EPA Region 5 Records Ctr.
374313

SCREENING SITE INSPECTION REPORT
FOR
B.J. CARNEY POLE YARD
HENNEPIN COUNTY, MINNESOTA

U.S. EPA ID#: MND981195167

VOLUME III

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Minnesota Pollution Control Agency

S-CUBED
A Division of Maxwell Laboratories, Inc.

July 7, 1989

Volume 3 of 3

NARRATIVE CASE 12035
S-CUBED CONTRACT NO. 68D90027

RECEIVED
JUL 11 1989
US EPA CONTROL SECTION VII
230 S DEARBORN ST
CHICAGO, ILLINOIS 60604

P.O. Box 1620, La Jolla, California 92038-1620 3398 Carmel Mountain Road, San Diego, California 92121-1095
Tel: (619) 453-0060 TWX: 910-337-1253 Telecopier: (619) 755-0474

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: S-CUBED Contract: 68-D9-0007

Lab Code: SC Case No. 12035 SAS No.: SDG No.: EDH42

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	EDH42	79	
02	EDH42MS	77	
03	EDH42MSD	88	
04	EDH43	69	
05	EDH44	82	
06	EDH45	99	
07	EDH46	83	
08	EDH47	87	
09	EDH48	31	
10	EDH49	80	
11	PBLK11	85	
12			
13			
14			
15			
16			
17			
18			
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21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

S1 (DBC) = Dibutylchlorendate ADVISORY QC LIMITS (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits
D Surrogates diluted out

FORM II PEST-2 1/87 Rev.

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix Spike - EPA Sample No.: EDH42 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	31.644	0.000	37.257	118	46-127
Heptachlor	31.644	0.000	28.409	90	35-130
Aldrin	31.644	0.000	31.981	101	34-132
Dieldrin	79.111	0.000	83.857	106	31-134
Endrin	79.111	0.000	83.857	106	42-139
4,4' DDT	79.111	0.000	65.952	83	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	31.644	46.387	147 *	22	50	46-127
Heptachlor	31.644	33.053	104	14	31	35-130
Aldrin	31.644	36.896	117	15	43	34-132
Dieldrin	79.111	98.097	124	16	38	31-134
Endrin	79.111	98.097	124	16	45	42-139
4,4' DDT	79.111	79.902	101	20	50	23-134

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

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 1 out of 12 outside limits

Comments: _____

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Lab Sample ID: PBK11 Lab File ID: F0613002

Matrix:(soil/water) SOIL Level:(low/med) LOW

Date Extracted: 06/06/89 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed (1): 06/13/89 Date Analyzed (2): 06/13/89

Time Analyzed (1): 1546 Time Analyzed (2): 1507

Instrument ID (1): II Instrument ID (2): II

GC Column ID (1): DB-1701 GC Column ID (2): DB-608

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EDH42	EDH42	06/13/89	06/13/89
02	EDH43	EDH43	06/14/89	06/14/89
03	EDH44	EDH44	06/13/89	06/13/89
04	EDH45	EDH45	06/14/89	06/14/89
05	EDH46	EDH46	06/13/89	06/13/89
06	EDH47	EDH47	06/13/89	06/13/89
07	EDH48	EDH48	06/13/89	06/13/89
08	EDH49	EDH49	06/13/89	06/13/89
09	EDH42MS	MSH42	06/13/89	06/13/89
10	EDH42MSD	MSDR2	06/13/89	06/13/89
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH42

Lab Name: S-CUSED Contract: 68-D9-0027

Lab Code: SJ Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: EDH42

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613005

Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 16 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.50	U
319-85-7	beta-BHC	9.50	U
319-86-8	delta-BHC	9.50	U
58-89-9	gamma-BHC (Lindane)	9.50	U
76-44-8	Heptachlor	9.50	U
309-00-2	Aldrin	9.50	U
1024-57-3	Heptachlor epoxide	9.50	U
959-98-8	Endosulfan I	9.50	U
60-57-1	Dieldrin	19.00	U
72-55-9	4,4'-DDE	19.00	U
72-20-8	Endrin	19.00	U
33213-65-9	Endosulfan II	19.00	U
72-54-8	4,4'-DDD	19.00	U
1031-07-8	Endosulfan sulfate	19.00	U
50-29-3	4,4'-DDT	19.00	U
72-43-5	Methoxychlor	95.00	U
53494-70-5	Endrin ketone	19.00	U
5103-71-9	Chlordane	95.00	U
7421-93-4	Endrin Aldehyde	95.00	U
8001-35-2	Toxaphene	190.00	U
12674-11-2	Aroclor-1016	95.00	U
11104-28-2	Aroclor-1221	95.00	U
11141-16-5	Aroclor-1232	95.00	U
53469-21-9	Aroclor-1242	95.00	U
12672-29-6	Aroclor-1248	95.00	U
11097-69-1	Aroclor-1254	190.00	U
11096-82-5	Aroclor-1260	190.00	U

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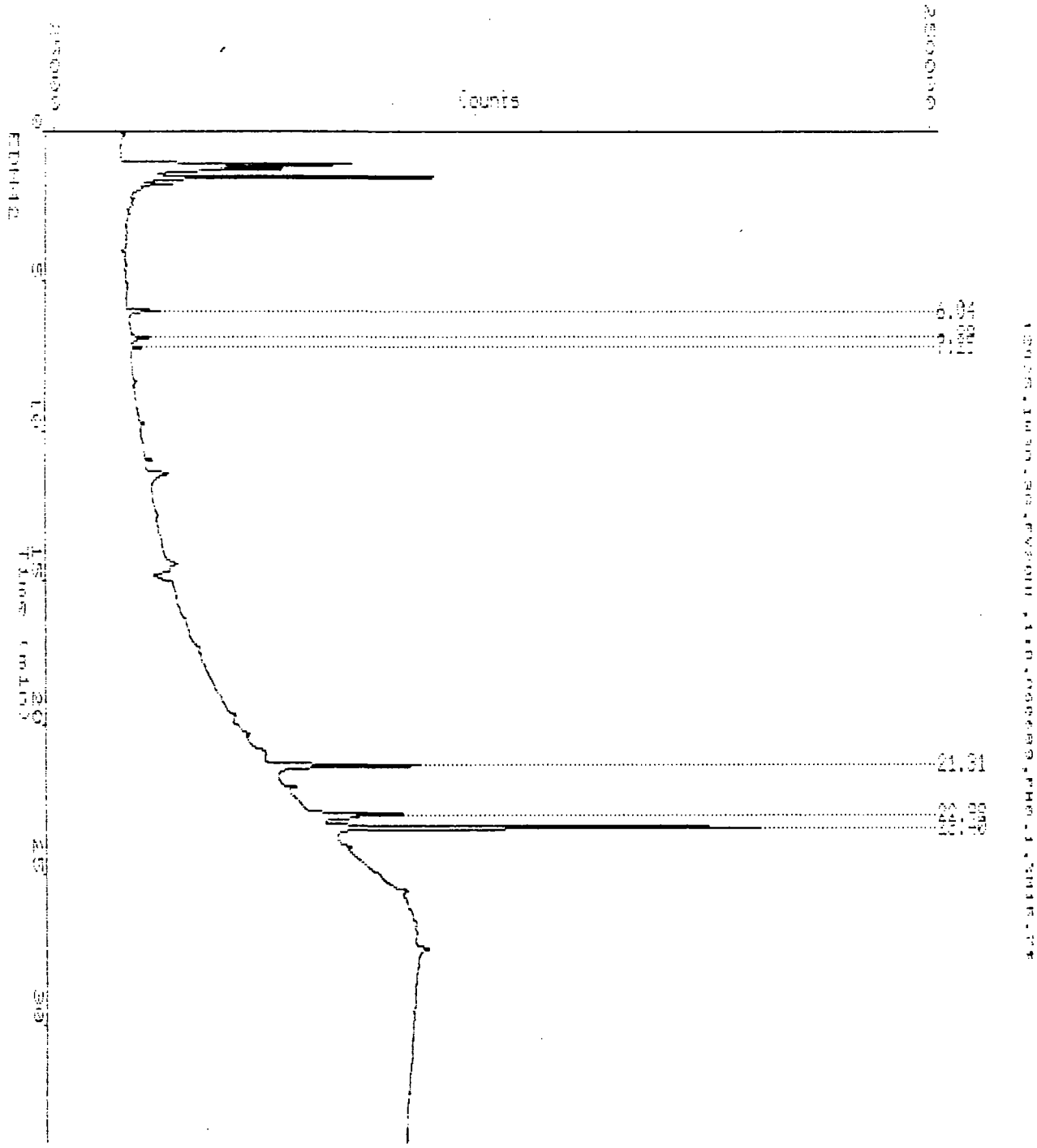

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MODES.....1E025.D430.25.T/2:ML.1:0.060699.PHS.1.UM.5.7%

Analyst..... ET
Instrument..... LC MODEL
Column type..... DS-1701
Length..... A
diameter..... A
Stationary phase.... A
Mobile phase..... A
Detector..... A
Notes..... CLP FIST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS
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Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	6.035		17163		BB
	6.898		28677		BB
	7.246		9698		BB
	21.312		254473		BB
ENDO.SULFATE (interf)	22.977	9.4826	76327		BB
DBC	23.404	78.514	622096		BB

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Report: 17555

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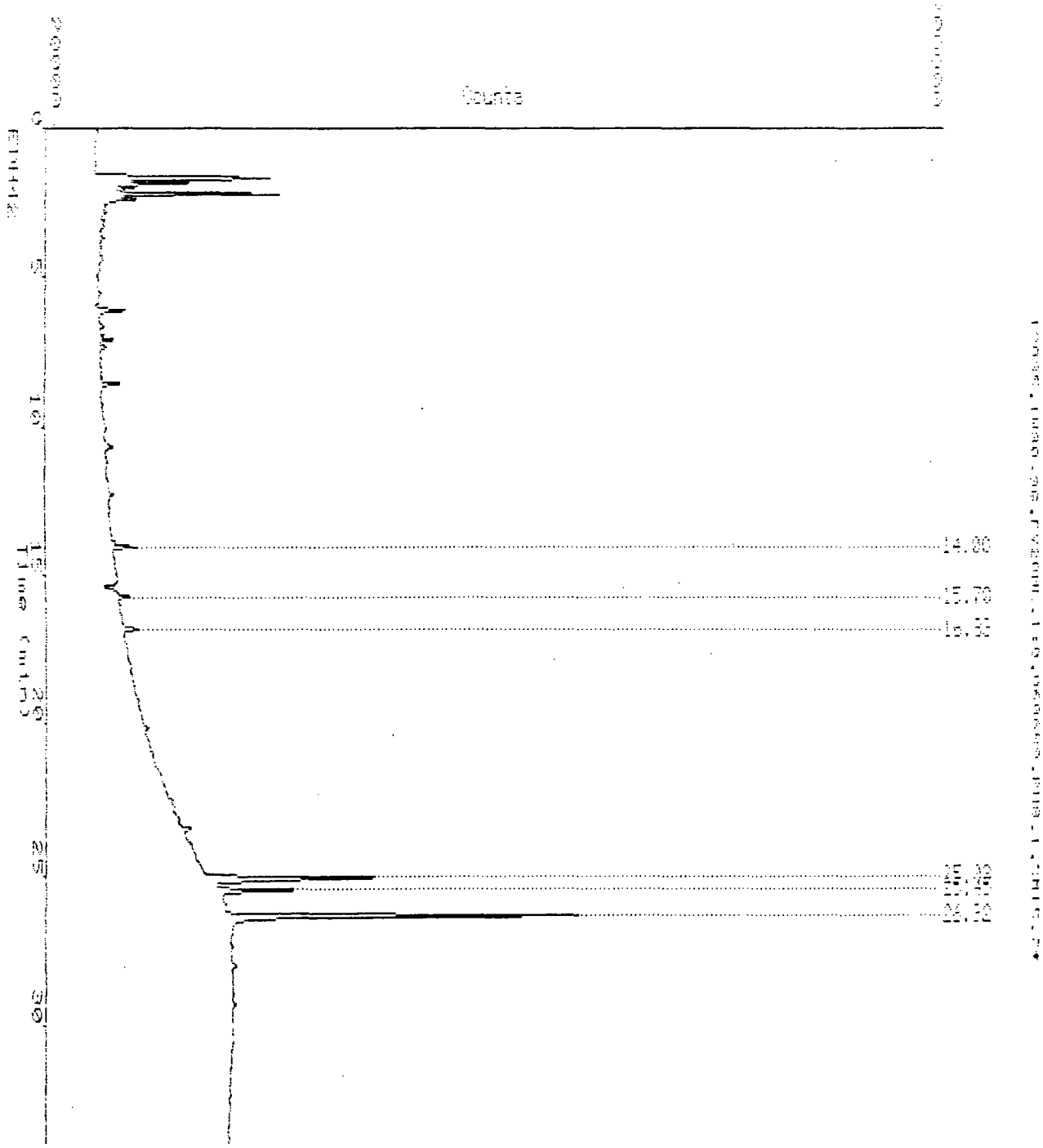
Time range: 0.00-34.00



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EPA SAMPLE NAME.....[illegible]
NOTES.....[illegible]

Anchor..... [illegible]
Instrument..... [illegible]
Column type..... [illegible]
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... [illegible]

Analysis type.....EXTERNAL STANDARD A/D range.....1 volts
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS

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Calibration sample name: IN0

Peak name	R.T.(min)	NG/ML	Peak Area	Ref	Std	D1
	14.003		22052			88
HEPTACHLOR (out KIT)	15.704	1.4747	11566			83
	16.325		15704			85
ENDRIN ALDEHYD (out KIT)	5.031	55.217	369156			94
ENDO.SULFATE (out KIT)	5.447	14.366	96569			95
DBC	26.317	61.560	448369			98

1B

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH43

Lab Name: S-CUBED Contract: 68-D9-0037

Lab Code: SC Case No.: 12035 SAS No.: SDG No.: EDH43

Matrix: (soil/water) SOIL Lab Sample ID: EDH43

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613027

Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 7 dec.____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/14/89

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.60	U
319-85-7	beta-BHC	8.60	U
319-86-8	delta-BHC	8.60	U
58-89-9	gamma-BHC (Lindane)	8.60	U
76-44-8	Heptachlor	8.60	U
309-00-2	Aldrin	8.60	U
1024-57-3	Heptachlor epoxide	8.60	U
959-98-8	Endosulfan I	8.60	U
60-57-1	Dieldrin	17.00	U
72-55-9	4,4'-DDE	17.00	U
72-20-8	Endrin	17.00	U
33213-65-9	Endosulfan II	17.00	U
72-54-8	4,4'-DDD	17.00	U
1031-07-8	Endosulfan sulfate	17.00	U
50-29-3	4,4'-DDT	5.20	J
72-43-5	Methoxychlor	86.00	U
53494-70-5	Endrin ketone	17.00	U
5103-71-9	Chlordane	3.50	J
7421-93-4	Endrin Aldehyde	86.00	U
8001-35-2	Toxaphene	170.00	U
12674-11-2	Aroclor-1016	86.00	U
11104-28-2	Aroclor-1221	86.00	U
11141-16-5	Aroclor-1232	86.00	U
53469-21-9	Aroclor-1242	86.00	U
12672-29-6	Aroclor-1248	86.00	U
11097-69-1	Aroclor-1254	170.00	U
11096-82-5	Aroclor-1260	170.00	U

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Report: 18520

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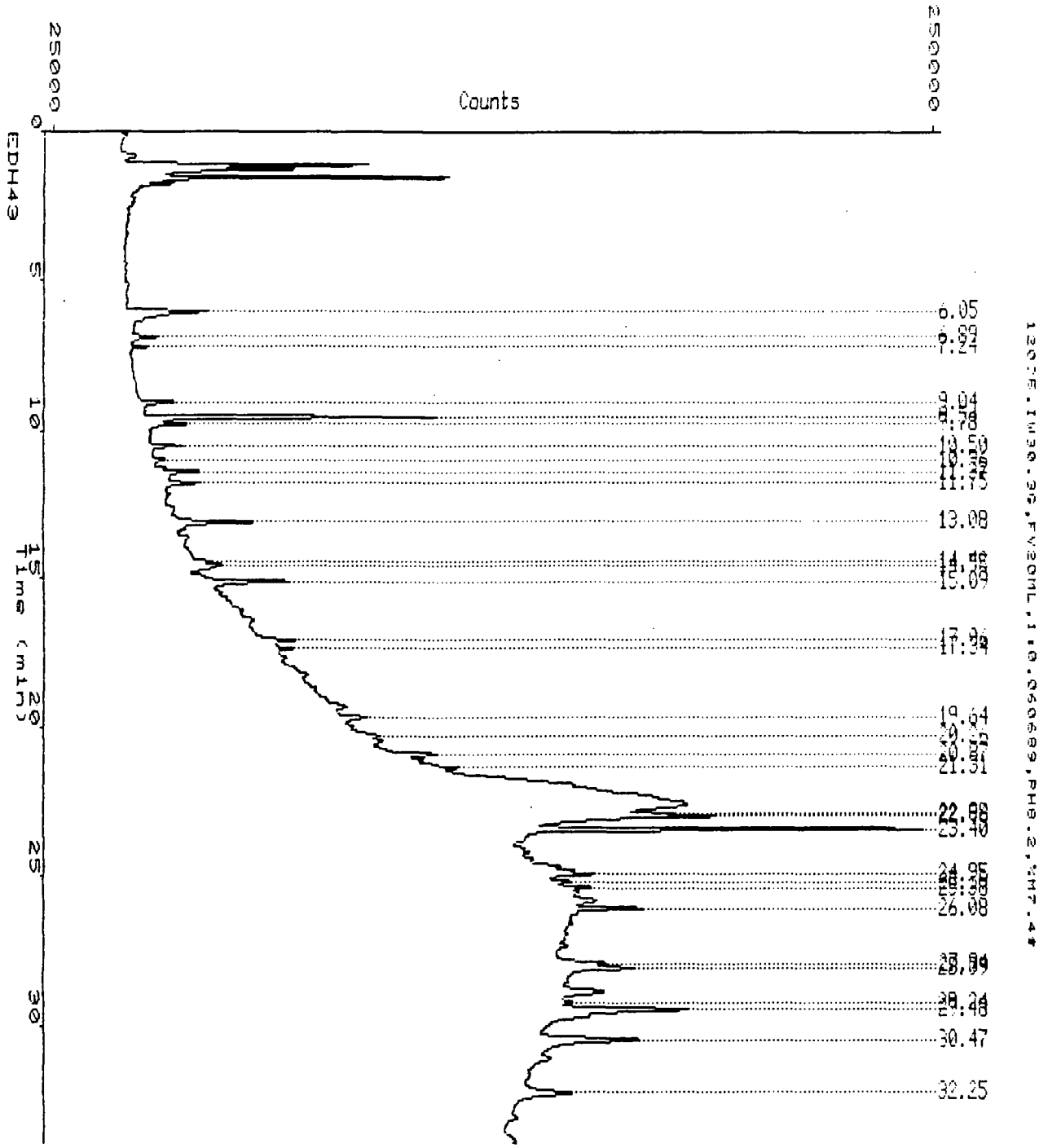

