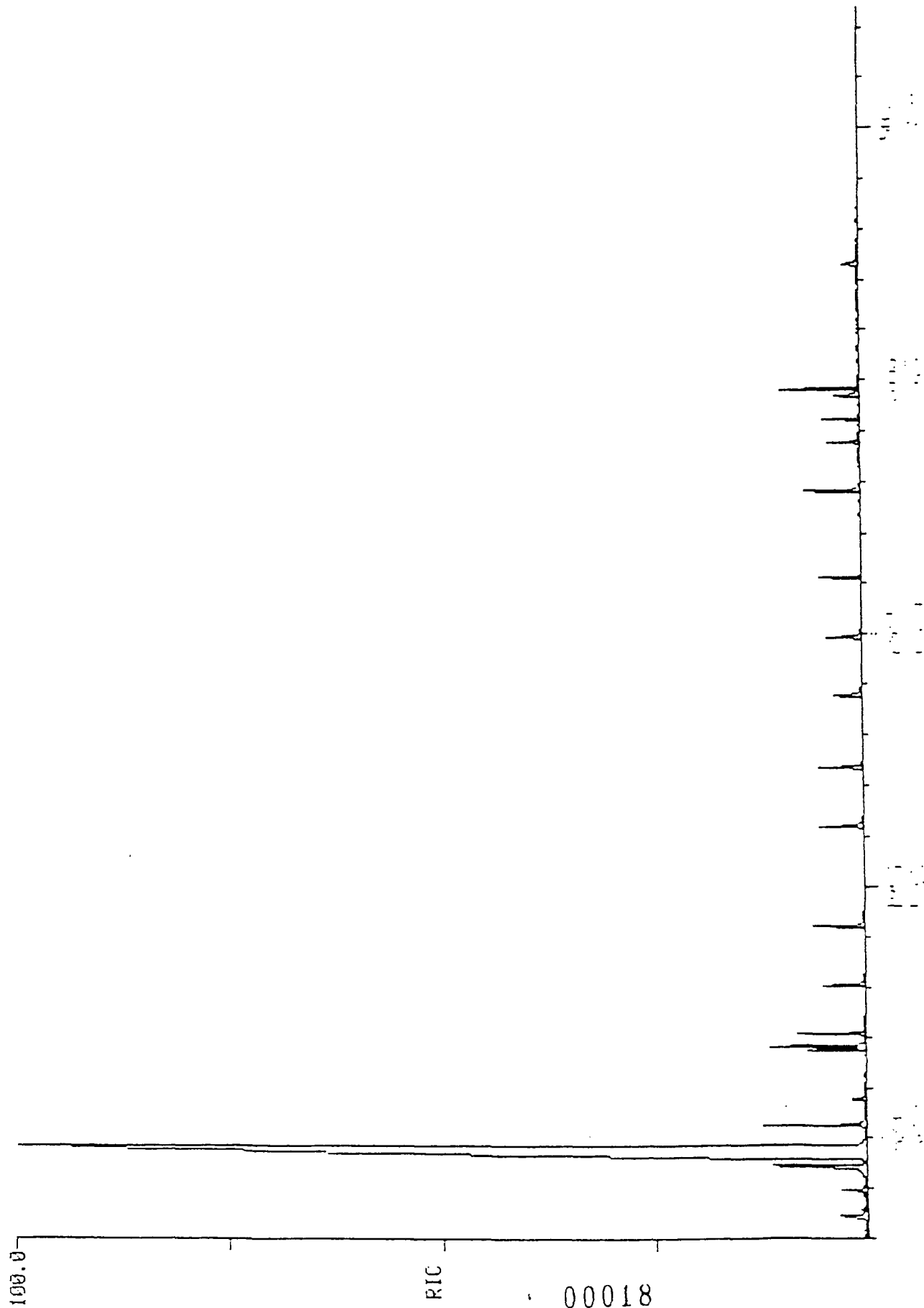
w - Reported value is less than the quantitation limit.

< - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

R1C
 03-05-01 15:52:00
 SAMPLE: CLP, BLANK, HB3150LS-10H, SOIL, HB3150LS-BIA-EPA
 COMDS.: 150E
 RANGE: G 1-2741 LABEL: H 0, 4.0 QUANT: A 0, 1.0 J 0 BASE: U 20, 3

SCHEM 309 10 2741

Data: HB3150LS-01
 GALT: HB3150LS-#3



1429500.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: AnalytiKEM-Hou
 Lab Sample ID: M83155LL
 Client Sample ID: M83155LL

Concentration: LOW
 Sample Matrix: WATER
 Percent Moisture: 100.0

Date Extracted: 03/05/91
 Date Analyzed: 03/18/91
 Dilution Factor: 1.0

SEMIVOLATILE COMPOUNDS

CAS Number		ug/L	CAS Number		ug/L
108-95-2	Phenol	10	506-20-2	2,6-Dinitrotoluene	10
62-53-3	Aniline	10	99-09-2	3-Nitroaniline	50
111-44-4	bis(2-Chloroethyl)Ether	10	83-32-9	Acenaphthene	10
35-57-8	2-Chlorophenol	10	51-28-5	2,4-Dinitrophenol	50
541-73-1	1,3-Dichlorobenzene	10	100-02-7	4-Nitrophenol	50
106-46-7	1,4-Dichlorobenzene	10	132-64-9	Dibenzofuran	10
100-51-6	Benzyl Alcohol	10	121-14-2	2,4-Dinitrotoluene	10
95-50-1	1,2-Dichlorobenzene	10	84-66-2	Diethylphthalate	10
95-48-7	2-Methylphenol	10	7005-72-3	4-Chlorophenyl phenyl ether	10
39638-32-9	bis(2-Chloroisopropyl)Ether	10	36-73-7	Fluorene	10
106-44-5	4-Methylphenol	10	100-01-6	4-Nitroaniline	50
621-64-7	N-Nitroso-Di-n-Propylamine	10	534-52-1	4,6-Dinitro-2-Methylphenol	50
67-72-1	Hexachloroethane	10	36-30-6	N-Nitrosodiphenylamine (1)	10
98-95-3	Nitrobenzene	10	101-55-3	4-Bromophenyl phenyl ether	10
78-59-1	Isophorone	10	118-74-1	Hexachlorobenzene	10
88-75-5	2-Nitrophenol	10	37-86-5	Pentachlorophenol	50
105-67-9	2,4-Dimethylphenol	10	85-01-8	Phenanthrene	10
65-85-0	Benzoic Acid	50	120-12-7	Anthracene	10
111-91-1	bis(2-Chloroethoxy)Methane	10	34-74-2	Di-n-Butylphthalate	10
120-83-2	2,4-Dichlorophenol	10	206-44-0	Fluoranthene	10
120-82-1	1,2,4-Trichlorobenzene	10	129-00-0	Pyrene	10
91-20-3	Napthalene	10	25-68-7	Butylbenzylphthalate	10
106-47-3	4-Chloroaniline	10	31-94-1	3,3'-Dichlorobenzidine	10
37-66-3	Hexachlorobutadiene	10	56-55-3	Benzo(a)Anthracene	10
59-50-7	4-Chloro-3-Methylphenol	10	117-31-7	bis(2-Ethylhexyl)Phthalate	10
31-57-6	2-Methylnapthalene	10	218-01-9	Chrysene	10
77-47-4	Hexachlorocyclopentadiene	10	117-84-0	Di-n-Octyl Phthalate	10
35-06-2	2,4,6-Trichlorophenol	10	205-99-2	Benzo(b)Fluoranthene	10
25-95-4	2,4,6-Trichlorophenol	50	207-08-9	Benzo(k)Fluoranthene	10
91-58-7	1-Chloronapthalene	10	50-32-8	Benzo(a)Pyrene	10
38-74-4	3-Nitroaniline	50	193-39-5	Indeno(1,2,3-cd)Pyrene	10
131-11-3	Dimethyl Phthalate	10	53-70-3	Dibenz(a,h)Anthracene	10
208-96-8	Acenaphthylene	10	191-24-2	Benzo(g,h,i)Perylene	10