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Analyst.....[illegible]
Method.....[illegible]
Column type.....[illegible]
Length.....[illegible]
Diameter.....[illegible]
Stationary phase.....[illegible]
Mobile phase.....[illegible]
Detector.....[illegible]
Model.....[illegible]

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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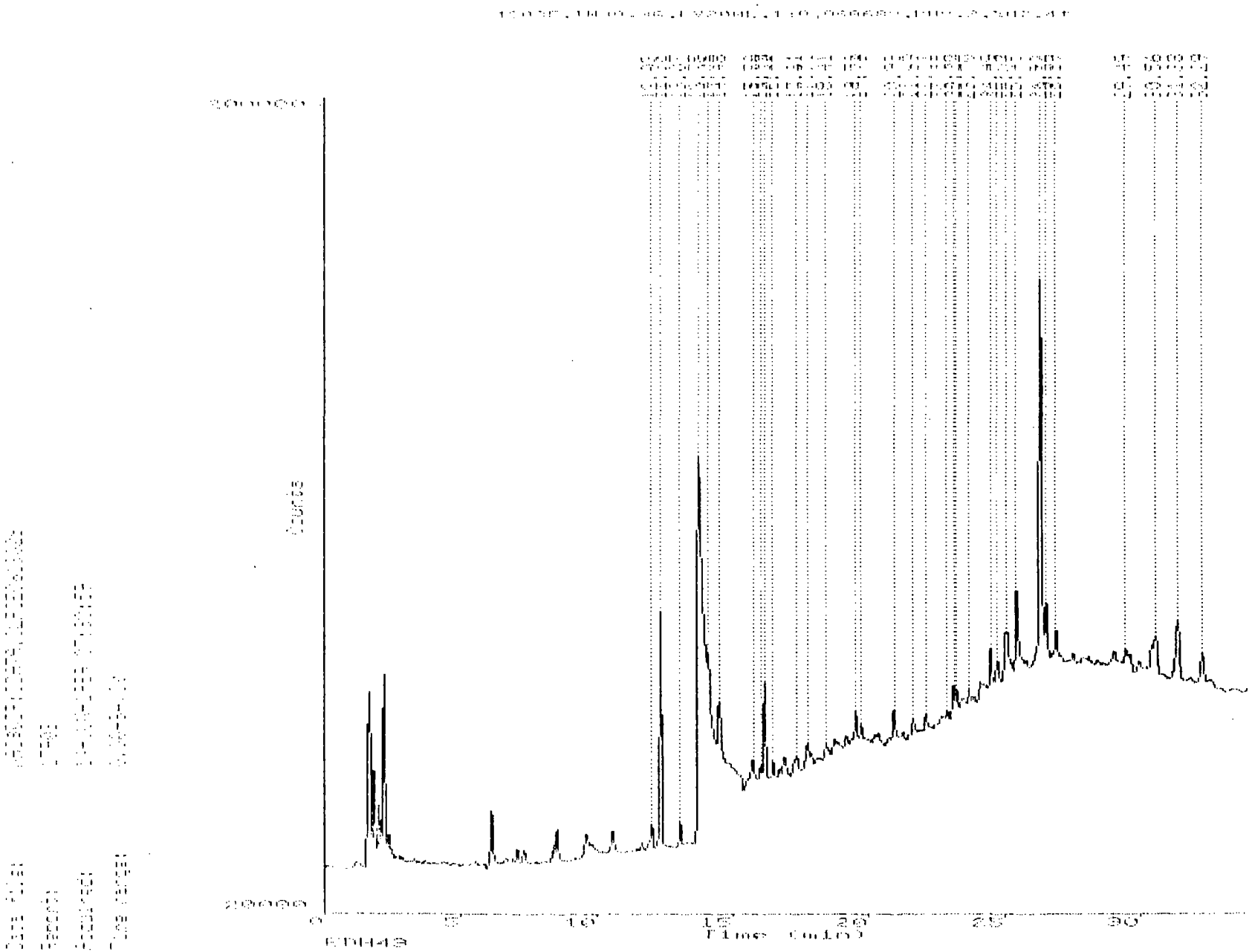
EXTERNAL STANDARD ANALYSIS

Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Sto	Sl
	6.054		101252		BB
	6.888		40615		BB
	7.240		16519		BB
	9.041		51879		BB
	9.543		403425		BB
	9.762		66574		BB
	10.490		41484		BV
	10.968		15016		BB
	11.872		48966		BB
	11.758		42368		BB
	13.081		113617		BB
B-BHC (not conf)	14.421	2.6855	33014		BV
	14.547		33591		VB
	15.089		174703		BB
G-CHLORDANE ✓	17.060	4.8844	83568		BV
A-CHLORDANE (not conf)	17.335	2.3950	32873		VB
	19.644		45459		BB
DDD (not conf)	20.265	3.4509	34288		BB
DDT ✓	20.872	7.2026	53677		BB
	21.314		37147		BB
	22.878		59843		BV
ENDO.SULFATE (not conf)	22.968	33.094	207797		VB
DBC	23.899	69.349	548697		BB
	24.952		38599		BV
	25.194		23843		BB
	25.584		31689		BB
	26.063		86821		BB
	27.942		30581		BV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Sample Size.....[illegible]
Comment.....[illegible]

Instrument..... [illegible]
Instrument..... [illegible]
Column type..... [illegible]
length..... [illegible]
diameter..... [illegible]
Stationary phase..... [illegible]
Mobile phase..... [illegible]
Temperature..... [illegible]
Notes..... ILP PS82/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....PG/ML
Sample amount.....1.000
Volume injected.....000 Conversion factor....1.000

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EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	%
	10.034		9920		88
	12.362		345722		98
	13.071		22629		80
	13.751		1006429		89
	14.081		391063		90
	14.481		185453		98
HEPTACHLOR (out RTW)	15.699	3.0390	23834		88
	15.965		11820		84
D-BHC (out RTW)	16.127	16.583	105325		92
	16.444		15737		83
	17.314		35388		86
	17.711		31049		82
	18.409		12980		82
	19.522		32987		79
G-CHLORDANE ✓	19.737	1.9679	13729		95
	20.926		14315		98
DIELDRIN (not conf)	21.634	3.4667	20217		87
	22.107		15786		87
	22.585		10082		91
ENDRIN (out RTW)	22.117	8.1698	37152		89
	23.233		28131		95
ENDOSULFAN II (not conf)	23.696	1.1039	12524		85
DDT ✓	24.490	14.224	42817		94
	24.756		56548		93
	25.071		68197		85
ENDO.SULFATE (out RTW)	25.448	15.106	131791		88
DDE	26.312	1.043402	979961		95
	26.585		13417		98

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH44

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: EDH44

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613006

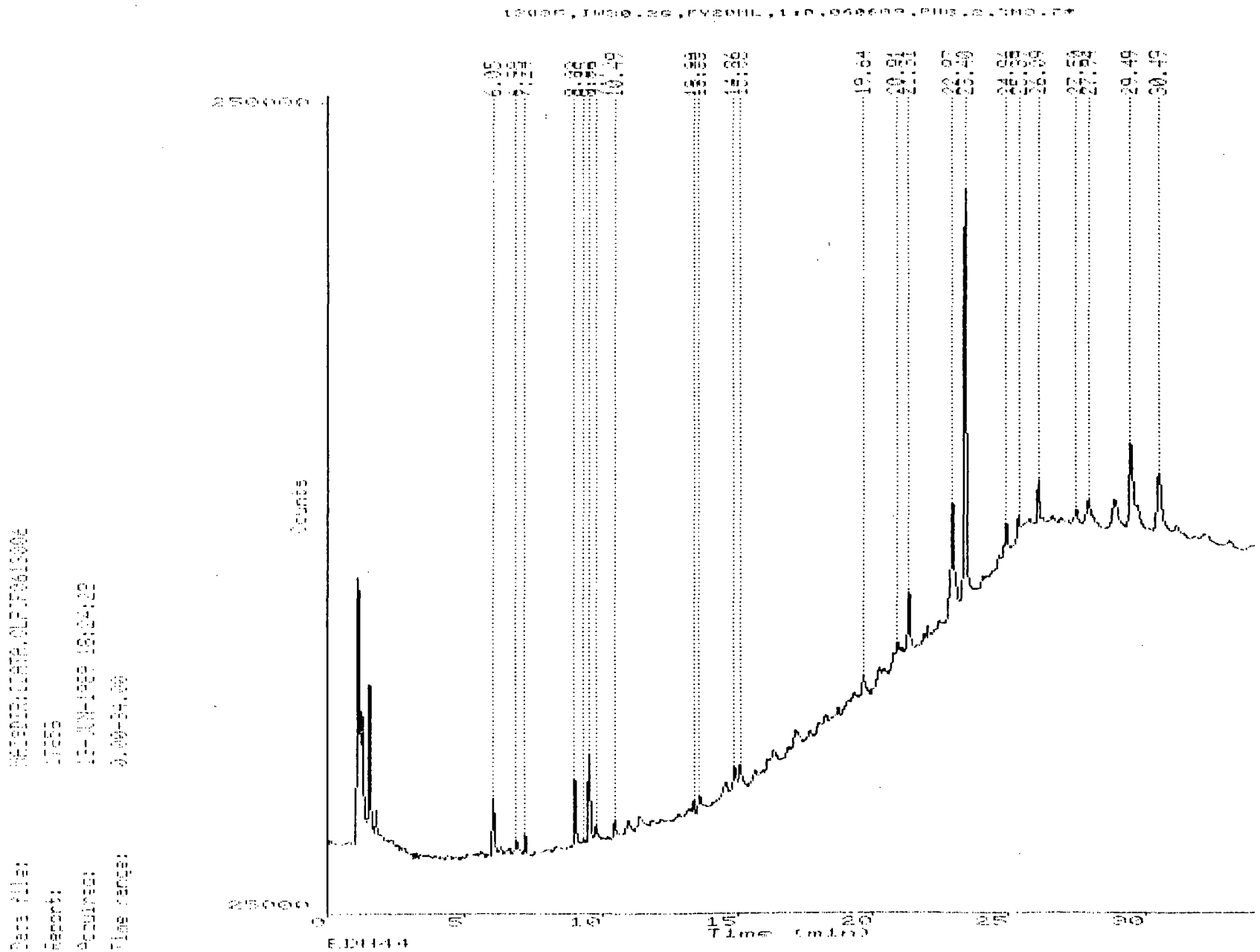
Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 4 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.30	U
319-85-7	beta-BHC	8.30	U
319-86-8	delta-BHC	8.30	U
58-89-9	gamma-BHC (Lindane)	8.30	U
76-44-8	Heptachlor	8.30	U
309-00-2	Aldrin	8.30	U
1024-57-3	Heptachlor epoxide	8.30	U
959-98-8	Endosulfan I	8.30	U
60-57-1	Dieldrin	17.00	U
72-55-9	4,4'-DDE	17.00	U
72-20-8	Endrin	17.00	U
33213-65-9	Endosulfan II	17.00	U
72-54-8	4,4'-DDD	17.00	U
1031-07-8	Endosulfan sulfate	17.00	U
50-29-3	4,4'-DDT	17.00	U
72-43-5	Methoxychlor	83.00	U
53494-70-5	Endrin ketone	17.00	U
5103-71-9	Chlordane	83.00	U
7421-93-4	Endrin Aldehyde	83.00	U
8001-35-2	Toxaphene	170.00	U
12674-11-2	Aroclor-1016	83.00	U
11104-28-2	Aroclor-1221	83.00	U
11141-16-5	Aroclor-1232	83.00	U
53469-21-9	Aroclor-1242	83.00	U
12672-29-6	Aroclor-1248	83.00	U
11097-69-1	Aroclor-1254	170.00	U
11096-82-5	Aroclor-1260	170.00	U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Instrument........... II [illegible]
Column type.......... DB-1701
       length........ X
       diameter...... X
Stationary phase.... X
Mobile phase......... X
Detector............. X
Notes................ CLP PEST/PCB ANALYSIS.1 UL INJ.


Analysis type........EXTERNAL STANDARD   A/D range...........1 volt(s)
Report units.........NG/ML
Sample amount........1.000
Volume injected......1.000                Conversion factor...1.000


==================================================================
          EXTERNAL STANDARD ANALYSIS
==================================================================
Calibration sample name: IND
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```

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	6.050		52461		BB
	6.884		12777		BB
	7.215		21524		BB
	9.033		59973		BB
	9.354		5786		BB
	9.537		134637		BB
	9.793		29734		BB
	10.492		22627		BB
	10.802		16817		BB
ALDRIN (not conf)	13.554	2.0342	37579		BB
	14.861		39676		BV
	15.079		56958		VB
	19.648		39021		BB
DDT (out RTW)	20.915	1.7134	14196		BB
	21.314		96877		BB
ENDO.SULFATE (outlier)	22.975	29.336	263575		BB
DBC	23.402	31.850	648538		BB
	24.962		64053		BB
	25.393		28196		BB
	26.091		62361		BB
	27.502		17113		BB
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	29.490		176874		BB
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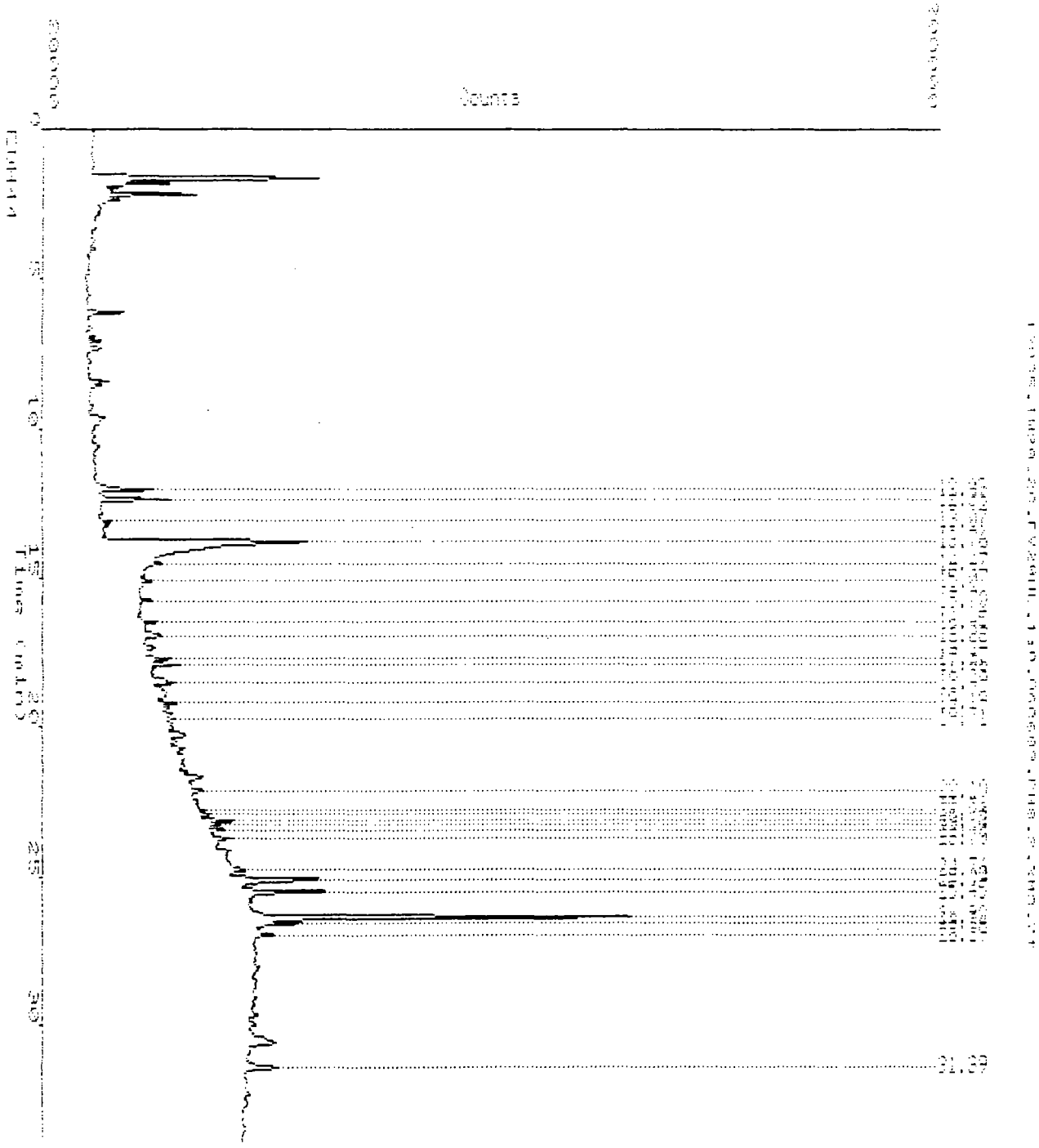
Report: [illegible]

Acquired: [illegible]

Time range: 0.00-34.00



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ANAL. RUN TIME.....[illegible] MIN
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Method..... [illegible]
Instrument..... [illegible]
Column type..... [illegible]
length..... [illegible]
diameter..... [illegible]
Stationary phase.... [illegible]
Mobile phase..... [illegible]
Detector..... [illegible]
Notes..... [illegible] ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volts
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor....1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	B)
	12.080		17867		[illegible]
	12.357		61072		[illegible]
	13.068		8575		[illegible]
	13.758		340839		[illegible]
	14.474		7116		[illegible]
	15.066		7303		[illegible]
HEPTACHLOR (out RTE)	15.703	1.4156	11104		[illegible]
	16.445		10480		[illegible]
ALDRIN (out RTE)	16.876	5.4770	34039		[illegible]
	17.672		26252		[illegible]
	17.882		29951		[illegible]
	18.494		39799		[illegible]
HEPT.EPOXIDE (out RTE)	19.192	2.3032	16070		[illegible]
A-CHLORDANE (out RTE)	19.714	1.0026	6995		[illegible]
	22.104		14786		[illegible]
	22.755		4183		[illegible]
	22.889		3135		[illegible]
ENDRIN (out RTE)	23.102	8.0759	36725		[illegible]
	23.245		14273		[illegible]
DDD (not conf)	23.396	4.6367	17268		[illegible]
ENDOSULFAN II (not conf)	23.700	2.4965	15989		[illegible]
	24.759		23374		[illegible]
ENDRIN ALDEHYDE (out RTE)	25.040	31.789	154976		[illegible]
ENDO.SULFATE (out RTE)	25.450	14.172	95348		[illegible]
DDE	26.313	35.813	471707		[illegible]
	26.536		41750		[illegible]
	26.895		16895		[illegible]
	31.388		47089		[illegible]

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH45

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: EDH45

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613022

Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 12 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/14/89

GPC Cleanup: (Y/N) N pH: 9.1 Dilution Factor: 1.000

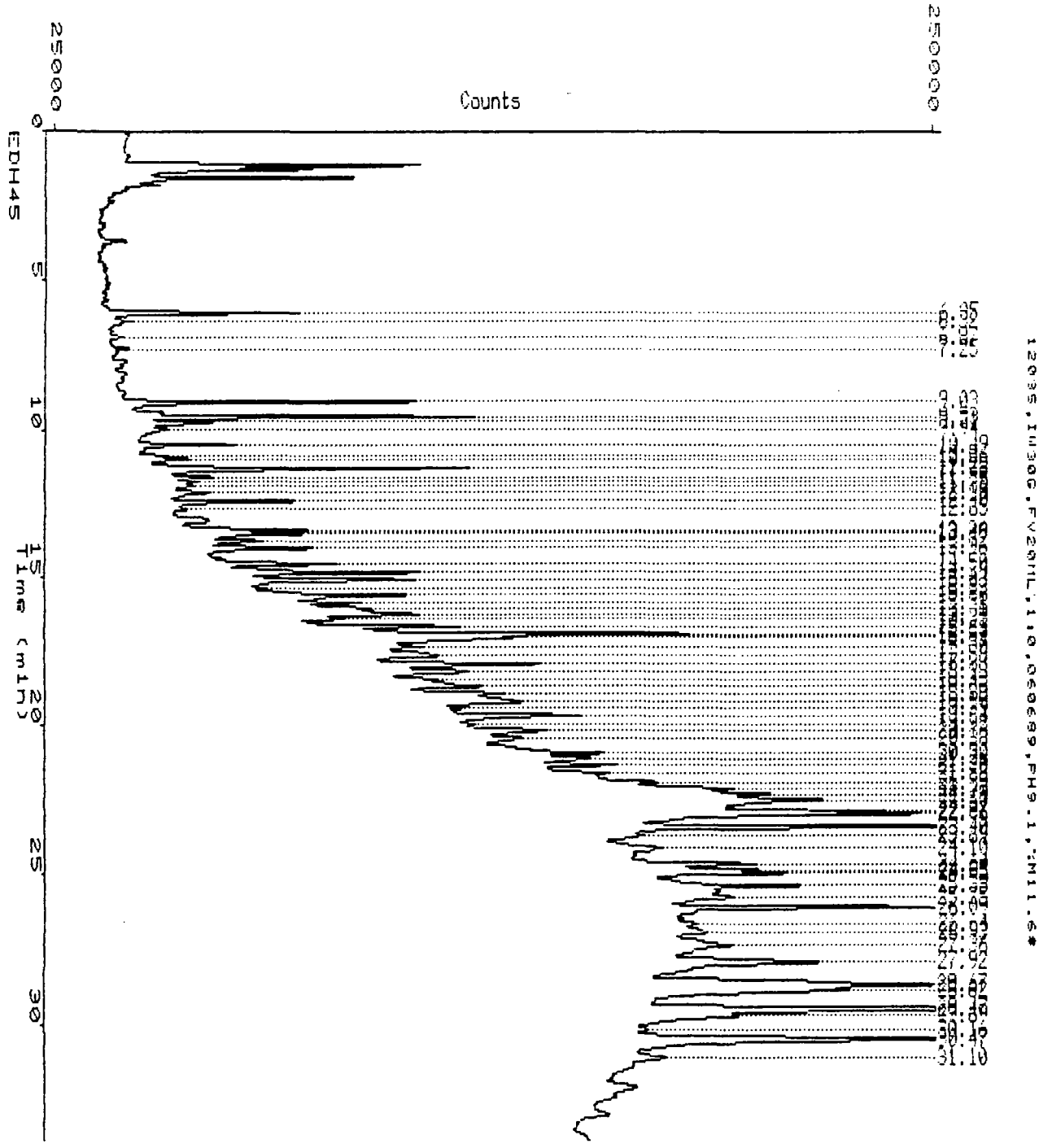
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.10	U
319-85-7	beta-BHC	9.10	U
319-86-8	delta-BHC	9.10	U
58-89-9	gamma-BHC (Lindane)	9.10	U
76-44-8	Heptachlor	9.10	U
309-00-2	Aldrin	9.10	U
1024-57-3	Heptachlor epoxide	9.10	U
959-98-8	Endosulfan I	9.10	U
60-57-1	Dieldrin	18.00	U
72-55-9	4,4'-DDE	18.00	U
72-20-8	Endrin	18.00	U
33213-65-9	Endosulfan II	18.00	U
72-54-8	4,4'-DDD	18.00	U
1031-07-8	Endosulfan sulfate	18.00	U
50-29-3	4,4'-DDT	18.00	U
72-43-5	Methoxychlor	91.00	U
53494-70-5	Endrin ketone	18.00	U
5103-71-9	Chlordane	91.00	U
7421-93-4	Endrin Aldehyde	91.00	U
8001-35-2	Toxaphene	180.00	U
12674-11-2	Aroclor-1016	91.00	U
11104-28-2	Aroclor-1221	91.00	U
11141-16-5	Aroclor-1232	91.00	U
53469-21-9	Aroclor-1242	91.00	U
12672-29-6	Aroclor-1248	91.00	U
11097-69-1	Aroclor-1254	180.00	U
11096-82-5	Aroclor-1260	180.00	U

Data file: NAI$DIR:[DATA.CLP]F0613022

Report: 18527

Acquired: 14-JUN-1989 04:54:02

Time range: 0.00-34.00



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[illegible] TOTT.....[illegible]
[illegible] SAMPLE NO.....[illegible]
[illegible].....[illegible]

[illegible].....[illegible]
Instrument.....[illegible]
Column [illegible].....[illegible]
Inner.....[illegible]
Diameter.....[illegible]
Stationary phase.....[illegible]
Mobile phase.....[illegible]
Detector.....[illegible]
Notes.....[illegible]

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IN0

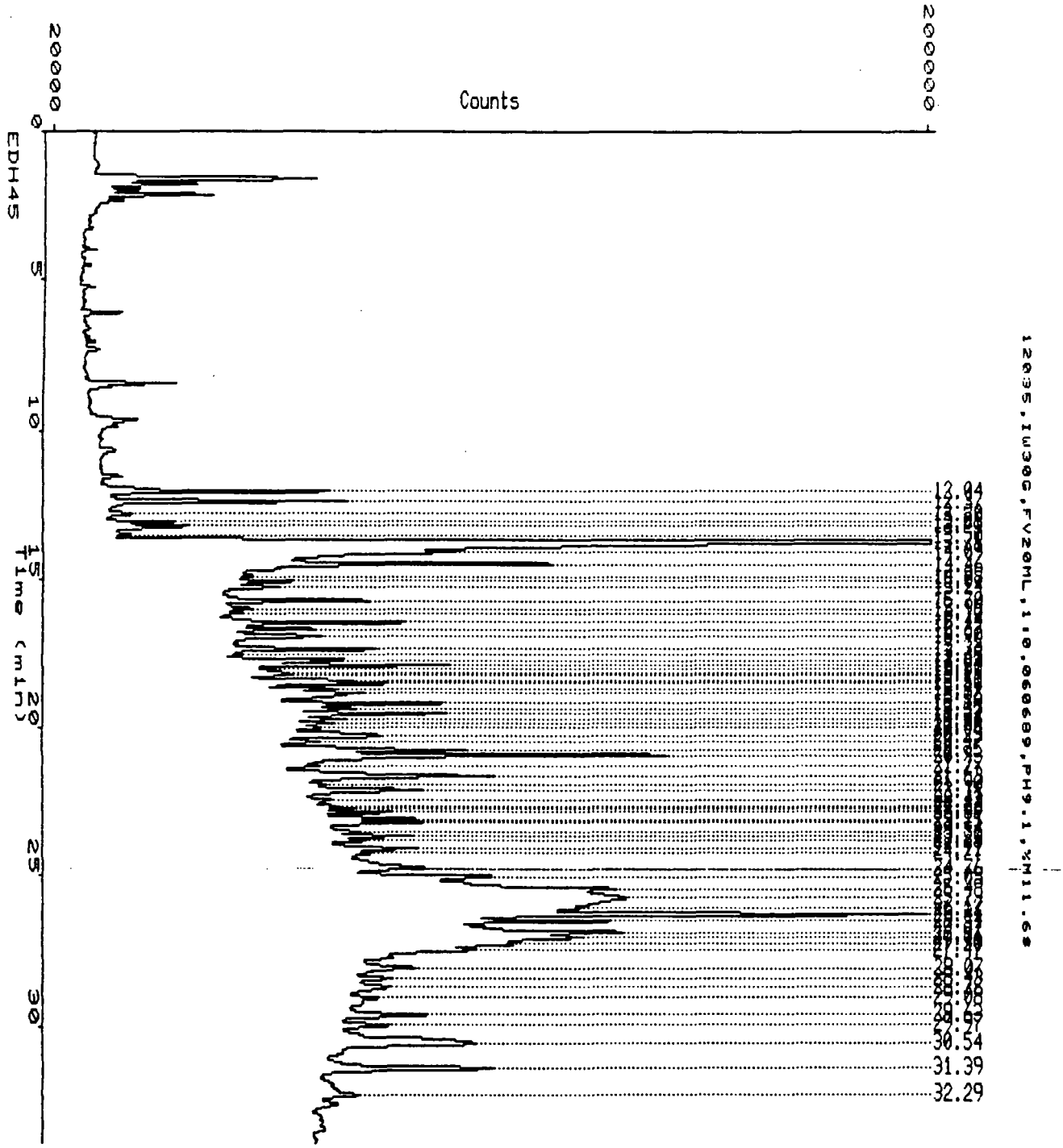
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Sl
	6.047		152311		BB
	6.318		14532		BB
	6.668		12695		BB
	7.247		12168		BB
	8.023		278068		BB
	9.529		856482		BB
	9.714		109090		BV
	9.940		46761		VB
A-BHC (out RTX)	10.465	10.278	117914		BB
	10.856		31499		BV
	10.965		77433		VV
	11.279		573126		VE
	11.583		96378		EV
	11.748		81753		BV
G-BHC (not conf)	11.865	6.0758	76487		VV
	12.101		121470		VV
	12.397		185914		VE
HEPTACHLOR (not conf)	12.654	1.2083	21441		EB
	12.861		197723		BV
	13.489		220796		VV
Alpha (out RTX)	13.721		126147		VV
	13.962		197733		VB
B-BHC (out RTX)	14.497		162432		BB
	14.786		296379		BV
	15.028		248445		VB
D-BHC (out RTX)	15.328		10077		BB
	15.556		159044		BB
	15.809		76238		BV

OC-28-89 KL

ASPI LEACTE (not conf)	16.367	8.5121	119.62	[illegible]
	16.174		[illegible]	[illegible]
	16.271		55640	[illegible]
	16.109		[illegible]	[illegible]
	16.371		111217	[illegible]
[illegible] (not conf)	16.166	24.610	176.81	[illegible]
[illegible] (not conf)	17.297	14.417	145140	[illegible]
[illegible] (not conf)	17.648	11.411	211319	[illegible]
	17.311		88[illegible]	[illegible]
[illegible] (not conf)	18.116	18.318	157302	[illegible]
	18.620		64818	[illegible]
	19.430		188613	[illegible]
INDRIN (not conf)	19.334	14.287	114277	[illegible]
	19.161		35.337	[illegible]
	19.272		14336	[illegible]
	19.431		105737	[illegible]
	19.921		11572	[illegible]
	20.151		160396	[illegible]
DSO (not conf)	20.379	13.912	97696	[illegible]
DSI (not conf)	20.965	25.716	196402	[illegible]
	21.064		131028	[illegible]
	21.331		87007	[illegible]
	21.599		37883	[illegible]
INDRIN ALDEHYD (not conf)	21.895	13.110	87315	[illegible]
	22.135		931510	[illegible]
	22.290		868735	[illegible]
	22.498		662820	[illegible]
	22.875		503253	[illegible]
ENDO.SULFATE (not conf)	22.963	21.797	736016	[illegible]
DSO	23.401	99.728	782269	[illegible]
	23.695		95509	[illegible]
Endrin Ketone (not RTN)	24.101		30581	[illegible]
	24.643		214740	[illegible]
	24.847		198186	[illegible]
	24.953		219720	[illegible]
	25.576		129517	[illegible]
	25.749		69613	[illegible]
	26.088		354587	[illegible]
	26.643		32763	[illegible]
	26.926		90734	[illegible]
	27.257		145807	[illegible]
	27.921		528597	[illegible]
	28.671		952133	[illegible]
	28.817		506394	[illegible]
	29.467		1142081	[illegible]
	29.666		171356	[illegible]
	30.158		12777	[illegible]
	30.468		962022	[illegible]
	31.102		91667	[illegible]

06-22-89 KL

Data file: NHI$DIR:[DATA.CLP]E0613021
Report: 18529
Acquired: 14-JUN-1989 04:14:26
Time range: 0.00-34.00



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ANAL. DATE.....14-JUN-1989 04:14:26
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....EDH45
NOTES.....12035.IW30G.FV20ML.1:0.060689.PH9.1.%M11.6$

Author..... FT
Instrument..... 1I HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.041		112346		BB
	12.368		237698		BB
A-BHC (out RTW)	12.798	6.1171	32439		BB
	13.078		63297		BV
	13.207		110843		VE
	13.499		19489		EB
	13.714		3113595		BE
	14.086		330505		EV
G-BHC (out RTW)	14.461		353920		VB
	14.880		9039		BV
	15.074		67038		VV
	15.245		59108		VB
HEPTACHLOR (out RTW)	15.702	18.350	143910		BB
	15.985		23594		BV
D-BHC (out RTW)	16.121	4.0565	22991		VB
	16.443		225124		BV
	16.668		95276		VV
ALDRIN (out RTW)	16.901	22.502	139845		VB
	17.327		164451		BE
	17.495		11205		EB
	17.692		170484		BV
	17.864		236755		VE
	18.023		23994		EV
	18.128		43002		EV
	18.192		40403		VB
	18.409		110904		BV
	18.500		127479		VB
	18.667		44622		BV

	18.821		34766	VB
HEPT.EPOXIDE	19.190	28.700	200245	BV
	19.354		102357	VV
	19.521		219818	VV
G-CHLORDANE	19.714	9.7113	67756	VV
	19.844		58892	VV
	20.004		63470	VV
	20.248		215808	VV
ENDOSULFAN I	20.465	5.9550	43001	VB
	20.755		270973	BV
	20.926		456510	VB
DDE	21.266	3.4237	18884	BB
DIELDRIN	21.626	66.717	400620	BE
	21.904		29556	EV
	22.111		198689	VB
	22.428		13114	BB
	22.658		17575	BV
	22.758		31792	VV
	22.888		64965	VV
ENDRIN	23.114	27.191	123652	VV
DDD	23.247		116838	VB
	23.564		29799	BV
ENDOSULFAN II	23.698	12.978	82860	VV
	23.847		36953	VB
	24.108		105666	BV
	24.271		27295	VB
DDT	24.764		166510	BV
ENDRIN ALDEHYD	25.046	55.266	269429	VV
ENDO.SULFATE	25.484	1.11E+02	747868	VV
	25.786		1513685	VV
	26.118		318356	VV
DBC	26.313	1.68E+02	924378	VV
	26.541		386525	VV
	26.908		620086	VV
	27.062		531698	VV
	27.297		211935	VV
	27.474		146514	VB
METHOXYCHLOR	28.074	29.023	66744	BB
	28.434		52996	BV
ENDRIN KETONE	28.723	11.935	82846	VB
	29.085		24720	BB
	29.633		121535	BB
	29.973		74315	BV
	30.543		446028	VB
06-28-89 KL	31.394		325393	BB
	32.288		40542	BB

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH46

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: EDH46

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613009

Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 7 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.000

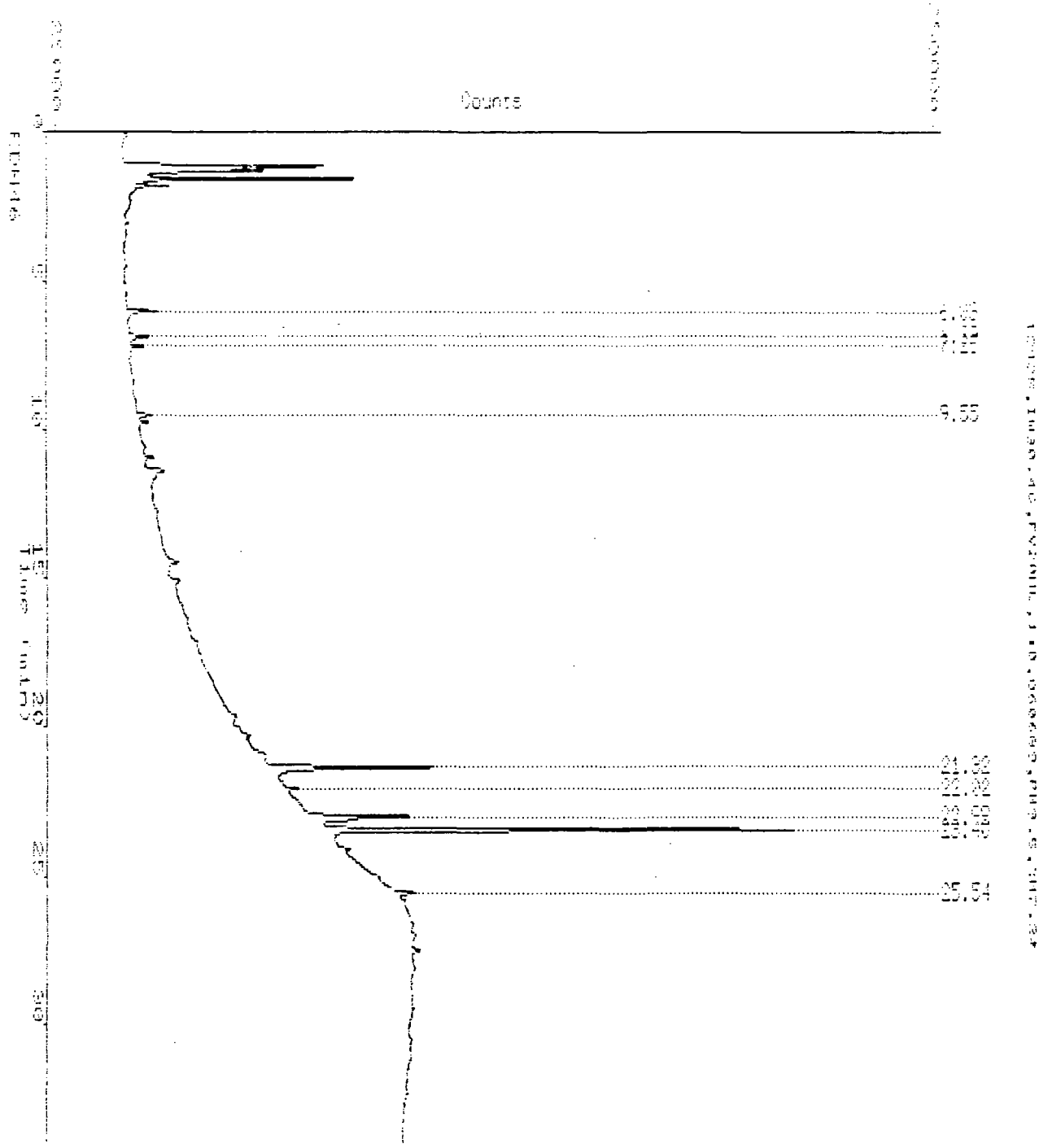
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.60	U
319-85-7	beta-BHC	8.60	U
319-86-8	delta-BHC	8.60	U
58-89-9	gamma-BHC (Lindane)	8.60	U
76-44-8	Heptachlor	8.60	U
309-00-2	Aldrin	8.60	U
1024-57-3	Heptachlor epoxide	8.60	U
959-98-8	Endosulfan I	8.60	U
60-57-1	Dieldrin	17.00	U
72-55-9	4,4'-DDE	17.00	U
72-20-8	Endrin	17.00	U
33213-65-9	Endosulfan II	17.00	U
72-54-8	4,4'-DDD	17.00	U
1031-07-8	Endosulfan sulfate	17.00	U
50-29-3	4,4'-DDT	17.00	U
72-43-5	Methoxychlor	86.00	U
53494-70-5	Endrin ketone	17.00	U
5103-71-9	Chlordane	86.00	U
7421-93-4	Endrin Aldehyde	86.00	U
8001-35-2	Toxaphene	170.00	U
12674-11-2	Aroclor-1016	86.00	U
11104-28-2	Aroclor-1221	86.00	U
11141-16-5	Aroclor-1232	86.00	U
53469-21-9	Aroclor-1242	86.00	U
12672-29-6	Aroclor-1248	86.00	U
11097-69-1	Aroclor-1254	170.00	U
11096-82-5	Aroclor-1260	170.00	U