The Lab ID for data on this page is M83155LLR.

(1) - Cannot be separated from diphenylamine

* - Compound analyzed for but not detected. The reported value is the minimum attainable detection limit for the sample.

WATER SURROGATE PERCENT RECOVERY SUMMARY
(Page 1)

Case No. A5519 Contract Laboratory AnalytiKEM-Hou Contract No. _____

	- - - - VOLATILE - - - - -				- - - - - SEMI-VOLATILE - - - - -				- - - - - PEST - - - - -			
	Toluen e-d8	Bromof luorob enzene	1,2-Di chloro ethane -d4	Nitrob enzene -d5	2-Fluo robiph enyl	Terphe nyl-d1 4	Benzen e-d6		Phenol -d5	2-Fluo rophen ol	Tribro mophen ol	Dibuty lchlor endate **
SMO TRAFFIC NO.	88 110	86 115	76 114	35 114	43 116	33 141	75 125		10 94	21 100	19 122	48 136
LF-WDA-CI_T	_____	_____	_____	31*	35*	46	_____		17	16*	22	_____
LF-WDA-CI_T	_____	_____	_____	34*	31*	52	_____		10	17*	22	_____

* VALUES ARE OUTSIDE OF CONTRACT
REQUIRED QC LIMITS
** ADVISORY LIMITS ONLY

Volatiles: _____ out of _____ 8; outside of QC limits
Semi-Volatiles: _____ 6 out of _____ 12; outside of QC limits
Pesticides: _____ out of _____ 2; outside of QC limits

Comments:

FORM II

00021

SOIL SURROGATE PERCENT RECOVERY SUMMARY
(Page 1)

Case No. A5519 Contract Laboratory AnalytiKEM-Hou Contract No. _____
Low XXX Medium _____

	VOLATILE				SEMI-VOLATILE						PEST	
	Toluen e-d8	Bromof luorob enzene	1,2-Di chloro ethane -d4	Nitrob enzene -d5	2-Fluo robiph enyl	Terphe nyl-d 4	Benzen e-d6		Phenol -d5	2-Fluo rophen ol	2,4,6- Tribro mophen ol	Dibuty lchlor endate **
SMO TRAFFIC NO.	81 117	74 121	70 121	23 120	30 115	18 137	75 125		24 113	25 121	10 123	20 150
LF-WDA-C1				42	50	79			74	67	113	

* VALUES ARE OUTSIDE OF CONTRACT
REQUIRED QC LIMITS
** ADVISORY LIMITS ONLY

Volatiles: _____ out of _____4; outside of QC limits
Semi-Volatiles: _____0 out of _____6; outside of QC limits
Pesticides: _____ out of _____1; outside of QC limits

Comments:

FORM II

00022

Case No: CALIB Region: _____ Instrument ID: FINN
 Contractor: AnalytIKEM-Hou Calibration Date: 02/28/91
 Contract No: _____

Minimum AVE RF for SPCC is 0.050 Maximum %RSD for CCC is 30%

Laboratory ID	IC0228E020		IC0228E080		IC0228E160		CCC*		
	CC022891E1		IC0228E120						
Compound	RF(20)	RF(50)	RF(80)	RF(120)	RF(160)	AVE RF	% RSD	SPCC**	
Phenol	2.187	1.703	2.205	2.239	2.281	2.123	11.2	*	
bis(2-Chloroethyl)Ether	1.709	1.462	1.805	1.839	1.826	1.728	9.1		
2-Chlorophenol	1.447	1.219	1.422	1.447	1.486	1.404	7.6		
1,3-Dichlorobenzene	1.551	1.457	1.558	1.614	1.690	1.574	5.5		
1,4-Dichlorobenzene	1.708	1.520	1.601	1.682	1.752	1.653	5.6	*	
Benzyl Alcohol	0.480	1.497	0.685	0.731	0.714	0.821	47.6		
1,2-Dichlorobenzene	1.582	1.414	1.483	1.535	1.595	1.522	4.9		
2-Methylphenol	1.142	1.497	1.254	1.273	1.308	1.295	10.0		
bis(2-Chloroisopropyl)Ether	2.781	2.453	2.586	2.534	2.621	2.595	4.7		
4-Methylphenol	1.045	1.496	1.251	1.261	1.324	1.275	12.7		
N-Nitroso-Di-n-Propylamine	1.421	1.396	1.407	1.502	1.560	1.457	4.9	* *	
Hexachloroethane	0.701	0.629	0.654	0.677	0.721	0.676	5.4		
Nitrobenzene	0.517	0.472	0.507	0.520	0.499	0.503	3.8		
Isophorone	0.917	0.875	0.758	0.718	0.660	0.786	13.7		
2-Nitrophenol	0.150	0.153	0.164	0.173	0.167	0.161	6.0	*	
2,4-Dimethylphenol	0.281	0.329	0.328	0.342	0.340	0.324	7.7		
Benzoic Acid	x	0.184	0.132	0.154	0.156	0.156	13.6		
bis(2-Chloroethoxy)Methane	0.395	0.468	0.471	0.501	0.496	0.466	9.1		
2,4-Dichlorophenol	0.194	0.224	0.235	0.250	0.249	0.230	10.0	*	
1,2,4-Trichlorobenzene	0.312	0.300	0.301	0.307	0.312	0.306	1.9		
Naphthalene	1.026	1.009	1.027	1.061	1.073	1.039	2.6		
4-Chloroaniline	0.087	0.310	0.231	0.253	0.250	0.226	36.8		
Hexachlorobutadiene	0.162	0.159	0.159	0.167	0.168	0.163	2.6	*	
4-Chloro-3-Methylphenol	0.256	0.266	0.298	0.303	0.318	0.288	9.1	*	
2-Methylnaphthalene	0.605	0.634	0.610	0.615	0.642	0.621	2.6		
Hexachlorocyclopentadiene	0.208	0.295	0.278	0.296	0.299	0.275	14.0	* *	
2,4,6-Trichlorophenol	0.273	0.296	0.312	0.328	0.338	0.309	8.4	*	
2,4,5-Trichlorophenol	x	0.417	0.359	0.370	0.384	0.382	6.6		
1-Chloronaphthalene	1.136	1.136	1.118	1.167	1.191	1.150	2.5		
2-Nitroaniline	x	0.520	0.526	0.558	0.541	0.536	3.2		
Dimethyl Phthalate	1.210	1.198	1.223	1.219	1.231	1.216	1.0		
Acenaphthylene	1.632	1.689	1.684	1.736	1.755	1.699	2.8		
2,6-Dinitrotoluene	0.237	0.245	0.245	0.261	0.255	0.249	3.8		
3-Nitroaniline	x	0.202	0.164	0.192	0.195	0.188	8.9		
Acenaphthene	1.247	1.211	1.227	1.270	1.290	1.249	2.5	*	
2,4-Dinitrophenol	x	0.074	0.075	0.088	0.093	0.082	11.5	* *	
4-Nitrophenol	x	0.107	0.120	0.141	0.164	0.133	18.8	* *	