Data file: [illegible]

Report: [illegible]

Acquired: [illegible]

Time range: [illegible]



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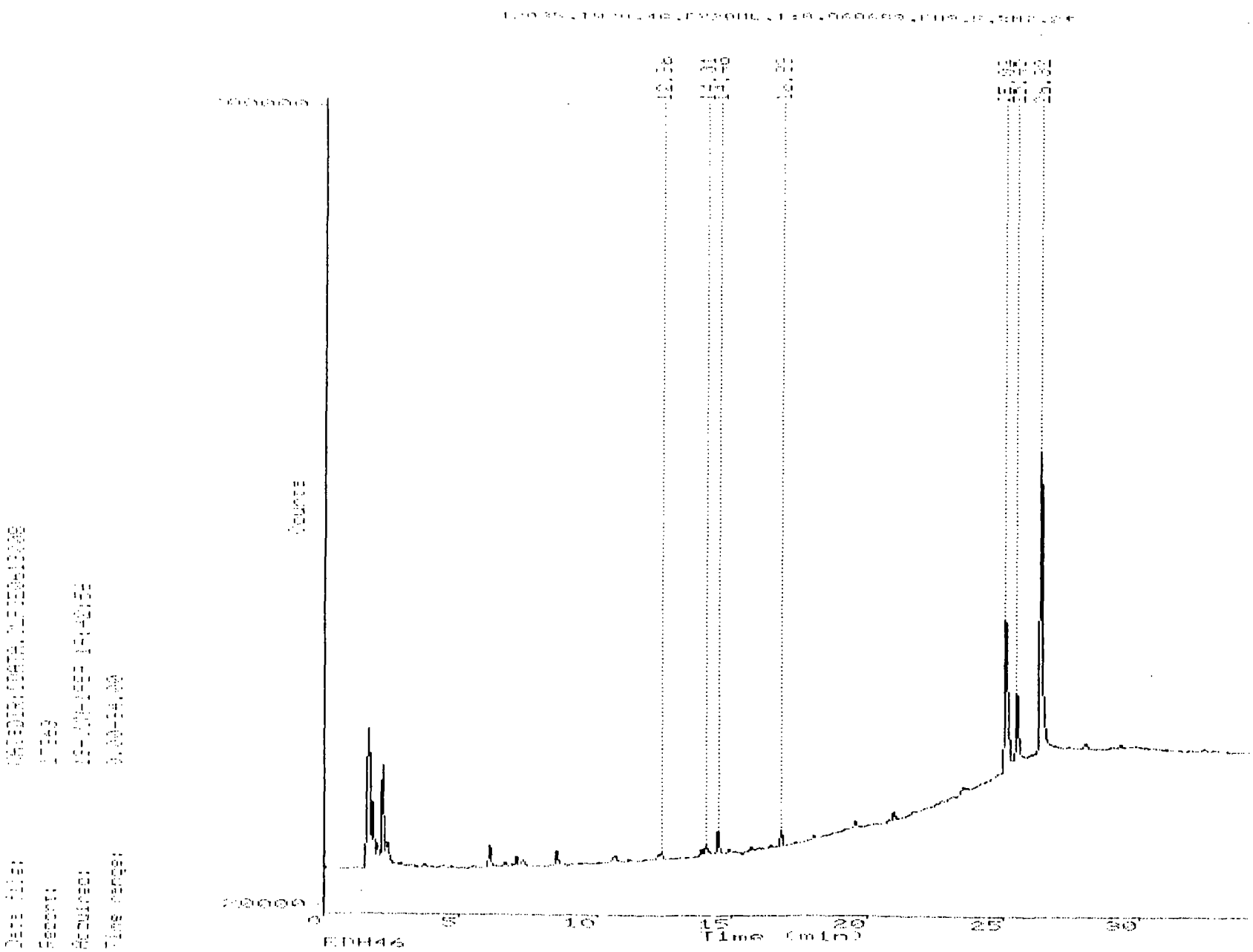
DATA FILE.....[illegible]
ANAL. DATE.....[illegible]
ANAL. RET TIME.....[illegible]
SYS ROUTIE NAME.....[illegible]
NOTES.....[illegible]

Author..... [illegible]
Instrument..... [illegible]
Column type..... [illegible]
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IN3

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Sl
	6.034		15737		BB
	6.892		34439		BB
	7.246		13427		BB
	9.549		17300		BB
	21.316		275115		BB
	22.023		15050		BB
ENDO.SULFATE (water)	22.977	0.0849	84446		BB
DSC	23.404	83.126	658637		BB
	25.541		28404		BB


Data File
Report
Acquired
Time range
Counts
EDH46
Time (min)
0
5
10
15
20
25
30

[illegible] DATE.....[illegible]
[illegible] FILE.....[illegible]
ANAL. DATE.....[illegible]
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SAMPLE NAME.....[illegible]
FILES.....[illegible]

Method..... ET
Instrument..... [illegible]
Column type..... [illegible]
length..... [illegible]
diameter..... [illegible]
Temperature program..... [illegible]
Mobile phase..... [illegible]
Injector..... [illegible]
Comments..... OLD PEST/PCB ANALYSIS [illegible]

Analysis type.....EXTERNAL STANDARD A/D range.....[illegible] volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.355		4659		BB
	14.010		11374		BB
	14.465		25902		BB
	16.882		13627		BB
ENDRIN ALDEHYDE	25.034	53.918	262858		BV
ENDO.SULFATE	25.448	14.603	99142		VB
DBC	26.321	84.198	462527		BB

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH47

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: EDH47

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613010

Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 5 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 9.5 Dilution Factor: 1.000

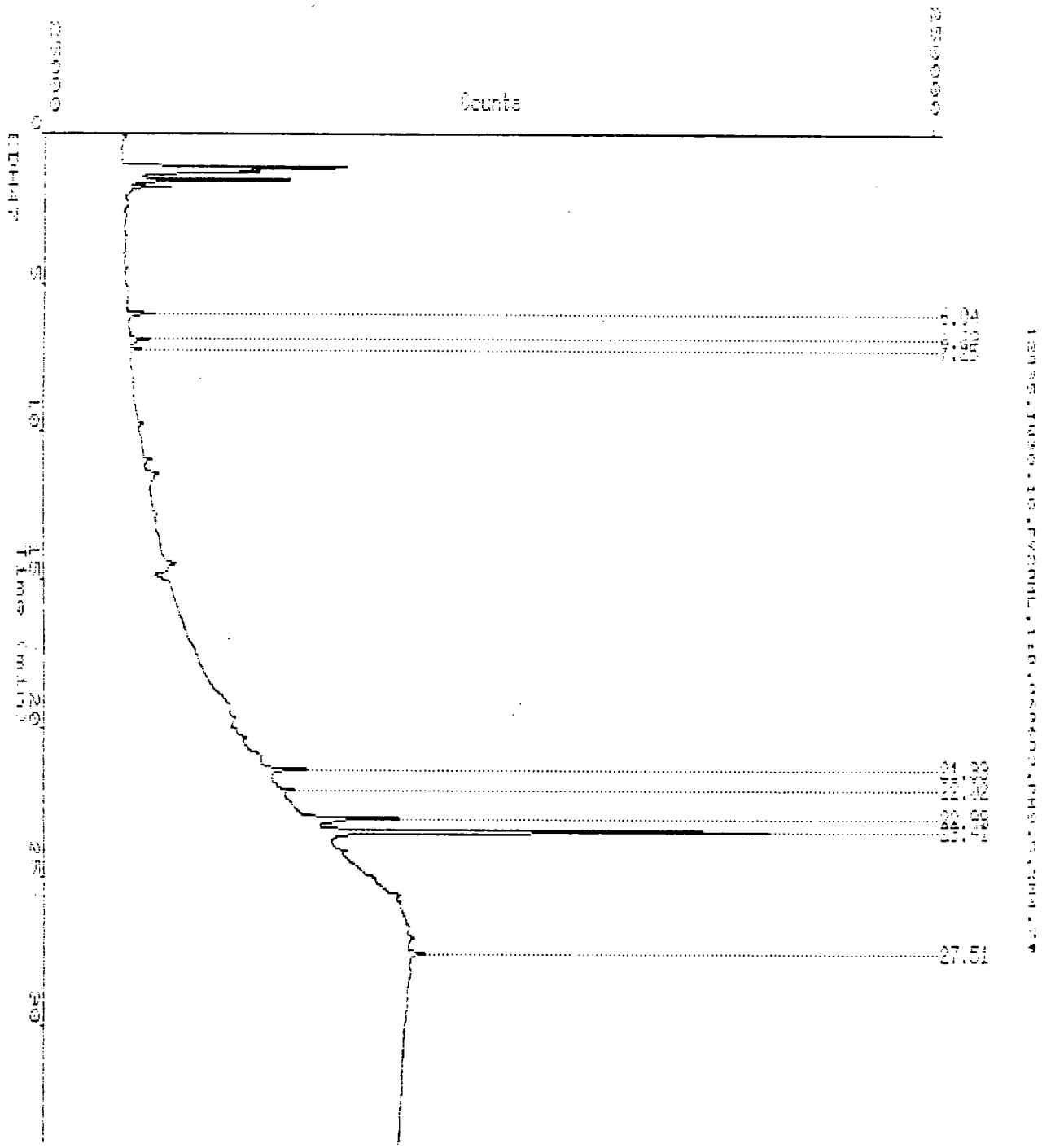
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.40	U
319-85-7	beta-BHC	8.40	U
319-86-8	delta-BHC	8.40	U
58-89-9	gamma-BHC (Lindane)	8.40	U
76-44-8	Heptachlor	8.40	U
309-00-2	Aldrin	8.40	U
1024-57-3	Heptachlor epoxide	8.40	U
959-98-8	Endosulfan I	8.40	U
60-57-1	Dieldrin	17.00	U
72-55-9	4,4'-DDE	17.00	U
72-20-8	Endrin	17.00	U
33213-65-9	Endosulfan II	17.00	U
72-54-8	4,4'-DDD	17.00	U
1031-07-8	Endosulfan sulfate	17.00	U
50-29-3	4,4'-DDT	17.00	U
72-43-5	Methoxychlor	84.00	U
53494-70-5	Endrin ketone	17.00	U
5103-71-9	Chlordane	84.00	U
7421-93-4	Endrin Aldehyde	84.00	U
8001-35-2	Toxaphene	170.00	U
12674-11-2	Aroclor-1016	84.00	U
11104-28-2	Aroclor-1221	84.00	U
11141-16-5	Aroclor-1232	84.00	U
53469-21-9	Aroclor-1242	84.00	U
12672-29-6	Aroclor-1248	84.00	U
11097-69-1	Aroclor-1254	170.00	U
11096-82-5	Aroclor-1260	170.00	U

Data file: [illegible]

Record: 17866

Acquired: 15-JUN-1995 21:01:54

Time range: 0.00-34.00



SCANNED. DATE.....28-JUN-1989 20:55:41.21
DATA FILE.....RAIDER:[DATA.CLP]E0510010.RAW;1
ANAL. DATE.....13-JUN-1989 21:01:54
A ... RUN TIME.....30.998 MIN
EPA SAMPLE NAME.....E0447
FILE.....[DIR.DVD].SYSANL.1:0.063689.PH9.S.SMA.T1

Author..... ZZ
Instrument..... II HP5890
Column type..... SB-1701
length..... X
diameter..... X
Stationary phase.... X
mobile phase..... X
Detector..... X
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor....1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

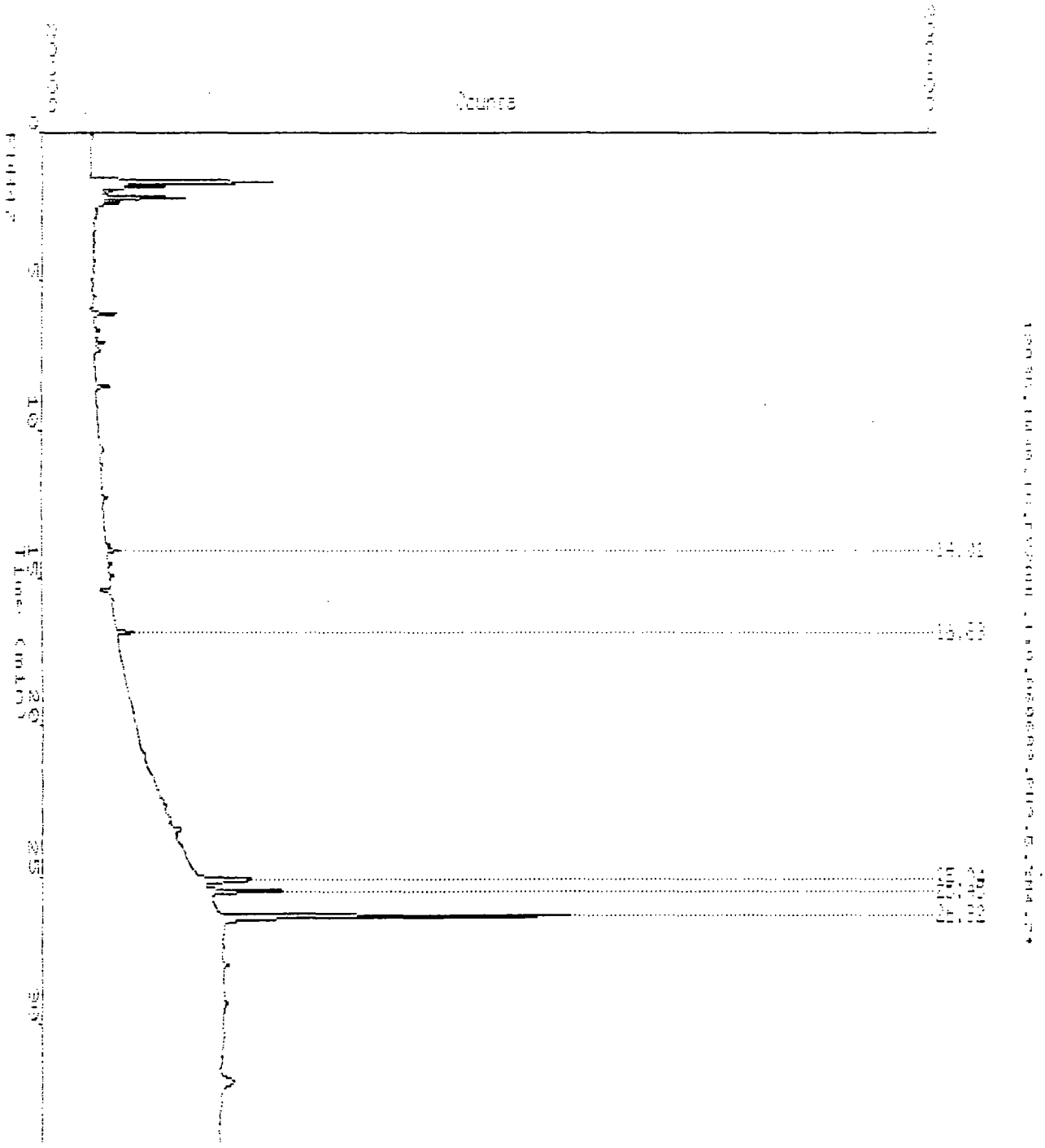
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std		BI
	6.086		16112			BB
	6.894		32583			BV
	7.249		13946			VB
	21.328		62439			BB
	22.025		18512			BB
ENDO.SULPHATE (not conf)	22.960	20.100	100936			BV
DDC	23.406	87.302	691727			VB
	27.511		24904			BB

Data file: [illegible]

Report: 17863

Acquired: [illegible]

Time range: [illegible]



START DATE.....[illegible]-JUN-1989 [illegible]
DATA FILE.....[illegible]
ANAL. DATE.....13-JUN-1989 [illegible]
ANAL. RUN TIME.....[illegible] MIN
SPH SAMPLE NAME.....[illegible]
[illegible]

Author..... [illegible]
Instrument..... [illegible]
Column type..... [illegible]
length..... [illegible]
diameter..... [illegible]
Stationary phase..... [illegible]
Liquid phase..... [illegible]
Detector..... [illegible]
Notes..... [illegible] PEST/PCB ANAL/[illegible] UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volts
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std		Bl
	14.013		10114			BB
	16.834		19739			BB
ENDRIN ALDEHYDE (out)	25.043	3.2588	15827			BB
ENDO.SULFATE (out)	25.452	13.637	91651			BB
DBC	36.323	35.105	467812			BB

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH48

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: SC Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: EDH48

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613011

Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 6 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 9.4 Dilution Factor: 1.000