Response Factor (number is the amount of nanograms)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

x - - - Not detectable at 20 ng

Form VI

00023

Case No: CALIB Region: _____ Instrument ID: FINN
 Contractor: AnalytikEM-Hou Calibration Date: 02/28/91
 Contract No: _____

Minimum AVE RF for SPCC is 0.050 Maximum %RSD for CCC is 30%

Laboratory ID	IC0228E020		IC0228E080		IC0228E160		CCC*	
	CC022891E1		IC0228E120					
Compound	RF(20)	RF(50)	RF(80)	RF(120)	RF(160)	AVE RF	% RSD	SPCC**
Dibenzofuran	1.491	1.461	1.447	1.503	1.503	1.481	1.7	
2,4-Dinitrotoluene	0.296	0.315	0.326	0.331	0.344	0.322	5.6	
Diethylphthalate	2.259	5.570	1.529	1.453	2.303	2.623	64.6	
4-Chlorophenyl phenyl ether	0.544	0.550	0.552	0.570	0.595	0.562	3.7	
Fluorene	1.150	1.198	1.215	1.290	1.362	1.243	6.7	
4-Nitroaniline	x	0.127	0.127	0.160	0.159	0.143	13.1	
4,6-Dinitro-2-Methylphenol	x	0.090	0.095	0.104	0.104	0.098	7.1	
N-Nitrosodiphenylamine (1)	0.399	0.482	0.399	0.416	0.424	0.424	8.1	*
4-Bromophenyl phenyl ether	0.205	0.212	0.204	0.202	0.214	0.207	2.5	
Hexachlorobenzene	0.242	0.244	0.250	0.241	0.255	0.246	2.4	
Pentachlorophenol	x	0.057	0.075	0.089	0.099	0.080	22.8	*
Phenanthrene	0.998	1.058	1.077	1.076	1.117	1.065	4.1	
Anthracene	1.035	1.026	1.067	1.095	1.086	1.062	2.9	
Di-n-Butylphthalate	1.467	1.386	1.486	1.552	1.474	1.473	4.0	
Fluoranthene	1.087	1.008	1.166	1.276	1.222	1.152	9.3	*
Pyrene	1.695	1.496	1.506	1.349	1.405	1.490	8.8	
Butylbenzylphthalate	0.887	0.739	0.820	0.731	0.740	0.783	8.7	
3,3'-Dichlorobenzidine	0.138	0.165	0.185	0.234	0.230	0.190	21.8	
Benzo(a)Anthracene	1.162	1.026	1.192	1.214	1.246	1.168	7.3	
bis(2-Ethylhexyl)Phthalate	1.377	1.084	1.161	1.042	1.056	1.144	12.1	
Chrysene	1.212	0.996	1.129	1.125	1.130	1.118	6.9	
Di-n-Octyl Phthalate	3.547	2.064	3.587	3.525	3.332	3.211	20.2	*
Benzo(b)Fluoranthene	1.743	1.116	1.710	1.780	1.789	1.628	17.7	
Benzo(k)Fluoranthene	1.743	1.116	1.710	1.780	1.789	1.628	17.7	
Benzo(a)Pyrene	1.454	1.021	1.458	1.439	1.441	1.363	14.0	*
Indeno(1,2,3-cd)Pyrene	1.300	0.993	1.504	1.320	1.430	1.309	14.9	
Dibenz(a,h)Anthracene	0.969	0.810	1.247	1.100	1.196	1.064	16.7	
Benzo(g,h,i)Perylene	1.036	0.758	1.151	0.941	1.055	0.988	15.0	
Nitrobenzene-d5	0.477		0.480	0.488	0.466	0.478	1.9	
2-Fluorobiphenyl	1.222		1.281	1.280	1.306	1.272	2.8	
Terphenyl-d14	1.211		1.033	0.891	0.880	1.004	15.4	
Phenol-d5	1.516		1.592	1.647	1.687	1.610	4.6	
2-Fluorophenol	1.333		1.333	1.317	1.293	1.319	1.4	
2,4,6-Tribromophenol	0.136		0.151	0.145	0.150	0.146	4.7	

Response Factor (number is the amount of nanograms)

AVE RF - Average Response Factor

%RSD - - Percent Relative Standard Deviation

CCC - - Calibration Check Compounds (*)

SPCC - - System Performance Check Compounds (**)

x - - - Not detectable at 20 ng

(1) - - Cannot be separated from diphenylamine

Form VI

00024

AnalytiKEM LABORATORIES - HOUSTON
GC-MS DAILY RUN LOGS
SEMIVOLATILES

DATE: 3-5-91
TIME: 1117 DFTPP
ANALYST: PS
INSTRUMENT: E
COMMENT:

POS	FILE ID	SAMPLE ID	DILUTION	TIME	QC CHKD	FINAL?
*****	DF030591E1	DFTPP		1215		
	CC030591E1	50ng BNA		1234		
	MB3124LL		0.5ml/1ml	1337	9.12 E. 12.12	Di-V. 12.12
	MB3136LL			1430	12.12	
1	MB3128LL			1538		
2	MB3121LL		↓	1612		
3	MB3150LS		1ml	1652		
4	MB3132LS		↓	1732		
5	MB3119LL		1ml	1812		
6	A55081	1	0.5ml/1ml	1852		Return
7	A55191	1F-WDA-11	1ml	1931		
8	A54921	BK6-1		2012		
9	A54922	BK6-2		2051		
10	A54923	BK6-3C		2131		
11	A54925	Bate Comp		2210		
12	A54926	TF-Comp		2251		
13	A54924	Yard Comp	↓	2330	TS 2.12 12.12	
14	TEST		↓	0:10		
						AN/40305E ✓
						EO305D ✓

INTERNAL STD AREAS

	IS1	IS2	IS3	IS4	IS5	IS6
CAL	37906	123734	57950	78117	73610	25273
UPPER	65312	247468	115868	156234	147228	40506
LOWER	16455	61867	28307	39058	36807	22636

COMMENTS

REV: 2/91

00025

19

PARAMETER: Silver - Ag DATE/TIME: 5/29/16 3:0 PAGE 20 of 2
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

★ BELOW MDL

[illegible]

ANALYST: LeDR. McKelvey for JM QA/QC APPROVAL: DeAnna M. Sen

Time: 1832

ICAP Quality Control Logs

Method EPA SW-846:6010, 3rd Ed.

Calibration, Standard and Blank Information

Parameter	MDL	Co	V	A1						
	(2.100-725)	0.025	0.025	0.025						
C A L I B R A T I O N	BLANK	-0.003	0.000	-0.006						
	5.00 ppm	5.04	5.03	4.96						
	250 ppm	—	—	237						
	1.00 ppm	0.960	0.954	1.05						
	0.10 ppm	0.096	0.093	0.095						
S T D / B L K										

C H E C K S T D	ICAP-1A	0.945 / 1.00	0.983 / 1.00	—						
	ICAP-2	—	—	1.07 / 1.00						
			FOUND FSC							

S A M P L E B L A N K S										

Analyst: LeOR McKelQA/QC Approval: L. Anne M. Senega

Date: 3 MARCH 91

AnalytiKEM-Houston

2 of 2 pgs.

Time: 1837ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010

Duplicate and Spike Information

* Below MDL

Parameter	CO	V	A1							
MDL 0.025	0.025	0.025	0.025							
A5519, A5520, A5525-BLK	0.000	0.002	0.012							
Duplicate	—	—	—							
% RPD	—	—	—							
Spike	1.93	0.988	2.07							
% Recovery	96	99	104							
A5519-1	0.127	0.482	2.17							
Duplicate	0.115	0.444	1.98							
% RPD	9.92	8.21	9.16							
Spike	2.00	1.37	2.47							
% Recovery	94	89	111							
A5520-2	0.101	0.525	1.18							
Duplicate	0.108	0.527	1.05							
% RPD	6.70	0.38	11.6							
Spike	0.517	0.773	1.97							
% Recovery	93	102	110							
A5525-2	0.165	0.547	1.38							
Duplicate	0.166	0.563	1.50							
% RPD	0.60	2.89	8.33							
Spike	1.92	1.52	2.12							
% Recovery	88	97	114							
Duplicate										
% RPD										
Spike										
% Recovery										

Analyst: Leona McKelveyQAQC Approval: Dr. Anna M. Senegal

QUALITY CONTROL LOG

Parameter: ARSENIC - (As)

Page: 1 of 1

Method of Analysis: EPA SW-846: 7060, GF AAS

Matrix: SLUDGE / TOLP 52TR

Date/Time: 08 Mar 91 / 1835

[illegible]

Internal Quality Control Duplicates and Spikes

* Below MDL

[illegible]

JM

Analyst:

Q/V/QC Approval:

Analyst: Michael A. Grilo QVQC Approval: DeAnna M. Senegal

Time: 1100

ICAP Quality Control Logs
Method EPA SW-846:6010, 3rd Ed.

Calibration, Standard and Blank Information

Parameter	MDL C ₁₀₀ →	Zn	Pb	Cd	Ni	Mn	Fe	Cr	Be	Cu	Ba
		0.02	0.025	0.010	0.02	0.02	0.02	0.02	0.02	0.02	0.02
C A L I B R A T I O N	BLANK	-0.001	0.026	0.000	-0.000	-0.000	-0.001	-0.001	-0.000	0.000	-0.000
	5.00 ppm	5.11	5.06	5.15	5.02	5.02	4.96	5.02	5.03	4.93	5.12
	1.00 ppm	0.999	1.01	1.00	0.996	0.982	0.964	0.978	0.974	1.01	1.03
	0.10 ppm	—	0.100	—	—	—	—	—	—	—	—
	0.08 ppm	0.086	—	0.074	0.078	0.077	0.075	0.083	0.077	0.083	0.079
	0.04 ppm	0.042	—	0.036	0.040	0.037	0.036	0.039	0.037	0.040	0.038
S T D / B L K											

C H E C K	ICAP-19	1.03 1.00	1.01 1.00	1.01 1.00	0.990 1.00	0.986 1.00	0.971 1.00	0.978 1.00	0.949 1.00	1.00 1.00	—
	EPA 1085-1	—	5.38 5.00	1.06 1.00	—	—	—	4.97 5.00	—	—	110 100
S T D					Found True						

S A M P L E B L A N K S											

Analyst: LEOR. McKelvey QA/QC Approval: Deanna M. Senegal

Date: 2 MAR 91

AnalytiKEM-Houston

2 of 3 pgs.

Time: 1100ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010

Duplicate and Spike Information

* Below MDL

Parameter MDL 0.100 → 25	Zn 0.02	Pb 0.025	Cd 0.010	Ni 0.02	Mn 0.02	Fe 0.02	Cr 0.02	Be 0.02	Cu 0.02	Ba 0.02
A5519, A5520, A5525 - BLANK	0.027	0.010	0.007	0.002	0.001	0.020	0.005	0.000	0.036	0.002
Duplicate	—	—	—	—	—	—	—	—	—	—
% RPD	—	—	—	—	—	—	—	—	—	—
Spike	0.941	0.954	0.101	0.926	0.939	0.900	0.193	0.093	0.211	1.88
% Recovery	94	95	101	93	94	98	96	93	106	94
A5519 - 1	0.696	0.203	0.002	0.122	1.55	144	0.179	0.007	0.143	1.62
Duplicate	0.651	0.173	0.007	0.106	1.67	132	0.189	0.007	0.172	1.49
% RPD	6.68	16.0	*	14.0	7.45	8.70	5.43	*	18.4	8.36
Spike	1.49	1.02	0.109	0.955	2.29	190	0.333	0.096	0.313	3.22
% Recovery	79	82	109	83	74	94	77	96	85	80
A5520-2	5.48	3.29	0.048	0.363	1.66	129	0.257	0.004	0.982	33.7
Duplicate	5.22	3.34	0.051	0.352	1.56	120	0.238	0.004	0.984	31.5
% RPD	4.86	1.51	6.06	3.08	6.21	7.23	7.68	*	0.20	6.75
Spike	3.25	2.18	0.499	0.646	1.30	179	0.595	0.487	0.956	63.3
% Recovery	102	107	95	93	94	92	93	49	93	93
A5525-2	8.72	10.2	0.077	0.588	2.13	190	0.797	0.004	3.40	26.6
Duplicate	—	—	—	—	—	—	—	—	—	—
% RPD	—	—	—	—	—	—	—	—	—	—
Spike	9.57	11.4	0.179	1.35	3.06	213	0.874	0.091	3.60	54.7
% Recovery	85	120	102	76	93	94	95	91	100	83
A5519/A5448-BLK	—	0.019	0.000	—	—	—	0.001	—	—	0.004
Duplicate	—	—	—	—	—	—	—	—	—	—
% RPD	—	—	—	—	—	—	—	—	—	—
Spike	—	0.861	0.099	—	—	—	0.175	—	—	1.75
% Recovery	—	86	99	—	—	—	88	—	—	88