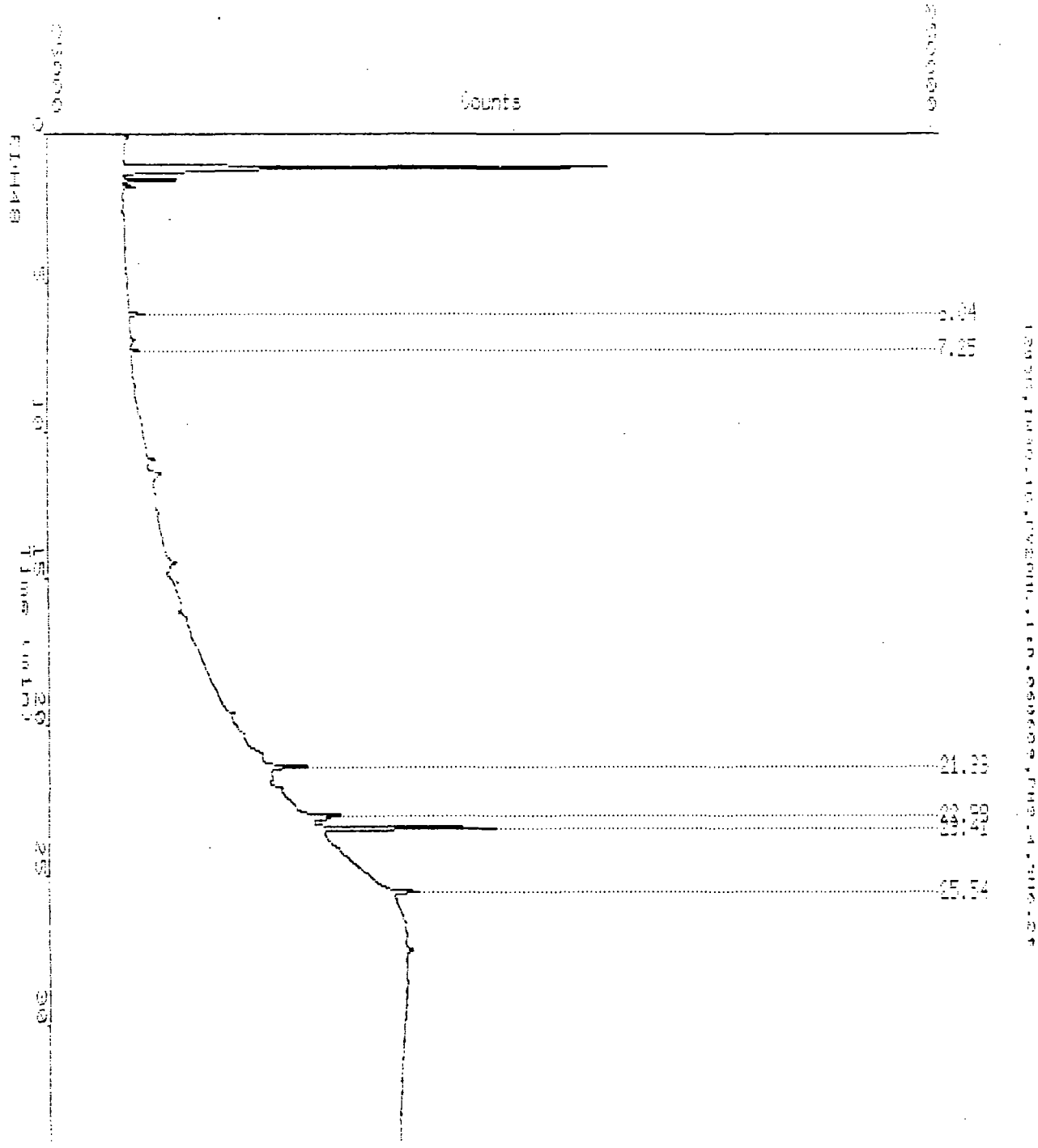
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.50	U
319-85-7	beta-BHC	8.50	U
319-86-8	delta-BHC	8.50	U
58-89-9	gamma-BHC (Lindane)	8.50	U
76-44-8	Heptachlor	8.50	U
309-00-2	Aldrin	8.50	U
1024-57-3	Heptachlor epoxide	8.50	U
959-98-8	Endosulfan I	8.50	U
60-57-1	Dieldrin	17.00	U
72-55-9	4,4'-DDE	17.00	U
72-20-8	Endrin	17.00	U
33213-65-9	Endosulfan II	17.00	U
72-54-8	4,4'-DDD	17.00	U
1031-07-8	Endosulfan sulfate	17.00	U
50-29-3	4,4'-DDT	17.00	U
72-43-5	Methoxychlor	85.00	U
53494-70-5	Endrin ketone	17.00	U
5103-71-9	Chlordane	85.00	U
7421-93-4	Endrin Aldehyde	85.00	U
8001-35-2	Toxaphene	170.00	U
12674-11-2	Aroclor-1016	85.00	U
11104-28-2	Aroclor-1221	85.00	U
11141-16-5	Aroclor-1232	85.00	U
53469-21-9	Aroclor-1242	85.00	U
12672-29-6	Aroclor-1248	85.00	U
11097-69-1	Aroclor-1254	170.00	U
11096-82-5	Aroclor-1260	170.00	U

Data file: [illegible]

Report: [illegible]

Acquired: [illegible]

Time range: [illegible]



QUANT. DATE.....26-JUN-1989 20:10:42.75
DATA FILE.....PAD90IR:[DATA].CLP3906190011.RAW;1
ANAL. DATE.....13-JUN-1989 21:41:19
ANAL. RUN TIME.....38.995 MIN
SAMPLE NAME.....ESH-8
FILE.....12833.IWDO.IG.EVIOML.110.060289.PH9.A.246.28

Author..... II
Instrument..... II AP5250
Column type..... DB-1701
length..... A
diameter..... A
Stationary phase..... A
Mobile phase..... A
Detector..... A
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: INO

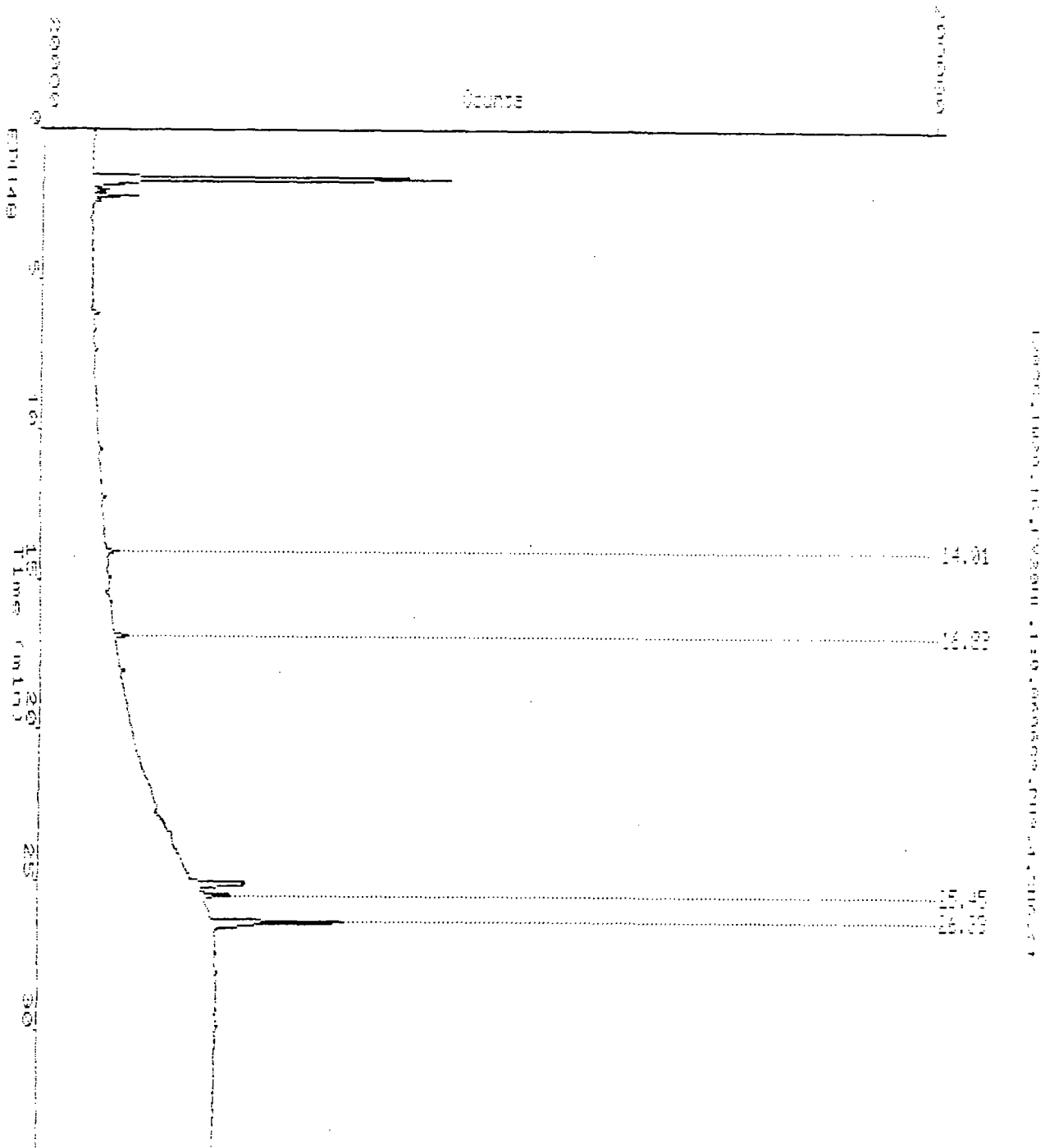
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	SI
	6.038		9276		BB
	7.249		6676		BB
	21.338		66698		BB
SNDO.SULFATE (inactive)	22.932	3.0751	27670		BB
DBC	23.407	30.778	243866		BB
	25.543		40984		BB

Data file: [illegible]

Report: [illegible]

Acquired: [illegible]

Time range: [illegible]



[illegible]

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor....1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Sta	BI
	14.014		14521		BB
	16.338		13799		SB
ENDO.SULFATE (out RT)	25.452	4.5275	32445		BB
DBC	26.325	37.411	305645		SB

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH49

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: EDH49

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613012

Level: (low/med) LOW Date Received: 06/03/89

% Moisture: not dec. 4 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 9.3 Dilution Factor: 1.000

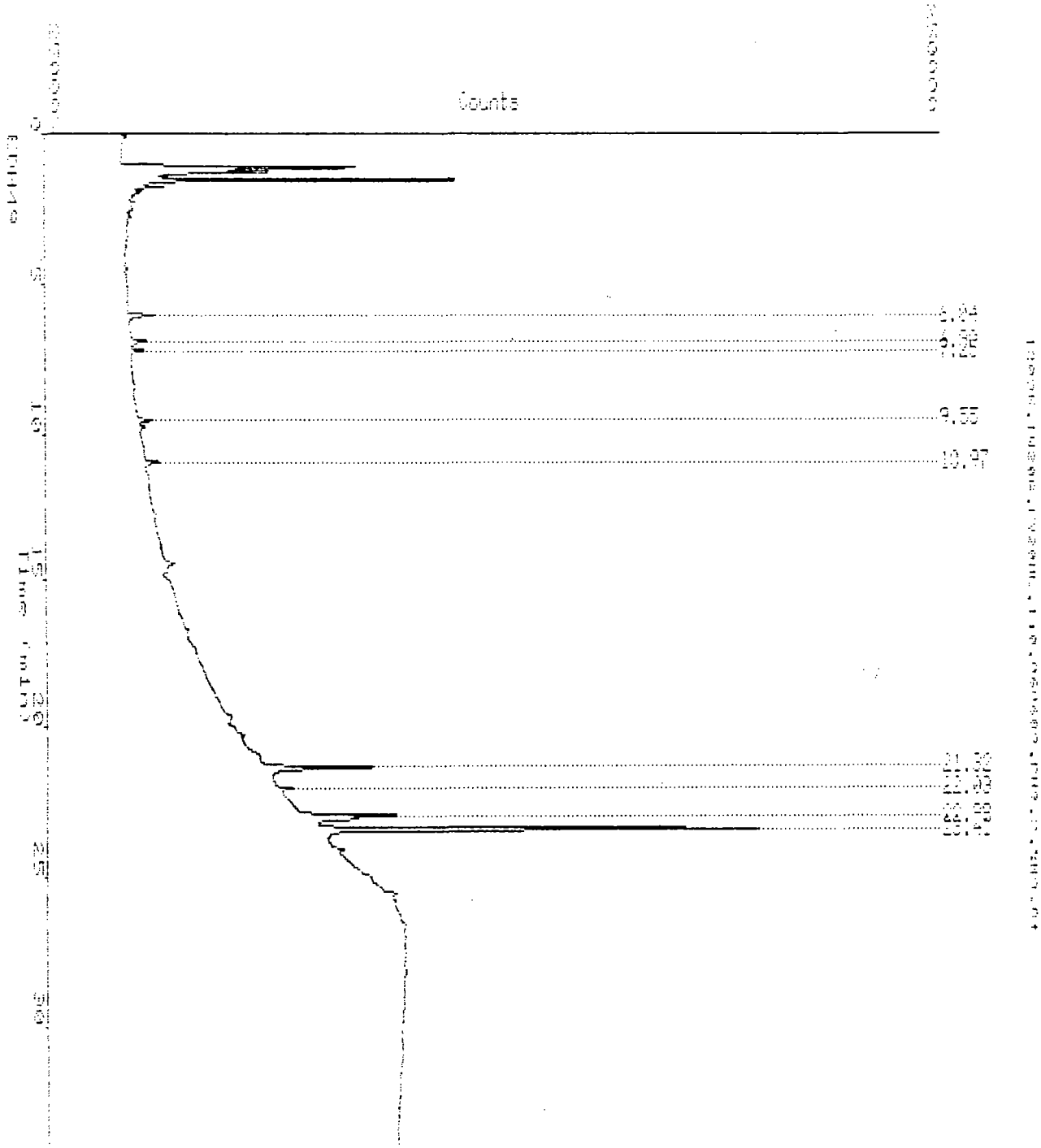
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.30	U
319-85-7	beta-BHC	8.30	U
319-86-8	delta-BHC	8.30	U
58-89-9	gamma-BHC (Lindane)	8.30	U
76-44-8	Heptachlor	8.30	U
309-00-2	Aldrin	8.30	U
1024-57-3	Heptachlor epoxide	8.30	U
959-98-8	Endosulfan I	8.30	U
60-57-1	Dieldrin	17.00	U
72-55-9	4,4'-DDE	17.00	U
72-20-8	Endrin	17.00	U
33213-65-9	Endosulfan II	17.00	U
72-54-8	4,4'-DDD	17.00	U
1031-07-8	Endosulfan sulfate	17.00	U
50-29-3	4,4'-DDT	17.00	U
72-43-5	Methoxychlor	83.00	U
53494-70-5	Endrin ketone	17.00	U
5103-71-9	Chlordane	83.00	U
7421-93-4	Endrin Aldehyde	83.00	U
8001-35-2	Toxaphene	170.00	U
12674-11-2	Aroclor-1016	83.00	U
11104-28-2	Aroclor-1221	83.00	U
11141-16-5	Aroclor-1232	83.00	U
53469-21-9	Aroclor-1242	83.00	U
12672-29-6	Aroclor-1248	83.00	U
11097-69-1	Aroclor-1254	170.00	U
11096-82-5	Aroclor-1260	170.00	U

Data file: [illegible]

Report: [illegible]

Acquired: [illegible]

Time range: [illegible]



QUANT. DATE.....26-JUN-1989 20:13:10.01
DATA FILE.....MAIN:[DATA.CLP]20613011.RAW;1
ANAL. DATE.....13-JUN-1989 22:20:41
ANAL. RUN TIME.....21.195 MIN
LAB SAMPLE NAME.....IND49
METHOD.....11031.1W206.FV20MC.1;1.060689.PM9.3.AM1.1P

Author..... PI
Instrument..... II HP5890
Column type..... DB-17.1
length..... X
diameter..... X
Stationary phase..... X
Mobile phase..... Y
Detector..... X
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

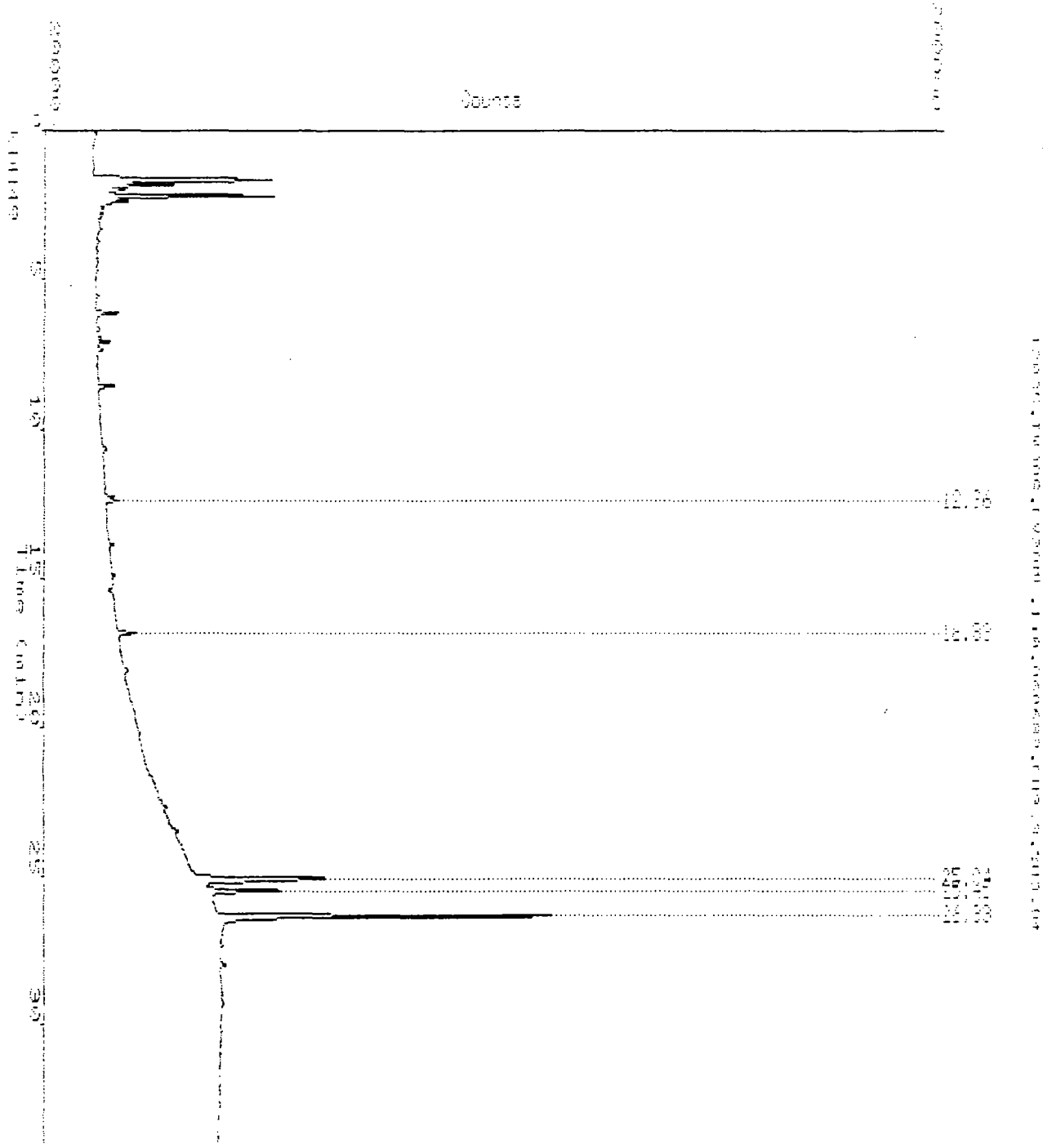
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Pl
	6.040		17000		BB
	6.904		24076		BB
	7.250		13203		BB
	9.555		17899		BB
	10.970		20755		BB
	21.322		179890		BB
	22.025		18365		BB
ENDO.SULFATE (not cal)	22.901	8.0660	72578		BB
DBC	23.408	79.696	631460		BB

Data file: [illegible]

Report: [illegible]

Acquired: [illegible]

Time range: [illegible]



QUANT. DATE.....26-JUN-1989 20:11:51.56
DATA FILE.....[illegible]
ANAL. DATE.....12-JUN-1989 [illegible]
ANAL. RUN TIME.....35.995 MIN
EPA SAMPLE NAME.....[illegible]
[illegible]

Author..... ET
Instrument..... II [illegible]
Column type..... SB-608
Length..... *
Diameter..... *
Stationary phase..... *
Mobile phase..... *
Detector..... *
Notes..... ELF PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std		BI
	12.364		6821			58
	16.835		17275			83
ENDRIN ALDEHYDE (out RT)	25.040	46.675	237295			80
ENDO.SULFATE (out RT)	25.454	13.678	91926			98
DBC	26.327	80.513	442573			85

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Evaluation Test [illegible]

[illegible]	[illegible] Volume	[illegible] Volume	[illegible] Volume	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] 50.0% PEG, plot a [illegible] curve and [illegible] [illegible] for each sample in [illegible] from the curve.