Analyst: LeD. R. McKelveyQAQC Approval: Deanna M. Senechal

Date: 3 MAR 91

AnalytiKEM-Houston

3 of 2 pgs.Time: 1100ICAP Quality Control Logs
Method SW-846-3rd Ed., 06010

Duplicate and Spike Information

* Below MDL

Parameter	Pb	Cd	Cr	Ba						
MDL	0.025	0.010	0.02	0.02						
A 5519-IT	0.021	0.000	0.008	0.579						
Duplicate	0.013	0.002	0.006	0.552						
% RPD	*	*	*	4.77						
Spike	0.815	0.108	0.177	3.85						
% Recovery	82	103	88	77						
A 5448-IT	0.020	—	—	—						
Duplicate	—	—	—	—						
% RPD	—	—	—	—						
Spike	0.772	—	—	—						
% Recovery	77	—	—	—						
Duplicate										
% RPD										
Spike										
% Recovery										
Duplicate										
% RPD										
Spike										
% Recovery										
Duplicate										
% RPD										
Spike										
% Recovery										

Analyst: LeOR. McKelveyQAQC Approval: DeAnna M. Lopez

Time: 2147ICAP Quality Control Logs
Method EPA SW-846:6010, 3rd Ed.

Calibration, Standard and Blank Information

Parameter	MDL	Mg	Ca	Na						
		0.1	0.5	0.5						
C A L I B R A T I O N	BLANK	0.000	0.000	-0.000						
	10.0 ppm	9.90	9.31	10.1						
	1.00 ppm	0.981	1.03	0.961						
	0.5 ppm	—	0.469	0.491						
	0.1 ppm	0.100	—	—						
S T D / B L K										

C H E C K S T D	EPA-4	89.8 100	94.6 100	100 100	FOUND LEVEL					

S A M P L E B L A N K S										

Analyst: LEON McILWEE QA/QC Approval: DeAnna M. Senegal

Date: 8 MAR 91

AnalytiKEM-Houston

2 of 2 pgs.Time: 2147ICAP Quality Control Logs
Method SW-846-3rd Ed., #6010

Duplicate and Spike Information

* Below MDL

Parameter MDL	Mg 0.1	Ca 0.5	Na 0.5							
A5519-BLK	-0.008	0.024	0.010							
Duplicate	—	—	—							
% RPD	—	—	—							
Spike	1.67	1.94	1.98							
% Recovery	84	92	99							
A5519-1	4.86	57.9	1.12							
Duplicate	4.38	51.1	1.06							
% RPD	10.4	12.5	5.50							
Spike	6.83	33.8	5.72							
% Recovery	88	97	103							
Duplicate										
% RPD										
Spike										
% Recovery										
Duplicate										
% RPD										
Spike										
% Recovery										
Duplicate										
% RPD										
Spike										
% Recovery										

Analyst:

LEO P. McKeown

QAQC Approval:

Debra M. Senayal

Parameter: Mercury - Hg

Page: 1 of 2

Method of Analysis: ^{EPA} SW-846; 7470 Liquid
7471 Solid Cold Vapor AA

Matrix: Water, TCLP, Soil, Wipe

Date/Time: 7/26/91/0730

Lab Numbers	Detection Limits	Calibration Stds./Blk	Absorbance/Conc.	Check Standards	Concentration Found/True
A5514-1	0.001 mg/L	BLANK	0.000 / 0.000	Sample Blank	— 19 m
A5520-4	↓	0.002 ppm	0.015 / 0.0021	Method Blank	— 19 m
A5470-1T	↓	0.005 ppm	0.036 / 0.0048	P.E. Std. EPA 1085-1	0.0108 / 0.0100 19 m
A5469-5	0.05 mg/L	0.010 ppm	0.072 / 0.0100	Internal Std. CCV	0.0075 / 0.0075 19 m
A5518-11715	↓			0.001 ppm	0.0010 / 0.001
A5487-23708	↓				
A5519-1	↓				
A5520-1,3	0.05 mg/L	Correlation Coefficient:			
A5520-2	0.1 mg/L	Comments:			
A5525-1	0.5 mg/L				
A5525-2	0.1 mg/L				
A5525-3	0.05 mg/L				
A5474-1	1.0 PERCENT				
A5474-2	1.0 PERCENT Wipe				
A5474-3	300 mg/wipe				

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
BLANK	<0.001	—	—	—	0.0051	*	0.005	102
A5514-1	<0.001	—	—	—	0.0051	↓	50% 0.01 ppm	102
A5520-4	↓	<0.001	*	*	0.0053	↓	0.005	106
A5470-8LK ^{EXTRACT}	↓	—	—	—	0.0046	↓	↓	92
A5470-1T	↓	<0.001	*	*	0.0048	↓	↓	96
A5469-5	↓	↓	↓	↓	0.0052	↓	↓	104

Analyst: J. R. McKelvey for JN

QA/QC Approval:

Deanna M. Senegal

Analytiken LABORATORIES - HOUSTON
 QUALITY CONTROL LOG
 B# 846: 8080: PESTICIDE/PCB ANALYSIS
 MATRIX SPIKE RESULTS - WATER

SAMPLE: FB3157LL

ANALYTE	SPIKE (UG/L)	CONC MS	% REC	%REC
LINDANE	1.0	1	65	156-123
HEPTACHLO	1.0	1	67	140-131
DALDRIN	1.0	1	63	140-120
DIELDRIN	2.5	1	51	152-126
ENDRIN	2.5	1	60	156-121
4,4'-DDT	2.5	2	64	138-127

Al Benson 3/8/91 Lenda P. Basile 3/14/91
 ANALYST DATE QA/QC COORDINATOR DATE

Analyt:KEM LABORATORIES - HOUSTON
QUALITY CONTROL LOG
SW 846: 8080; PESTICIDE/PCB ANALYSIS

SURROGATE RECOVERY:

BLANK EXTRACTION DATE: 3/4/91

LAB NO.	CALC AMT(UG)	PERCENT RECOVERY (20-150%)
MB3150LS	0.55	112
A5519-1	0.33	66
A5519-1T	0.59	118
MB3156LL	0.29	59
FB3157LL	0.40	81

NO PESTICIDE/PCBS DETECTED AT STATED
METHOD DETECTION LIMITS

Al Benson 3/8/91
ANALYST DATE

Brenda L. Basile 3/14/91
QA/QC COORDINATOR DATE

Page: 1 of 1

Parameter: Antimony-Sb

Matrix: Soil

Method of Analysis: EPA 821-846 ; 7041 GFA

Date/Time: 11 MAR 91 / 1104

Lab Numbers	Detection Limits	Calibration Stds./Blk	Absorbance/Conc.	Check Standards	Concentration Found/True
A5519-1	0.5 mg/kg	BLANK	0.003 0.0004	Sample Blank	— 11m
A5525-173	↓	0.02 ppm	0.047 0.0217	Method Blank	— 11m
A5520-173	↓	0.05 ppm	0.114 0.0523	P.E. Std. EPA 186	0.0215 0.020 11m
		0.10 ppm	0.202 0.1050	Internal Std. CCV	0.0267 0.0250 11m
				0.01 ppm	0.0096 0.010
		Correlation Coefficient:			
		Comments:			

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A5519-BLK	<0.01	—	—	—	0.1089	*	0.1 ppm	109
A5519-1	<0.01	<0.01	*	*	0.0541	↓	50% 0.05	108
A5525-2	↓	↓	↓	↓	0.0510	↓	↓	102
A5520-2	↓	↓	↓	↓	0.0291	↓	50% 0.05 ppm	108

Analyst: LEOR McKelvey

QA/QC Approval: Deanna M. Sines

QUALITY CONTROL LOG

Parameter: SELENIUM - (Se)

Page: 1 of 2

Method of Analysis: EPA SW-846: 7740, GFAAS

Matrix: WATER, LIQ, TELP EXT, SLUDGE

Date/Time: 8/24/91 1716

Lab Numbers	Detection Limits
A5497-1	0.005 mg/L
A5498-1	
A5509-1	
A5514-1	
A5477-4	
A5470-1T	
A5473-1	
A5491-26	✓
A5519-1	0.25 mg/kg
A5519-1T	0.005 mg/L

Calibration Stds./Blk	Absorbance/Conc.
BLANK	0.000 Abs (0.000) 0.0008 PPM
0.0100 PPM	0.027 Abs 0.031 0.0110 PPM
0.0200 PPM	0.044 Abs 0.054 0.0210 PPM
0.0500 PPM	0.130 Abs 0.122 0.1501 PPM
Correlation Coefficient:	
Comments:	

Check Standards	Concentration Found/True
EPA-1085-2	0.0259 ppm
EPA-1085-2	0.0247
CCRS	0.0265 ppm
MDL = 0.0150 PPM	0.0047 ppm
	0.0150 ppm

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A5497-BLK	<0.005	—	—	—	0.0222	*	0.02	111
A5497-1	<0.005	<0.005	*	*	0.0207	*	50% of 0.05 ppm	83
A5498-1			*	*	0.0187	*	0.02	93
A5509-1		✓	*	*	0.0193	*	0.02	96
A5514-1		—	—	—	0.0247	*	50% of 0.05	99
A5470-BLK	✓	✓	*	*	0.0194	*	0.02	97

Analyst: Richard A. Gable
(for J.M.)

QV/QC Approval: Dianne M. Senoz

AnalytikEM-Houston
QUALITY CONTROL LOG

PARAMETER: SELENIUM - (Se) DATE/TIME: 18 Mar 91 / 0716 PAGE 2 OF 2
INTERNAL QUALITY CONTROL DUPLICATES AND SPIKES

* BELOW MDL

LAB NO. - SAMPLE	SAMPLE CONC.	DUPLICATE CONC.	RANGE	PERCENT RPD	SPIKED RESULT	SAMPLE RESULT	SPIKE ADDED	PERCENT RECOVERY
A5477-4	<0.005	<0.005	*	*	0.0179	*	0.02	39
A5470- ^{5% spk} PLA	<0.005	—	—	—	0.0205	*	0.02	102
A5470-1T	<0.005	<0.005	*	*	0.0217	*	5% of 0.05	87
A5473-1			*	*	0.0169	*	0.02	84
A5491-26	↓	↓	*	*	0.0228	*	5% of 0.05	91
A5519-1	<0.25	<0.25	*	*	0.0245	*		98
A5519-1T	<0.005	<0.005	*	*	0.0248	*	↓	99

ANALYST: Richard A. G. G. G.
(FOR JM)

QA/QC APPROVAL: Deanna M. Seese

AnalytiKEM-Houston

QUALITY CONTROL LOG

Parameter: Total Petroleum Hydrocarbons

Page: 1 of 2

Method of Analysis: EPA 400.418.1, SW-846.9071

Matrix: Solid

Date/Time: 3-7-91/0900

Lab Numbers	Detection Limits
A5489-(1-2)	40 mg/kg
-3	200 mg/kg
-(4-13)	40 mg/kg
-14	200 mg/kg
-(15-2)	40 mg/kg
A5490-(1-3)	40 mg/kg
A5491-(1-4)	40 mg/kg
-5	190 mg/kg
-(6-8)	40 mg/kg
-9	190 mg/kg
-(10-2)	40 mg/kg
A5492-(1-3)	40 mg/kg

Calibration Stds./Blk	Absorbance/Conc.
2.1	0.1116 / 2.0
4.2	0.1412 / 4.4
8.5	0.1973 / 8.9
17.0	0.2901 / 16.3
42.5	0.6169 / 42.6
Correlation Coefficient: <u>0.9997</u>	
Comments:	

Check Standards	Concentration Found/True
Sample Blank	
Method Blank	Abs. 0.0354
P.E. Std.	
Internal Std.	21.9 / 21.3
CCUS 17.0	16.1 / 17.0
CCUS 17.0	17.2 / 17.0
CCUS 17.0	16.6 / 17.0
CCUS 17.0	17.3 / 17.0
CCUS 17.0	17.0 / 17.0
CCUS 17.0	16.9 / 17.0
CCUS 17.0	16.5 / 17.0

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result (mg)	Sample Result (mg)	Spike Added (mg)	Percent Recovery (mg)
A5489-6	<40	<40	*	*	8.0	*	8.5	94%
-15	492	503	11	2.22%	Diluted out			
A5490-12	85	99	14	15.3%	10.8	2.5	8.5	98%
A5491-8	168	186	18	10%	13.5	4.6	8.5	105%
-21	<40	<40	*	*	8.3	*	8.5	98%
A5492-1	<40	<40	*	*	8.1	*	8.5	95%

Analyst: C. E. Smith

QA/QC Approval: Deanna M. Senechal

QUALITY CONTROL LOG

Parameter: Total Petroleum HydrocarbonsPage: 2 of 2Method of Analysis: EPA 600/4151, SW-846 '9071Matrix: SolidDate/Time: 3-7-91/0900

Lab Numbers	Detection Limits	Calibration Stds./Blk	Absorbance/Conc.	Check Standards	Concentration Found/True
A5492-8	390 ^{mg/Kg}			Sample Blank	
-9	40 ^{mg/Kg}			Method Blank	Abs.
-10	190 ^{mg/Kg}			P.E. Std.	
-11	400 ^{mg/Kg}			Internal Std.	
-(12-13)	40 ^{mg/Kg}				
-14	190 ^{mg/Kg}				
-15	190 ^{mg/Kg}	Correlation Coefficient:			
-(16-17)	40 ^{mg/Kg}				
-20	370 ^{mg/Kg}	Comments:			
-21	390 ^{mg/Kg}				
A5517-1	40 ^{mg/Kg}				
A5519-1	40 ^{mg/Kg}				

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result (mg)	Sample Result (mg)	Spike Added (mg)	Percent Recovery (mg)
A5492-17	<40	<40	*	*	8.1	*	8.5	95%
A5517-1	379	393	14	3.64%	17.8	9.9	8.5	93%
A5519-1	502	487	15	3.03%	→ Diluted out ←			