Evaluation Test [illegible] Breakout
(percent [illegible] expressed as total distribution

	DATE ANALYZED	TIME ANALYZED	[illegible]	[illegible]	[illegible]
INITIAL	06/[illegible]/89	1745	5.[illegible]	[illegible]	
10 GAL MIX B	06/[illegible]/89	0414	[illegible]	[illegible]	
20 GAL MIX B	06/[illegible]/89	1249	[illegible]	[illegible]	
30 GAL MIX B	06/[illegible]/89	2000	[illegible]	[illegible]	
40 GAL MIX B	06/[illegible]/89	0721	[illegible]	[illegible]	
50 GAL MIX B	06/[illegible]/89	1522	[illegible]	[illegible]	
60 GAL MIX B	/ /				
70 GAL MIX B	/ /				
80 GAL MIX B	/ /				
90 GAL MIX B	/				
100 GAL MIX B	/				
110 GAL MIX B	/				
120 GAL MIX B	/ /				
130 GAL MIX B	/ /				

[illegible] See Form instructions.

[illegible]

[illegible]

[illegible]

[illegible]

Evaluation Check for [illegible]

PESTICIDE	CALIBRATION FACTOR EAL MIX A	CALIBRATION FACTOR EAL MIX B	CALIBRATION FACTOR EAL MIX C	[illegible] %
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] 1.0% PBD plot a standard curve and determine the [illegible] for each sample in that set from the curve.

Evaluation Check for A,A'-DDT/Endrin Breakdown
(percent breakdown expressed as normal degradation)

	DATE ANALYZED	TIME ANALYZED	[illegible]	[illegible]	[illegible] %
INITIAL	06/13/89	1705	[illegible]	10.4	
01. EAL MIX B	06/13/89	0817	[illegible]	14.9	
02. EAL MIX B	06/13/89	1806	[illegible]	12.9	
03. EAL MIX B	06/13/89	2259	[illegible]	12.8	
04. EAL MIX B	06/14/89	0681	[illegible]	13.8	
05. EAL MIX B	06/14/89	1440	[illegible]	8.7	
06. EAL MIX B	/ /				
07. EAL MIX B	/ /				
08. EAL MIX B	/ /				
09. EAL MIX B	/ /				
10. EAL MIX B	/ /				
11. EAL MIX B	/ /				
12. EAL MIX B	/ /				
13. EAL MIX B	/ /				

(1) See Form Instructions.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

8E

PESTICIDE EVALUATION STANDARDS SUMMARY

Evaluation of Retention Time Shift for Dibutylchlorendate

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID DB-1701

Dates of Analyses: 06/12/89 to 06/12/89

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	% D	*
01	EDH46	EDH46	06/13/89	2022	0.1	
02	EDH47	EDH47	06/13/89	2101	0.0	
03	EDH48	EDH48	06/13/89	2141	0.0	
04	EDH49	EDH49	06/13/89	2220	0.0	
05	ZZZZZ	ZZZZZ	06/13/89	2300	0.0	
06	EVALB	EVALB C3	06/13/89	2339	0.0	
07	ZZZZZ	ZZZZZ	06/14/89	0018	0.0	
08	ZZZZZ	ZZZZZ	06/14/89	0058	0.0	
09	ZZZZZ	ZZZZZ	06/14/89	0137	0.0	
10	ZZZZZ	ZZZZZ	06/14/89	0216	0.1	
11	ZZZZZ	ZZZZZ	06/14/89	0256	0.1	
12	INDA	INDA C3	06/14/89	0335	0.1	
13	ZZZZZ	ZZZZZ	06/14/89	0414	0.1	
14	EDH45	EDH45	06/14/89	0454	0.1	
15	ZZZZZ	ZZZZZ	06/14/89	0533	0.1	
16	ZZZZZ	ZZZZZ	06/14/89	0612	0.1	
17	ZZZZZ	ZZZZZ	06/14/89	0651	0.1	
18	EVALB	EVALB C4	06/14/89	0731	0.1	
19	EDH43	EDH43	06/14/89	0810	0.1	
20	ZZZZZ	ZZZZZ	06/14/89	0849	0.1	
21	ZZZZZ	ZZZZZ	06/14/89	0929	0.1	
22	ZZZZZ	ZZZZZ	06/14/89	1008	0.1	
23	ZZZZZ	ZZZZZ	06/14/89	1047	0.1	
24	INDB	INDB C4	06/14/89	1127	0.1	
25	ZZZZZ	ZZZZZ	06/14/89	1206	0.1	
26	ZZZZZ	ZZZZZ	06/14/89	1245	0.1	
27	ZZZZZ	ZZZZZ	06/14/89	1324	0.1	
28	ZZZZZ	ZZZZZ	06/14/89	1404	0.1	
29	ZZZZZ	ZZZZZ	06/14/89	1443	0.1	
30	EVALB	EVALB C5	06/14/89	1523	0.1	
31	ZZZZZ	ZZZZZ	06/14/89	1709		*
32	ZZZZZ	ZZZZZ	06/14/89	1748	0.1	
33	ZZZZZ	ZZZZZ	06/14/89	1828	0.1	
34	ZZZZZ	ZZZZZ	06/14/89	1907	0.1	
35	ZZZZZ	ZZZZZ	06/14/89	1946	0.1	
36	INDA	INDA C5	06/14/89	2026	0.1	
37			/ /			
38			/ /			

* Values outside of QC limits (2.0% for packed columns, 0.3% for capillary columns)

BE

PESTICIDE EVALUATION STANDARDS SUMMARY

Evaluation of Retention Time Shift for Dibutylchlorendate

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-608

Dates of Analyses: 06/12/89 to

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	% D	*
01	EVALA	EVALA	06/12/89	1626	0.0	
02	EVALB	EVALB INT	06/12/89	1705	0.0	
03	EVALC	EVALC	06/12/89	1744	0.0	
04	INDA	INDA INT	06/12/89	1824	0.0	
05	INDB	INDB INT	06/12/89	1903	0.0	
06	TOXAPH	TOXAPH	06/12/89	1942	0.0	
07	AR1660	AR1660	06/12/89	2022	0.0	
08	AR1221	AR1221	06/12/89	2101	0.0	
09	AR1232	AR1232	06/12/89	2141	0.0	
10	AR1242	AR1242	06/12/89	2220	0.0	
11	AR1248	AR1248	06/12/89	2259	0.0	
12	AR1254	AR1254	06/12/89	2339	0.0	
13	ZZZZZ	ZZZZZ	06/13/89	0018		*
14	ZZZZZ	ZZZZZ	06/13/89	0057	0.0	
15	ZZZZZ	ZZZZZ	06/13/89	0137	0.0	
16	ZZZZZ	ZZZZZ	06/13/89	0216	0.0	
17	ZZZZZ	ZZZZZ	06/13/89	0255	0.0	
18	EVALB	EVALB C1	06/13/89	0335	0.0	
19	ZZZZZ	ZZZZZ	06/13/89	0414	0.0	
20	ZZZZZ	ZZZZZ	06/13/89	0453	0.0	
21	ZZZZZ	ZZZZZ	06/13/89	0533	0.1	
22	ZZZZZ	ZZZZZ	06/13/89	0612	0.0	
23	ZZZZZ	ZZZZZ	06/13/89	0651	0.0	
24	INDA	INDA C1	06/13/89	0731	0.1	
25	HEX BLK	HEX BLK	06/13/89	0810		*
26	ZZZZZ	ZZZZZ	06/13/89	0849	0.0	
27	ZZZZZ	ZZZZZ	06/13/89	0929	0.1	
28	ZZZZZ	ZZZZZ	06/13/89	1008	0.1	
29	ZZZZZ	ZZZZZ	06/13/89	1047	0.1	
30	ZZZZZ	ZZZZZ	06/13/89	1126	0.1	
31	EVALB	EVALB C2	06/13/89	1206	0.1	
32	PBLK-	PBLK-11-1279	06/13/89	1507	0.0	
33	EDH42MS	EDH42MS	06/13/89	1546	0.1	
34	EDH42MSD	EDH42MSD	06/13/89	1626	0.1	
35	EDH42	EDH42	06/13/89	1705	0.1	
36	EDH44	EDH44	06/13/89	1744	0.1	
37	INDB	INDB C2	06/13/89	1824	0.1	
38	HEX BLK	HEX BLK	06/13/89	1903		*

* Values outside of QC limits (2.0% for packed columns, 0.3% for capillary columns).

8E

PESTICIDE EVALUATION STANDARDS SUMMARY

Evaluation of Retention Time Shift for Dibutylchlorendate

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-608

Dates of Analyses: 06/12/89 to

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	% D	*
01	EDH46	EDH46	06/13/89	1942	0.1	
02	EDH47	EDH47	06/13/89	2022	0.1	
03	EDH48	EDH48	06/13/89	2101	0.0	
04	EDH49	EDH49	06/13/89	2141	0.0	
05	ZZZZZ	ZZZZZ	06/13/89	2220	0.0	
06	EVALB	EVALB C3	06/13/89	2259	0.0	
07	ZZZZZ	ZZZZZ	06/13/89	2339	0.0	
08	ZZZZZ	ZZZZZ	06/14/89	0018	0.1	
09	ZZZZZ	ZZZZZ	06/14/89	0057	0.1	
10	ZZZZZ	ZZZZZ	06/14/89	0137	0.1	
11	ZZZZZ	ZZZZZ	06/14/89	0216	0.1	
12	INDA	INDA C3	06/14/89	0255	0.1	
13	ZZZZZ	ZZZZZ	06/14/89	0335	0.1	
14	EDH45	EDH45	06/14/89	0414	0.1	
15	ZZZZZ	ZZZZZ	06/14/89	0453		*
16	ZZZZZ	ZZZZZ	06/14/89	0533	0.1	
17	ZZZZZ	ZZZZZ	06/14/89	0612	0.1	
18	EVALB	EVALB C4	06/14/89	0651	0.1	
19	EDH43	EDH43	06/14/89	0730	0.1	
20	ZZZZZ	ZZZZZ	06/14/89	0810	0.1	
21	ZZZZZ	ZZZZZ	06/14/89	0849	0.1	
22	ZZZZZ	ZZZZZ	06/14/89	0928	0.1	
23	ZZZZZ	ZZZZZ	06/14/89	1008	0.1	
24	INDB	INDB C4	06/14/89	1047	0.1	
25	ZZZZZ	ZZZZZ	06/14/89	1126	0.1	
26	ZZZZZ	ZZZZZ	06/14/89	1206	0.1	
27	ZZZZZ	ZZZZZ	06/14/89	1245	0.2	
28	ZZZZZ	ZZZZZ	06/14/89	1324	0.2	
29	ZZZZZ	ZZZZZ	06/14/89	1403	0.2	
30	EVALB	EVALB C5	06/14/89	1443	0.1	
31	ZZZZZ	ZZZZZ	06/14/89	1629	0.1	
32	ZZZZZ	ZZZZZ	06/14/89	1709	0.1	
33	ZZZZZ	ZZZZZ	06/14/89	1748	0.1	
34	ZZZZZ	ZZZZZ	06/14/89	1827	0.1	
35	ZZZZZ	ZZZZZ	06/14/89	1907	0.1	
36	INDA	INDA C5	06/14/89	1946	0.1	
37			/ /			
38			/ /			

* Values outside of QC limits (2.0% for packed columns, 0.3% for capillary columns)

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-1701

DATE(S) OF ANALYSIS	FROM: 06/12/89 TO: 06/14/89	DATE OF ANALYSIS: 06/13/89
TIME(S) OF ANALYSIS	FROM: 1705 TO: 2026	TIME OF ANALYSIS: 0810
		EPA SAMPLE NO. (STANDARD) INDA C1

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	10.43	10.40	10.46				Y	
BETA-BHC	14.41	14.38	14.44				Y	
DELTA-BHC	15.24	15.21	15.27				Y	
GAMMA-BHC	11.85	11.83	11.87	12580	11.85	12670	Y	0.7
HEPTACHLOR	12.63	12.60	12.66	17750	12.63	17240	Y	2.9
ALDRIN	13.58	13.54	13.62	13660	13.58	13840	Y	1.3
HEPT. EPOXIDE	15.99	15.96	16.02	13840	15.99	13790	Y	0.4
ENDOSULFAN I	16.93	16.90	16.96	13180	16.93	13390	Y	1.6
DIELDRIN	18.18	18.15	18.21	11760	18.18	11960	Y	1.7
4,4'-DDE	17.65	17.62	17.68				Y	
ENDRIN	18.90	18.87	18.93				Y	
ENDOSULFAN II	20.51	20.48	20.54	11240	20.51	11870	Y	5.6
4,4'-DDD	20.28	20.25	20.31				Y	
ENDO. SULFATE	22.96	22.93	22.99				Y	
4,4'-DDT	20.87	20.85	20.89	6248	20.87	6880	Y	10.1
METHOXYCHLOR	23.03	23.00	23.06	4213	23.03	4362	Y	3.5
ENDRIN KETONE	24.27	24.24	24.30				Y	
A. CHLORDANE	17.35	17.32	17.38				Y	
G. CHLORDANE	17.08	17.05	17.11				Y	
TOXAPHENE	21.40	21.37	21.43				Y	
AROCLOR-1016	12.29	12.26	12.32				Y	
AROCLOR-1221	9.32	9.29	9.35				Y	
AROCLOR-1232	12.31	12.28	12.34				Y	
AROCLOR-1242	21.33	21.30	21.36				Y	
AROCLOR-1248	15.82	15.79	15.85				Y	
AROCLOR-1254	18.00	17.97	18.03				Y	
AROCLOR-1260	23.88	23.85	23.91				Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: ED442

Instrument ID: II GC Column ID: DB-1701

DATE(S) OF ANALYSIS FROM: 06/12/89 TO: 06/14/89
TIME(S) OF ANALYSIS FROM: 1705 TO: 2026

DATE OF ANALYSIS: 06/13/89
TIME OF ANALYSIS: 1903
EPA SAMPLE NO. (STANDARD) INDB C2

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	10.43	10.40	10.46	11470	10.43	11650	Y	1.6
BETA-BHC	14.41	14.38	14.44	8570	14.40	7862	Y	5.3
DELTA-BHC	15.24	15.21	15.27	10970	15.23	11380	Y	3.7
GAMMA-BHC	11.85	11.83	11.87				Y	
HEPTACHLOR	12.63	12.60	12.66				Y	
ALDRIN	13.58	13.54	13.62	13550	13.56	13850	Y	2.2
HEPT. EPOXIDE	15.99	15.96	16.02				Y	
ENDOSULFAN I	16.93	16.90	16.96				Y	
DIELDRIN	18.18	18.15	18.21				Y	
4,4'-DDE	17.65	17.62	17.68	10600	17.63	10810	Y	2.0
ENDRIN	18.90	18.87	18.93	10090	18.89	9327	Y	7.6
ENDOSULFAN II	20.51	20.48	20.54				Y	
4,4'-DDD	20.28	20.25	20.31	7037	20.27	6831	Y	2.9
ENDO. SULFATE	22.96	22.93	22.99	8998	22.95	9172	Y	1.9
4,4'-DDT	20.87	20.85	20.89				Y	
METHOXYCHLOR	23.03	23.00	23.06				Y	
ENDRIN KETONE	24.27	24.24	24.30	10850	24.25	11160	Y	2.9
A. CHLORDANE	17.35	17.32	17.38	13520	17.34	13750	Y	1.7
G. CHLORDANE	17.08	17.05	17.11	13010	17.07	13390	Y	2.9
TOXAPHENE	21.40	21.37	21.43				Y	
AROCLOR-1016	12.29	12.26	12.32				Y	
AROCLOR-1221	9.32	9.29	9.35				Y	
AROCLOR-1232	12.31	12.28	12.34				Y	
AROCLOR-1242	21.33	21.30	21.36				Y	
AROCLOR-1248	15.82	15.79	15.85				Y	
AROCLOR-1254	18.00	17.97	18.03				Y	
AROCLOR-1260	23.88	23.85	23.91				Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-1701

DATE(S) OF ANALYSIS	FROM: 06/12/89 TO: 06/14/89	DATE OF ANALYSIS: 06/14/89
TIME(S) OF ANALYSIS	FROM: 1705 TO: 2026	TIME OF ANALYSIS: 0335
		EPA SAMPLE NO. (STANDARD) INDA C3

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	10.43	10.40	10.46				Y	
BETA-BHC	14.41	14.38	14.44				Y	
DELTA-BHC	15.24	15.21	15.27				Y	
GAMMA-BHC	11.85	11.83	11.87	12580	11.84	12470	Y	0.9
HEPTACHLOR	12.63	12.60	12.66	17750	12.61	16680	Y	6.0
ALDRIN	13.58	13.54	13.62	13660	13.56	13760	Y	0.7
HEPT. EPOXIDE	15.99	15.96	16.02	13840	15.98	13950	Y	0.8
ENDOSULFAN I	16.93	16.90	16.96	13180	16.92	13240	Y	0.5
DIELDRIN	18.18	18.15	18.21	11760	18.17	11980	Y	1.9
4,4'-DDE	17.65	17.62	17.68				Y	
ENDRIN	18.90	18.87	18.93				Y	
ENDOSULFAN II	20.51	20.48	20.54	11240	20.49	11300	Y	0.5
4,4'-DDD	20.28	20.25	20.31				Y	
ENDO. SULFATE	22.96	22.93	22.99				Y	
4,4'-DDT	20.87	20.85	20.89	6248	20.86	5120	Y	18.1
METHOXYCHLOR	23.03	23.00	23.06	4213	23.01	3827	Y	9.2
ENDRIN KETONE	24.27	24.24	24.30				Y	
A. CHLORDANE	17.35	17.32	17.38				Y	
G. CHLORDANE	17.08	17.05	17.11				Y	
TOXAPHENE	21.40	21.37	21.43				Y	
AROCLOR-1016	12.29	12.26	12.32				Y	
AROCLOR-1221	9.32	9.29	9.35				Y	
AROCLOR-1232	12.31	12.28	12.34				Y	
AROCLOR-1242	21.33	21.30	21.36				Y	
AROCLOR-1248	15.82	15.79	15.85				Y	
AROCLOR-1254	18.00	17.97	18.03				Y	
AROCLOR-1260	23.88	23.85	23.91				Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-1701

DATE(S) OF ANALYSIS	FROM: 06/12/89 TO: 06/14/89	DATE OF ANALYSIS: 06/14/89
TIME(S) OF ANALYSIS	FROM: 1705 TO: 2026	TIME OF ANALYSIS: 1127
		EPA SAMPLE NO. (STANDARD) INDB C4

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	10.43	10.40	10.46	11470	10.41	11660	Y	1.7
BETA-BHC	14.41	14.38	14.44	8570	14.38	7503	Y	12.5
DELTA-BHC	15.24	15.21	15.27	10970	15.21	10830	Y	1.3
GAMMA-BHC	11.85	11.83	11.87				Y	
HEPTACHLOR	12.63	12.60	12.66				Y	
ALDRIN	13.58	13.54	13.62	13550	13.55	13500	Y	0.4
HEPT. EPOXIDE	15.99	15.96	16.02				Y	
ENDOSULFAN I	16.93	16.90	16.96				Y	
DIELDRIN	18.18	18.15	18.21				Y	
4,4'-DDE	17.65	17.62	17.68	10600	17.61	10720	Y	1.1
ENDRIN	18.90	18.87	18.93	10090	18.87	10080	Y	0.1
ENDOSULFAN II	20.51	20.48	20.54				Y	
4,4'-DDD	20.28	20.25	20.31	7037	20.26	7321	Y	4.0
ENDO. SULFATE	22.96	22.93	22.99	8998	22.93	8233	Y	8.5
4,4'-DDT	20.87	20.85	20.89				Y	
METHOXYCHLOR	23.03	23.00	23.06				Y	
ENDRIN KETONE	24.27	24.24	24.30	10850	24.24	10820	Y	0.3
A. CHLORDANE	17.35	17.32	17.38	13520	17.33	13600	Y	0.6
G. CHLORDANE	17.08	17.05	17.11	13010	17.05	12970	Y	0.3
TOXAPHENE	21.40	21.37	21.43				Y	
AROCLOR-1016	12.29	12.26	12.32				Y	
AROCLOR-1221	9.32	9.29	9.35				Y	
AROCLOR-1232	12.31	12.28	12.34				Y	
AROCLOR-1242	21.33	21.30	21.36				Y	
AROCLOR-1248	15.82	15.79	15.85				Y	
AROCLOR-1254	18.00	17.97	18.03				Y	
AROCLOR-1260	23.88	23.85	23.91				Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-1701

DATE(S) OF ANALYSIS FROM: 06/12/89 TO: 06/14/89	DATE OF ANALYSIS: 06/14/89
TIME(S) OF ANALYSIS FROM: 1705 TO: 2026	TIME OF ANALYSIS: 2026
	EPA SAMPLE NO. (STANDARD) INDA C5

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	10.43	10.40	10.46				Y	
BETA-BHC	14.41	14.38	14.44				Y	
DELTA-BHC	15.24	15.21	15.27				Y	
GAMMA-BHC	11.85	11.83	11.87	12580	11.84	12320	Y	2.1
HEPTACHLOR	12.63	12.60	12.66	17750	12.61	16260	Y	8.4
ALDRIN	13.58	13.54	13.62	13660	13.56	13150	Y	3.7
HEPT. EPOXIDE	15.99	15.96	16.02	13840	15.97	13050	Y	5.7
ENDOSULFAN I	16.93	16.90	16.96	13180	16.91	12580	Y	4.6
DIELDRIN	18.18	18.15	18.21	11760	18.16	11240	Y	4.4
4,4'-DDE	17.65	17.62	17.68				Y	
ENDRIN	18.90	18.87	18.93				Y	
ENDOSULFAN II	20.51	20.48	20.54	11240	20.49	10720	Y	4.6
4,4'-DDD	20.28	20.25	20.31				Y	
ENDO. SULFATE	22.96	22.93	22.99				Y	
4,4'-DDT	20.87	20.85	20.89	6248	20.86	5520	Y	11.7
METHOXYCHLOR	23.03	23.00	23.06	4213	23.01	3705	Y	12.1
ENDRIN KETONE	24.27	24.24	24.30				Y	
A. CHLORDANE	17.35	17.32	17.38				Y	
G. CHLORDANE	17.08	17.05	17.11				Y	
TOXAPHENE	21.40	21.37	21.43				Y	
AROCLOR-1016	12.29	12.26	12.32				Y	
AROCLOR-1221	9.32	9.29	9.35				Y	
AROCLOR-1232	12.31	12.28	12.34				Y	
AROCLOR-1242	21.33	21.30	21.36				Y	
AROCLOR-1248	15.82	15.79	15.85				Y	
AROCLOR-1254	18.00	17.97	18.03				Y	
AROCLOR-1260	23.88	23.85	23.91				Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-608

DATE(S) OF ANALYSIS FROM: 06/12/89 TO: 06/14/89
TIME(S) OF ANALYSIS FROM: 1626 TO: 1946

DATE OF ANALYSIS: 06/13/89
TIME OF ANALYSIS: 0731
EPA SAMPLE NO. (STANDARD) INDA C1

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	12.76	12.73	12.79				N	
BETA-BHC	14.61	14.58	14.64				N	
DELTA-BHC	16.08	16.05	16.11				N	
GAMMA-BHC	14.35	14.33	14.37	5897	14.35	5843	N	0.9
HEPTACHLOR	15.66	15.64	15.68	7843	15.66	7740	N	1.3
ALDRIN	16.97	16.94	17.00	5269	16.97	5723	N	8.6
HEPT. EPOXIDE	19.14	19.11	19.17	6977	19.14	6848	N	1.8
ENDOSULFAN I	20.50	20.47	20.53	7221	20.50	6983	N	3.3
DIELDRIN	21.66	21.63	21.69	6005	21.66	6862	N	14.3
4,4'-DDE	21.26	21.23	21.29				N	
ENDRIN	23.01	22.98	23.04				N	
ENDOSULFAN II	23.71	23.70	23.73	6385	23.71	6239	N	2.3
4,4'-DDD	23.35	23.32	23.38				N	
ENDO. SULFATE	25.34	25.31	25.37				N	
4,4'-DDT	24.51	24.49	24.53	3010	24.51	2982	N	0.9
METHOXYCHLOR	28.04	28.03	28.06	2300	28.04	2376	N	3.3
ENDRIN KETONE	28.72	28.69	28.75				N	
A. CHLORDANE	20.33	20.30	20.36				N	
G. CHLORDANE	19.72	19.69	19.75				N	
TOXAPHENE	26.90	26.87	26.93				N	
AROCLOR-1016	15.44	15.41	15.47				N	
AROCLOR-1221	12.59	12.56	12.62				N	
AROCLOR-1232	16.35	16.32	16.38				N	
AROCLOR-1242	14.27	14.24	14.30				N	
AROCLOR-1248	18.20	18.17	18.23				N	
AROCLOR-1254	21.92	21.89	21.95				N	
AROCLOR-1260	25.96	25.93	25.99				N	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-608

DATE(S) OF ANALYSIS	FROM: 06/12/89 TO: 06/14/89	DATE OF ANALYSIS: 06/13/89
TIME(S) OF ANALYSIS	FROM: 1626 TO: 1946	TIME OF ANALYSIS: 1824
		EPA SAMPLE NO. (STANDARD) INDB C2

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	12.76	12.73	12.79	5303	12.75	5362	N	1.1
BETA-BHC	14.61	14.58	14.64	4227	14.60	4279	N	1.2
DELTA-BHC	16.08	16.05	16.11	5668	16.07	5743	N	1.3
GAMMA-BHC	14.35	14.33	14.37				N	
HEPTACHLOR	15.66	15.64	15.68				N	
ALDRIN	16.97	16.94	17.00	4799	16.95	5830	N	21.5
HEPT. EPOXIDE	19.14	19.11	19.17				N	
ENDOSULFAN I	20.50	20.47	20.53				N	
DIELDRIN	21.66	21.63	21.69				N	
4,4'-DDE	21.26	21.23	21.29	5516	21.28	5332	N	3.3
ENDRIN	23.01	22.98	23.04	4548	23.03	11180	N	145.8
ENDOSULFAN II	23.71	23.70	23.73				N	
4,4'-DDD	23.35	23.32	23.38	3727	23.37	3842	N	3.1
ENDO. SULFATE	25.34	25.31	25.37	6721	25.36	6304	N	6.2
4,4'-DDT	24.51	24.49	24.53				N	
METHOXYCHLOR	28.04	28.03	28.06				N	
ENDRIN KETONE	28.72	28.69	28.75	6942	28.74	6767	N	2.5
A. CHLORDANE	20.33	20.30	20.36	7371	20.35	7184	N	2.5
G. CHLORDANE	19.72	19.69	19.75	6977	19.74	6953	N	0.3
TOXAPHENE	26.90	26.87	26.93				N	
AROCLOR-1016	15.44	15.41	15.47				N	
AROCLOR-1221	12.59	12.56	12.62				N	
AROCLOR-1232	16.35	16.32	16.38				N	
AROCLOR-1242	14.27	14.24	14.30				N	
AROCLOR-1248	18.20	18.17	18.23				N	
AROCLOR-1254	21.92	21.89	21.95				N	
AROCLOR-1260	25.96	25.93	25.99				N	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

9

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-608

DATE(S) OF ANALYSIS	FROM: 06/12/89 TO: 06/14/89	DATE OF ANALYSIS: 06/14/89
TIME(S) OF ANALYSIS	FROM: 1626 TO: 1946	TIME OF ANALYSIS: 0255
		EPA SAMPLE NO. (STANDARD) INDA C3

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	12.76	12.73	12.79				N	
BETA-BHC	14.61	14.58	14.64				N	
DELTA-BHC	16.08	16.05	16.11				N	
GAMMA-BHC	14.35	14.33	14.37	5897	14.34	5856	N	0.7
HEPTACHLOR	15.66	15.64	15.68	7843	15.65	7811	N	0.4
ALDRIN	16.97	16.94	17.00	5269	16.95	5826	N	10.6
HEPT. EPOXIDE	19.14	19.11	19.17	6977	19.12	6712	N	3.8
ENDOSULFAN I	20.50	20.47	20.53	7221	20.48	7140	N	1.1
DIELDRIN	21.66	21.63	21.69	6005	21.64	6610	N	10.1
4,4'-DDE	21.26	21.23	21.29				N	
ENDRIN	23.01	22.98	23.04				N	
ENDOSULFAN II	23.71	23.70	23.73	6385	23.70	6226	N	2.5
4,4'-DDD	23.35	23.32	23.38				N	
ENDO. SULFATE	25.34	25.31	25.37				N	
4,4'-DDT	24.51	24.49	24.53	3010	24.50	2938	N	2.4
METHOXYCHLOR	28.04	28.03	28.06	2300	28.03	2277	N	1.0
ENDRIN KETONE	28.72	28.69	28.75				N	
A. CHLORDANE	20.33	20.30	20.36				N	
G. CHLORDANE	19.72	19.69	19.75				N	
TOXAPHENE	26.90	26.87	26.93				N	
AROCLOR-1016	15.44	15.41	15.47				N	
AROCLOR-1221	12.59	12.56	12.62				N	
AROCLOR-1232	16.35	16.32	16.38				N	
AROCLOR-1242	14.27	14.24	14.30				N	
AROCLOR-1248	18.20	18.17	18.23				N	
AROCLOR-1254	21.92	21.89	21.95				N	
AROCLOR-1260	25.96	25.93	25.99				N	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed. %D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the single largest peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-608

	DATE(S) OF ANALYSIS FROM: 06/12/89 TO: 06/14/89 TIME(S) OF ANALYSIS FROM: 1626 TO: 1946				DATE OF ANALYSIS: 06/14/89 TIME OF ANALYSIS: 1047 EPA SAMPLE NO. (STANDARD) INDB C4			
COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	12.76	12.73	12.79	5303	12.74	5258	N	0.6
BETA-BHC	14.61	14.58	14.64	4227	14.59	4169	N	1.4
DELTA-BHC	16.08	16.05	16.11	5668	16.06	5617	N	0.9
GAMMA-BHC	14.35	14.33	14.37				N	
HEPTACHLOR	15.66	15.64	15.68				N	
ALDRIN	16.97	16.94	17.00	4799	16.94	5923	N	23.4
HEPT. EPOXIDE	19.14	19.11	19.17				N	
ENDOSULFAN I	20.50	20.47	20.53				N	
DIELDRIN	21.66	21.63	21.69				N	
4,4'-DDE	21.26	21.23	21.29	5516	21.27	5337	N	3.2
ENDRIN	23.01	22.98	23.04	4548	23.02	5201	N	14.4
ENDOSULFAN II	23.71	23.70	23.73				N	
4,4'-DDD	23.35	23.32	23.38	3727	23.36	3711	N	0.4
ENDO. SULFATE	25.34	25.31	25.37	6721	25.35	6814	N	1.4
4,4'-DDT	24.51	24.49	24.53				N	
METHOXYCHLOR	28.04	28.03	28.06				N	
ENDRIN KETONE	28.72	28.69	28.75	6942	28.72	6847	N	1.4
A. CHLORDANE	20.33	20.30	20.36	7371	20.34	6666	N	9.6
G. CHLORDANE	19.72	19.69	19.75	6977	19.73	6369	N	8.7
TOXAPHENE	26.90	26.87	26.93				N	
AROCLOR-1016	15.44	15.41	15.47				N	
AROCLOR-1221	12.59	12.56	12.62				N	
AROCLOR-1232	16.35	16.32	16.38				N	
AROCLOR-1242	14.27	14.24	14.30				N	
AROCLOR-1248	18.20	18.17	18.23				N	
AROCLOR-1254	21.92	21.89	21.95				N	
AROCLOR-1260	25.96	25.93	25.99				N	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

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9

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Instrument ID: II GC Column ID: DB-608

	DATE(S) OF ANALYSIS FROM: 06/12/89 TO: 06/14/89				DATE OF ANALYSIS: 06/14/89 TIME OF ANALYSIS: 1946 EPA SAMPLE NO. (STANDARD) INDA C5			
	TIME(S) OF ANALYSIS FROM: 1626 TO: 1946							
COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
ALPHA-BHC	12.76	12.73	12.79				N	
BETA-BHC	14.61	14.58	14.64				N	
DELTA-BHC	16.08	16.05	16.11				N	
GAMMA-BHC	14.35	14.33	14.37	5897	14.34	5828	N	1.2
HEPTACHLOR	15.66	15.64	15.68	7843	15.64	8051	N	2.7
ALDRIN	16.97	16.94	17.00	5269	16.95	5606	N	6.4
HEPT. EPOXIDE	19.14	19.11	19.17	6977	19.12	6733	N	3.5
ENDOSULFAN I	20.50	20.47	20.53	7221	20.48	6961	N	3.6
DIELDRIN	21.66	21.63	21.69	6005	21.64	5923	N	1.4
4,4'-DDE	21.26	21.23	21.29				N	
ENDRIN	23.01	22.98	23.04				N	
ENDOSULFAN II	23.71	23.70	23.73	6385	23.70	6160	N	3.5
4,4'-DDD	23.35	23.32	23.38				N	
ENDO. SULFATE	25.34	25.31	25.37				N	
4,4'-DDT	24.51	24.49	24.53	3010	24.49	3040	N	1.0
METHOXYCHLOR	28.04	28.03	28.06	2300	28.03	2290	N	0.4
ENDRIN KETONE	28.72	28.69	28.75				N	
A. CHLORDANE	20.33	20.30	20.36				N	
G. CHLORDANE	19.72	19.69	19.75				N	
TOXAPHENE	26.90	26.87	26.93				N	
AROCLOR-1016	15.44	15.41	15.47				N	
AROCLOR-1221	12.59	12.56	12.62				N	
AROCLOR-1232	16.35	16.32	16.38				N	
AROCLOR-1242	14.27	14.24	14.30				N	
AROCLOR-1248	18.20	18.17	18.23				N	
AROCLOR-1254	21.92	21.89	21.95				N	
AROCLOR-1260	25.96	25.93	25.99				N	

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%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

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PESTICIDE/PCB IDENTIFICATION

EPA SAMPLE NO.

EDH42MS

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

GC Column ID (1): DB-1701 GC Column ID (2): DB-608

Instrument ID (1): II Instrument ID (2): II

Lab Sample ID: EDH42MS

Lab File ID: (only if confirmed by GC/MS)

PESTICIDE/PCB	RETENTION TIME		RT WINDOW OF STANDARD From	To	QUANT? (Y/N)	GC/MS? (Y/N)
01GAMMA-BHC	Column 1	11.84	11.83	11.87	Y	N
02	Column 2	14.34	14.33	14.37	N	N
03HEPTACHLOR	Column 1	12.61	12.60	12.66	Y	N
04	Column 2	15.65	15.64	15.68	N	N
05ALDRIN	Column 1	13.56	13.54	13.62	Y	N
06	Column 2	16.96	16.94	17.00	N	N
07DIELDRIN	Column 1	18.17	18.15	18.21	Y	N
08	Column 2	21.65	21.63	21.69	N	N
09ENDRIN	Column 1	18.88	18.87	18.93	Y	N
10	Column 2	23.04	22.98	23.04	N	N
11 4,4'-DDD	Column 1	20.28	20.25	20.31	Y	N
12	Column 2	23.38	23.32	23.38	N	N

Comments:

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PESTICIDE/PCB IDENTIFICATION

EPA SAMPLE NO.