Analyst: Richard S. ChaisyQA/QC Approval: Deanna M. Senegal

AnalytikEM-Houston

QUALITY CONTROL LOG

Parameter: pH Corrosion on Solid
 Method of Analysis: EPA SW-846: 9045

Page: 1 of 1
 Matrix: Soil/Sediment
 Date/Time: 3-1-91/1340

Lab Numbers	Detection Limits	Calibration Stds./Blk	Units Absorbance/Conc.	Check Standards	Concentration Found/True
A5519-1	0.01 unit	Buffer 10.0	10.01	Sample Blank	ERM
		4.0	4.01	Method Blank	ERM
		7.0	7.04	P.E. Std.	ERM
				Internal Std.	ERM
				Buffer 7.0 conc	7.05 units
		Correlation Coefficient:			
		Comments:			

Internal Quality Control Duplicates and Spikes

* Below MDL

Lab No. - Sample ID	Sample Conc.	Duplicate Conc.	Range	Percent RPD	Spiked Result	Sample Result	Spike Added	Percent Recovery
A5519-1	8.35	8.36	0.01	0.1	—	—	—	—

Analyst: Lien Nguyen

QA/QC Approval: DeAnna M. Senesi

TCLP
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I. List of Certifications

<u>State</u>	<u>Certification Number</u>
Connecticut	PH-0715
Florida	E87201
New Jersey	04012
New York	10815
North Carolina	258
Pennsylvania	68-366
South Carolina	94004
Tennessee	02908

II. Definition of Terms

<u>Term</u>	<u>Definition</u>
DI	Deionized Water
J	Compound was detected at levels below the practical quantitation limit. The level reported is approximate.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Analysis not applicable to the sample matrix.
ND	Not Detected
NR	Not Requested
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
U	Compound was analyzed for but not detected. The preceding number is the practical quantitation limit for the compound.
mg/L	Milligrams of constituent per liter of TCLP Leachate; equivalent to parts-per-million (ppm).
CCC	Calibration Check Compound; used to verify the precision of a GC/MS calibration curve.
SPCC	System Performance Check Compound; used to verify the correct operation of a GC/MS instrument.
PQL	Practical Quantitation Limit; the minimum level at which compounds can be dependably quantitated.
TCLP	Toxic Characteristic Leachate Procedure
ZHE	Zero Headspace Extraction
TC	Toxic Characteristic
ug	Micrograms

Test Report No. A24024

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III. Sample Designations

<u>AnalytiKEM Designation</u>	<u>Client Designation</u>	<u>Matrix</u>	<u>Date Sampled</u>
A24024-4	WDP-T4 W1 4-10	Aqueous	3/05/91
A24024-5	WDP-T4 5525-2T W2 10-13	Aqueous	3/05/91
A24024-6	WDP-T1 W1 5525-3T	Aqueous	3/05/91
A24024-7	MB3159T	Aqueous	3/05/91

Note: Samples will be held for 30 days beyond test report date
unless otherwise requested.

IV. Methodology

All analysis are performed in accordance with methodologies found in the following publications:

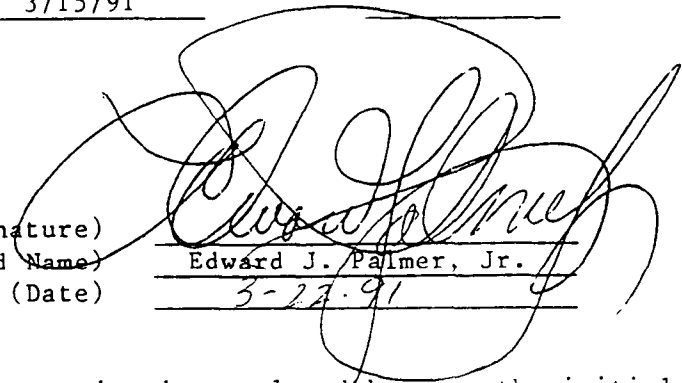
- . Federal Register, Vol. 55, No. 126, June 29, 1990.
- . 40 CFR, Part 261, Appendix 2, Method 1311.
- . Test Methods for Evaluating Solid Waste, USEPA, SW-846, Second Edition, 1982.
- . Test Methods for Evaluating Solid Waste, USEPA, SW-846, Third Edition, 1982.
- . Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, March 1983.

V. Laboratory Chronicle

	<u>DATE</u>	
	I	II
Date Sampled	<u>3/05/91</u>	<u> </u>
Receipt/Refrigeration	<u>3/07/91</u>	<u> </u>
<u>Sample Preparations</u>		
Herbicides	<u>3/13/91</u>	<u> </u>
<u>Analyses</u>		
Herbicides	<u>3/15/91</u>	<u> </u>

Laboratory Manager
Review & Approval

(Signature)
(Printed Name)
(Date)


Edward J. Palmer, Jr.

3-22-91

NOTE: If fractions are reextracted and reanalyzed because the initial endeavors failed to meet the required quality control criteria, the dates of reextraction and/or reanalysis will be entered in column II additionally.

VI. Extraction Log

TCLP Extractions were performed at the AnalytiKEM, Houston Laboratory.

VII. Outlier Summary: Toxicity Characteristic Leachate Procedure (TCLP)

No Compounds were reported above the Regulatory Limits for the following samples:

A24024-4 WDP-T4 W1 4-10
A24024-5 WDP-T4 5525-2T W2 10-13
A24024-6 WDP-T1 W1 5525-3T
A24024-7 MB3159T

NOTE: All results are not corrected for spike recoveries.

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VIII. Analytical ResultsTCLP Organic AnalysesAnalytiKEM Designation A24024-4Client Designation WDP-T4 W1 4-10

<u>EPA HW Number</u>	<u>Contaminant</u>	<u>Method Blank</u>	<u>Sample Result</u>	<u>Regulatory Level</u>
<u>Herbicides</u>				
DO16	2,4-D	0.10 U	0.10 U	10
DO17	2,4,5-TP (Silvex)	0.01 U	0.01 U	1.0
Units		(mg/L)	(mg/L)	(mg/L)

AnalytiKEM Designation A24024-5Client Designation WDP-T4 5525-2T W2 10-13

<u>EPA HW Number</u>	<u>Contaminant</u>	<u>Method Blank</u>	<u>Sample Result</u>	<u>Regulatory Level</u>
<u>Herbicides</u>				
DO16	2,4-D	0.10 U	0.10 U	10
DO17	2,4,5-TP (Silvex)	0.01 U	0.01 U	1.0
Units		(mg/L)	(mg/L)	(mg/L)

NOTE: All results are not corrected for spike recoveries.

VIII. Analytical Results (Cont'd)

TCLP Organic Analyses

AnalytiKEM Designation A24024-6

Client Designation WDP-T1 W1 5525-3T

<u>EPA HW Number</u>	<u>Contaminant</u>	<u>Method Blank</u>	<u>Sample Result</u>	<u>Regulatory Level</u>
<u>Herbicides</u>				
D016	2,4-D	0.10 U	0.10 U	10
D017	2,4,5-TP (Silvex)	0.01 U	0.01 U	1.0
Units		(mg/L)	(mg/L)	(mg/L)

AnalytiKEM Designation A24024-7

Client Designation MB3159T

<u>EPA HW Number</u>	<u>Contaminant</u>	<u>Method Blank</u>	<u>Sample Result</u>	<u>Regulatory Level</u>
<u>Herbicides</u>				
D016	2,4-D	0.10 U	0.10 U	10
D017	2,4,5-TP (Silvex)	0.01 U	0.01 U	1.0
Units		(mg/L)	(mg/L)	(mg/L)

NOTE: All results are not corrected for spike recoveries.

IX. Quality Control DataTCLP ProcedureHerbicidesAqueous Matrix Spike/Matrix Spike Duplicate Recovery DataSample Spiked A23922-1

<u>Parameter</u>	<u>Amount of Spike</u>	<u>Recovery</u>	
		<u>MS</u>	<u>MSD</u>
2,4-D	10	23	32
2,4,5-TP (Silvex)	1.0	48	48
Units	(ug)	(%)	(%)

Aqueous Surrogate Recovery DataSurrogate Recovery

<u>Sample Designation</u>	<u>2,4,5-T (1.0 ug Added)</u>
Method Blank	4
A23922-2 Spike	*
A23922-2 Spike Dup.	*
A24024-4	21
A24024-5	15
A24024-6	22
A24024-7	17
Units	(%)

* Not recovered due to matrix interference.

AnalytiKEM Inc.
28 Springdale Road
Cherry Hill, NJ 08003
609/751-1122
215/923-2068
Fax: 609/751-0824

TEST REPORT NO. A24024

March 21, 1991

Prepared for:

AnalytiKEM - Houston
2925 Richmond Avenue
Houston, TX 77098

Attention: Dayna Bocca

Project: A5525/Homco - Odessa

Date of Sample Receipt: March 7, 1991

NJ Certification No. NJ 04012
NY Certification No. NY 10815
SC Certification No. SC 94004
NC Certification No. NC 258
PA Certification No. PA 68-366

Reviewed &
Approved by:

Name William A. Fithian

Title Technical Manager

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I. Definition of Terms

<u>Term</u>	<u>Definition</u>
D	Detected; result must be greater than zero.
DI	Deionized Water
J	Compound was detected at levels below the practical quantitation limit. The level reported is approximate.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Analysis not applicable to the sample matrix.
ND	Not Detected
NR	Not Requested
NTU	Nephelometric Turbidity Units
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
TON	Threshold Odor Number
U	Compound was analyzed for but not detected. The preceding number is the practical quantitation limit for the compound.
ppb	Parts-per-billion; may be converted to ppm by dividing by 1,000.
ppm	Parts-per-million; may be converted to ppb by multiplying by 1,000.
ug/l	Micrograms of constituent per liter of sample; equivalent to parts-per-billion.
ug/kg	Micrograms of constituent per kilogram of sample; equivalent to parts-per-billion.
ug/kg dw	Micrograms of constituent per kilogram of sample reported on a dry weight basis.
CCC	Calibration Check Compound; used to verify the precision of a GC/MS calibration curve.
SPCC	System Performance Check Compound: used to verify the correct operation of a GC/MS instrument.
PQL	Practical Quantitation Limit: the minimum level at which compounds can be dependably quantitated.

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II. Sample Designations

<u>AnalytiKEM Designation</u>	<u>Client Designation</u>	<u>Matrix</u>	<u>Date Sampled</u>
A24024-1	A5525-1	Nonaqueous	3/01/91
A24024-2	A5525-2	Nonaqueous	3/01/91
A24024-3	A5525-3	Nonaqueous	3/02/91

Note: Samples will be held for 30 days beyond test report date
unless otherwise requested.

III. Methodology

Reactivity

- . Test Methods for Evaluating Solid Waste, USEPA, SW-846, Second Edition.

Residue, total (TS)

- . Standard Methods for Examination of Water and Wastewater, American Public Health Association, 16th Edition, Method 209A, 1985.

Flashpoint

- . Test Methods for Evaluating Solid Waste, USEPA, SW-846, Second Edition.

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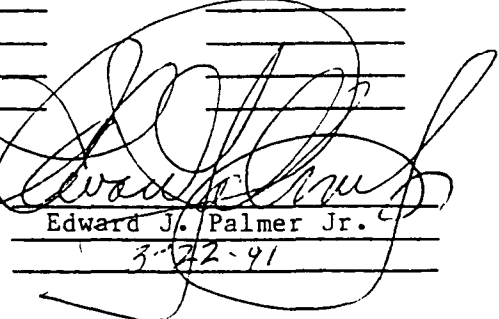
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IV. Laboratory Chronicle

	<u>DATE</u>	
	I	II
Sampling Date	3/01/91 & 3/02/91	_____
Receipt/Refrigeration	3/07/91	_____

Analyses

Reactivity-Sulfide	3/13/91	_____
Reactivity-Cyanide	3/13/91	_____
Flashpoint	3/13/91	_____
Total Solids	3/09/91	_____

Laboratory Manager	(Signature)	
Review & Approval	(Printed Name)	Edward J. Palmer Jr.
	(Date)	3-22-91

NOTE: If fractions are reextracted and reanalyzed because the initial endeavors failed to meet the required quality control criteria, the dates of reextraction and/or reanalysis will be entered in column II additionally.

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V. Analytical ResultsReactivity

The observations for Reactivity were as follows:

- . The sample(s) did not undergo violent changes under normal conditions.
- . The sample(s) did not react violently or form a potentially explosive mixture with water.
- . The sample(s) did not appear readily capable of detonation, explosive decomposition or reaction at standard temperature or pressure.
- . The sample(s) did not generate toxic gases, vapors or fumes when exposed to pH conditions between 2 and 12.5.
- . The results for reactive sulfide and cyanide are as follows:

<u>Parameter</u>	<u>Method</u> <u>Blank</u>	<u>Sample Designation</u>		
		<u>A24024-1</u> <u>A5525-1</u>	<u>A24024-2</u> <u>A5525-2</u>	<u>A24024-3</u> <u>A5525-3</u>
Reactivity - Sulfide	50 U	65 U	65 U	60 U; 60 U *
Reactivity - Cyanide	50 U	65 U	65 U	60 U; 60 U *
Units	(mg/kg)	(mg/kg dw)	(mg/kg dw)	(mg/kg dw)

* Duplicate Analysis.

V. Analytical Results (Cont'd)

General Chemistry

<u>Parameter</u>	<u>Method</u> <u>Blank</u>	<u>Sample Designation</u>		
		<u>A24024-1</u> <u>A5525-1</u>	<u>A24024-2</u> <u>A5525-2</u>	<u>A24024-3</u> <u>A5525-3</u>
Flashpoint, closed cup, °F	--	>180	>180	>180
Total Solids, %	0.1 U	77	77	83