EDH42MS

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

GC Column ID (1): DB-1701 GC Column ID (2): DB-608

Instrument ID (1): II Instrument ID (2): II

Lab Sample ID: EDH42MS

Lab File ID: (only if confirmed by GC/MS)

PESTICIDE/PCB	RETENTION TIME		RT WINDOW OF STANDARD From	To	QUANT? (Y/N)	GC/MS? (Y/N)
014,4'-DDT	Column 1	20.86	20.85	20.89	Y	N
02	Column 2	24.50	24.49	24.53	N	N
03ENDRIN KETONE	Column 1	24.25	24.24	24.30	Y	N
04	Column 2	28.74	28.69	28.75	N	N
05	Column 1				N	N
06	Column 2				N	N
07	Column 1				N	N
08	Column 2				N	N
09	Column 1				N	N
10	Column 2				N	N
11	Column 1				N	N
12	Column 2				N	N

Comments:

QUANT REPORT

Operator ID: JOHN Quant Rev: 6 Quant Time: 890623 18:45
Output File: ^MSDR5::SC Injected at: 890623 17:56
Data File: >MSDR5::D5 Dilution Factor: 1.00000
Name: EDH45MSD
Misc: HP3,CASE 12035,EDH45MSD,IW 1g,FV 1ml,06/06/89,pH 9,%M1BTL# 7

ID File: ID_BCA::SC
Title: HP BNA Standards
Last Calibration: 890623 13:58

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.67	152.0	7772	40.00	ng/uL	95
2)	2-Fluorophenol	6.47	112.0	45058	195.22	ng/uL	93
3)	Phenol-d5	9.38	99.0	74530	203.98	ng/uL	83
4)	Phenol	9.42	94.0	46445	127.48	ng/uL → 14000	70
5)	bis(-2-Chloroethyl)Ether	0.00	93.0	0	0.00	ng/uL	
6)	2-Chlorophenol	9.26	128.0	40823	126.92	ng/uL → 14000	96
7)	1,3-Dichlorobenzene	0.00	146.0	0	0.00	ng/uL	
8)	1,4-Dichlorobenzene	9.71	146.0	18598	53.05	ng/uL → 6000	92
9)	Benzyl Alcohol	0.00	108.0	0	0.00	ng/uL	
10)	1,2-Dichlorobenzene	0.00	146.0	0	0.00	ng/uL	
11)	2-Methylphenol	0.00	108.0	0	0.00	ng/uL	
12)	bis(2-Chloroisopropyl)ether	0.00	45.0	0	0.00	ng/uL	
13)	4-Methylphenol	0.00	108.0	0	0.00	ng/uL	
14)	N-Nitroso-Di-n-propylamine	11.25	70.0	22253	88.88	ng/uL → 100000	95
15)	Hexachloroethane	0.00	117.0	0	0.00	ng/uL	
16)	*d8-Naphthalene	13.42	136.0	37545	40.00	ng/uL	86
17)	Nitrobenzene-d5	11.42	82.0	31321	86.51	ng/uL	86
18)	Nitrobenzene	0.00	77.0	0	0.00	ng/uL	
19)	Isophorone	0.00	82.0	0	0.00	ng/uL	
20)	2-Nitrophenol	0.00	139.0	0	0.00	ng/uL	
21)	2,4-Dimethylphenol	0.00	107.0	0	0.00	ng/uL	
22)	Benzoic Acid	0.00	105.0	0	0.00	ng/uL	
23)	bis(-2-Chloroethoxy)Methane	0.00	93.0	0	0.00	ng/uL	
24)	2,4-Dichlorophenol	0.00	162.0	0	0.00	ng/uL	
25)	1,2,4-Trichlorobenzene	13.36	180.0	22611	66.29	ng/uL → 75000	93
26)	Naphthalene	0.00	128.0	0	0.00	ng/uL	
27)	4-Chloroaniline	0.00	127.0	0	0.00	ng/uL	
28)	Hexachlorobutadiene	0.00	225.0	0	0.00	ng/uL	
29)	4-Chloro-3-methylphenol	15.69	107.0	46453	122.83	ng/uL → 140000	94
30)	2-Methylnaphthalene	0.00	142.0	0	0.00	ng/uL	
31)	*d10-Acenaphthene	18.83	164.0	26556	40.00	ng/uL	94
32)	Hexachlorocyclopentadiene	0.00	237.0	0	0.00	ng/uL	
33)	2,4,6-Trichlorophenol	0.00	196.0	0	0.00	ng/uL	
34)	2,4,5-Trichlorophenol	0.00	196.0	0	0.00	ng/uL	
35)	2-Chloronaphthalene	0.00	162.0	0	0.00	ng/uL	
36)	2-Fluorobiphenyl	16.94	172.0	64356	80.78	ng/uL	95
37)	2-Nitroaniline	0.00	65.0	0	0.00	ng/uL	
38)	Dimethyl Phthalate	0.00	163.0	0	0.00	ng/uL	
39)	Acenaphthylene	0.00	152.0	0	0.00	ng/uL	
40)	2,6-Dinitrotoluene	0.00	165.0	0	0.00	ng/uL	
41)	3-Nitroaniline	0.00	138.0	0	0.00	ng/uL	
42)	Acenaphthene	18.94	153.0	49546	60.09	ng/uL → 68000	95
43)	2,4-Dinitrophenol	0.00	184.0	0	0.00	ng/uL	
44)	4-Nitrophenol	19.91	109.0	12906	117.92	ng/uL → 130000	90
45)	Dibenzofuran	19.42	168.0	3373	2.86	ng/uL → 3200	97
46)	2,4-Dinitrotoluene	19.75	165.0	18189	48.12	ng/uL → 54000	[illegible]
47)	Diethylphthalate	0.00	149.0	0	0.00	ng/uL	
48)	4-Chlorophenyl-phenylether	0.00	204.0	0	0.00	ng/uL	
49)	Fluorene	20.46	166.0	4787	4.86	ng/uL → 5500	98

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50)	4-Nitroaniline	0.00	138.0	0	0.00	ng/uL	
51)	2,4,6-Tribromophenol	21.33	330.0	25927	285.94	ng/uL	98
52)	*d10-Phenanthrene	23.33	188.0	54039	40.00	ng/uL	97
53)	4,6-Dinitro-2-methylphenol	0.00	198.0	0	0.00	ng/uL	
54)	N-Nitrosodiphenylamine	20.89	169.0	1708	2.81	ng/uL	83
55)	4-Bromophenyl-phenylether	0.00	248.0	0	0.00	ng/uL	
56)	Hexachlorobenzene	0.00	284.0	0	0.00	ng/uL	
57)	Pentachlorophenol	23.12	266.0	25674	145.02	ng/uL	91
58)	Phenanthrene	23.39	178.0	20942	14.35	ng/uL	
59)	Anthracene	23.51	178.0	4993	3.59	ng/uL	97
60)	Di-n-Butylphthalate	0.00	149.0	0	0.00	ng/uL	
61)	Fluoranthene	27.05	202.0	20548	11.71	ng/uL	99
62)	*d12-Chrysene	31.51	240.0	61963	40.00	ng/uL	91
63)	Pyrene	27.74	202.0	135035	57.98	ng/uL	1
64)	Terphenyl-d14	28.53	244.0	109648	79.36	ng/uL	91
65)	Butylbenzylphthalate	0.00	149.0	0	0.00	ng/uL	
66)	3,3'-Dichlorobenzidine	0.00	252.0	0	0.00	ng/uL	
67)	Benzo(a)Anthracene	31.44	228.0	6573	2.99	ng/uL	72
68)	Chrysene	31.57	228.0	5965	3.65	ng/uL	94
69)	Bis(2-Ethylhexyl)Phthalate	0.00	149.0	0	0.00	ng/uL	
70)	*d12-Perylene	35.61	264.0	70104	40.00	ng/uL	94
71)	Di-n-octyl phthalate	0.00	149.0	0	0.00	ng/uL	
72)	Benzo(b)fluoranthene	34.57	252.0	6127M	2.28	ng/uL	88
73)	Benzo(k)Fluoranthene	34.61	252.0	3084M	1.80	ng/uL	88
74)	Benzo(a)Pyrene	35.38	252.0	4060	1.97	ng/uL	94
75)	Indeno(1,2,3-cd)Pyrene	0.00	276.0	0	0.00	ng/uL	
76)	Dibenz(a,h)Anthracene	0.00	278.0	0	0.00	ng/uL	
77)	Benzo(g,h,i)Perylene	0.00	276.0	0	0.00	ng/uL	

* Compound is ISTD

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PESTICIDE/PCB IDENTIFICATION

EPA SAMPLE NO.

EDH42MSD

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

GC Column ID (1): DB-1701 GC Column ID (2): DB-608

Instrument ID (1): II Instrument ID (2): II

Lab Sample ID: EDH42MSD

Lab File ID: (only if confirmed by GC/MS)

PESTICIDE/PCB	RETENTION TIME		RT WINDOW OF STANDARD From	To	QUANT? (Y/N)	GC/MS? (Y/N)
01GAMMA-BHC	Column 1	11.84	11.83	11.87	Y	N
02	Column 2	14.34	14.33	14.37	N	N
03HEPTACHLOR	Column 1	12.61	12.60	12.66	Y	N
04	Column 2	15.64	15.64	15.68	N	N
05ALDRIN	Column 1	13.56	13.54	13.62	Y	N
06	Column 2	16.95	16.94	17.00	N	N
07DIELDRIN	Column 1	18.16	18.15	18.21	Y	N
08	Column 2	21.64	21.63	21.69	N	N
09ENDRIN	Column 1	18.88	18.87	18.93	Y	N
10	Column 2	23.03	22.98	23.04	N	N
11 4,4'-DDD	Column 1	20.28	20.25	20.31	Y	N
12	Column 2	23.38	23.32	23.38	N	N

Comments:

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PESTICIDE/PCB IDENTIFICATION

EPA SAMPLE NO.

EDH42MSD

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

GC Column ID (1): DB-1701 GC Column ID (2): DB-608

Instrument ID (1): II Instrument ID (2): II

Lab Sample ID: EDH42MSD

Lab File ID: (only if confirmed by GC/MS)

PESTICIDE/PCB	RETENTION TIME		RT WINDOW OF STANDARD From	To	QUANT? (Y/N)	GC/MS? (Y/N)
014,4'-DDT	Column 1	20.86	20.85	20.89	Y	N
02	Column 2	24.49	24.49	24.53	N	N
03ENDRIN KETONE	Column 1	24.25	24.24	24.30	Y	N
04	Column 2	28.74	28.69	28.75	N	N
05	Column 1				N	N
06	Column 2				N	N
07	Column 1				N	N
08	Column 2				N	N
09	Column 1				N	N
10	Column 2				N	N
11	Column 1				N	N
12	Column 2				N	N

Comments:

10

PESTICIDE/PCB IDENTIFICATION

EPA SAMPLE NO.

EDH43

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

GC Column ID (1): DB-1701 GC Column ID (2): DB-608

Instrument ID (1): II Instrument ID (2): II

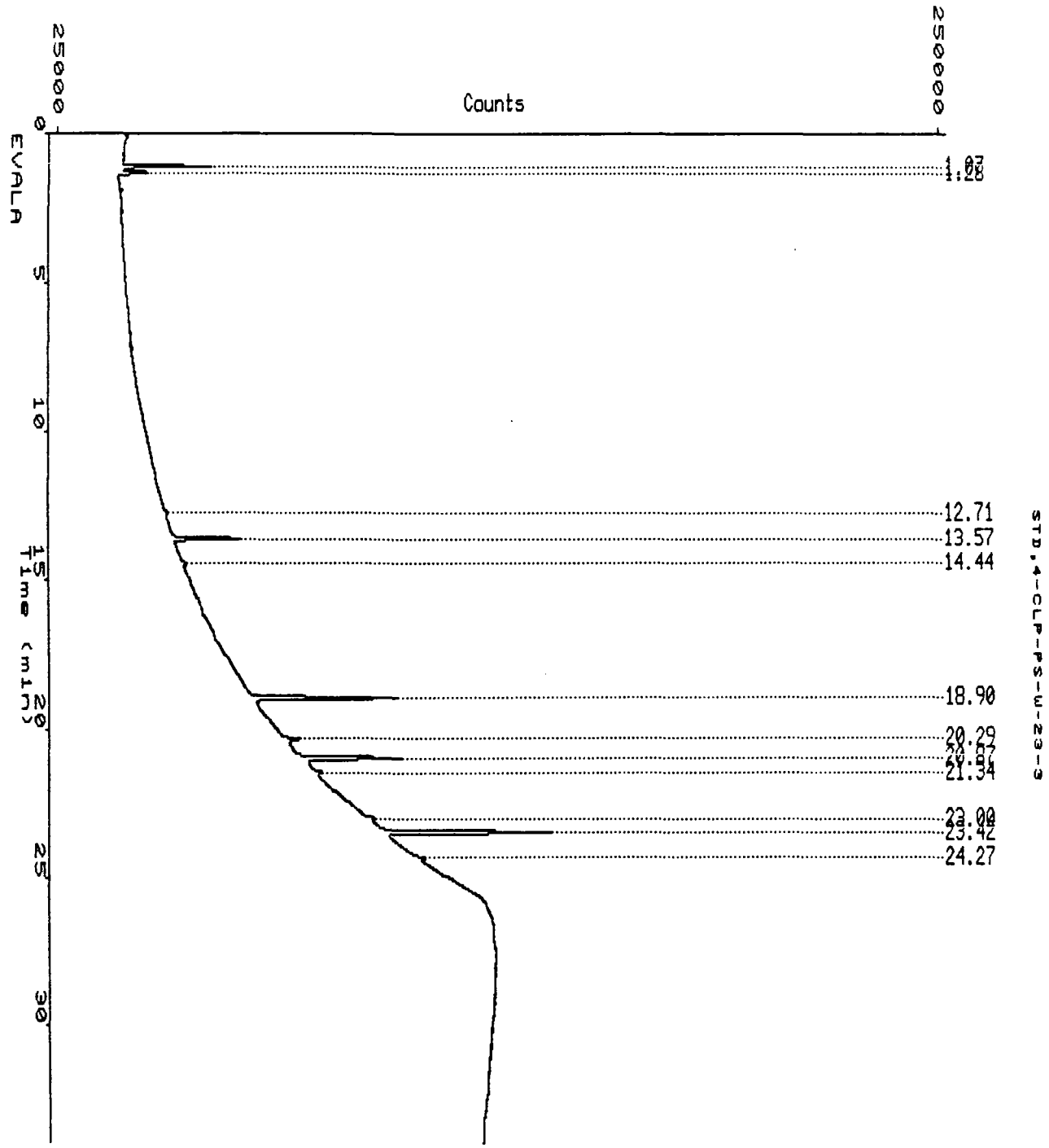
Lab Sample ID: EDH43

Lab File ID: (only if confirmed by GC/MS)

PESTICIDE/PCB	RETENTION TIME		RT WINDOW OF STANDARD From	To	QUANT? (Y/N)	GC/MS? (Y/N)
014, 4'-DDT	Column 1	20.87	20.85	20.89	Y	N
02	Column 2	24.49	24.49	24.53	N	N
03G. CHLORDANE	Column 1	17.06	17.05	17.11	Y	N
04	Column 2	19.73	19.69	19.75	N	N
05	Column 1				N	N
06	Column 2				N	N
07	Column 1				N	N
08	Column 2				N	N
09	Column 1				N	N
10	Column 2				N	N
11	Column 1				N	N
12	Column 2				N	N

Comments:

Data file: NAI$DIR:[DATA.CLP]F0612003
Report: 17796
Acquired: 12-JUN-1989 17:05:41
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:40:01.24
DATA FILE.....NAI$DIR:[DATA.CLP]F0612003.RAW;1
ANAL. DATE.....12-JUN-1989 17:05:41
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALA
NOTES.....STD,4-CLP-PS-W-23-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: EVALA

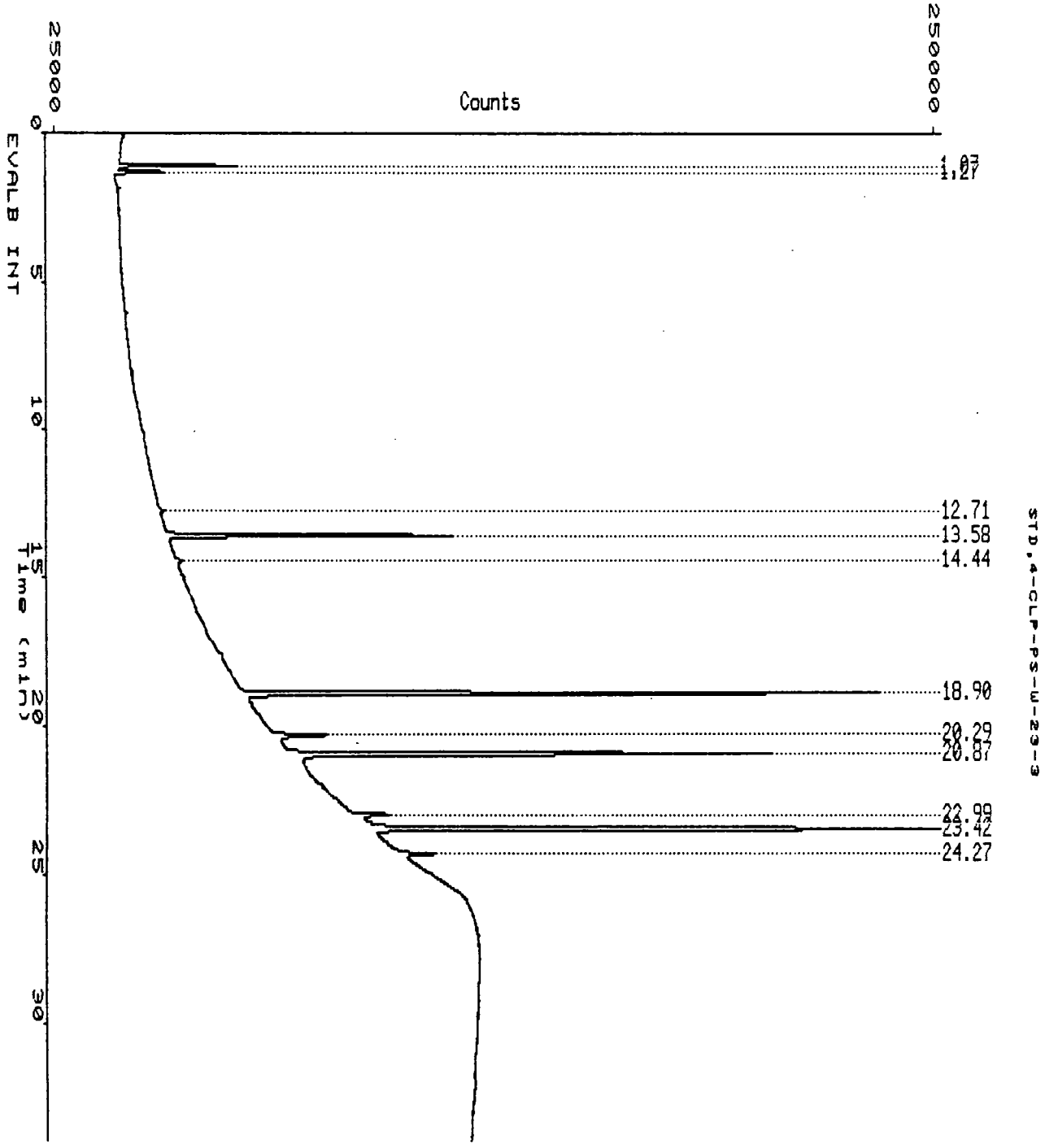
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	13.575	79115	5.0000	1.582E+04		
ENDRIN	18.896	187112	15.0000	1.247E+04		
DDD	20.286	20376				
DDT	20.870	137884	18.0000	7.660E+03		
DBC	23.415	229849	25.0000	9.194E+03		
ENDRIN KETONE	24.269	9507				

Data file: NAI$DIR:[DATA.CLP]F0612004

Report: 17798

Acquired: 12-JUN-1989 17:45:03

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:42:51.32
DATA FILE.....NAI$DIR:[DATA.CLP]F0612004.RAW;1
ANAL. DATE.....12-JUN-1989 17:45:03
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB INT
NOTES.....STD.4-CLP-PS-W-23-3

Author..... ET
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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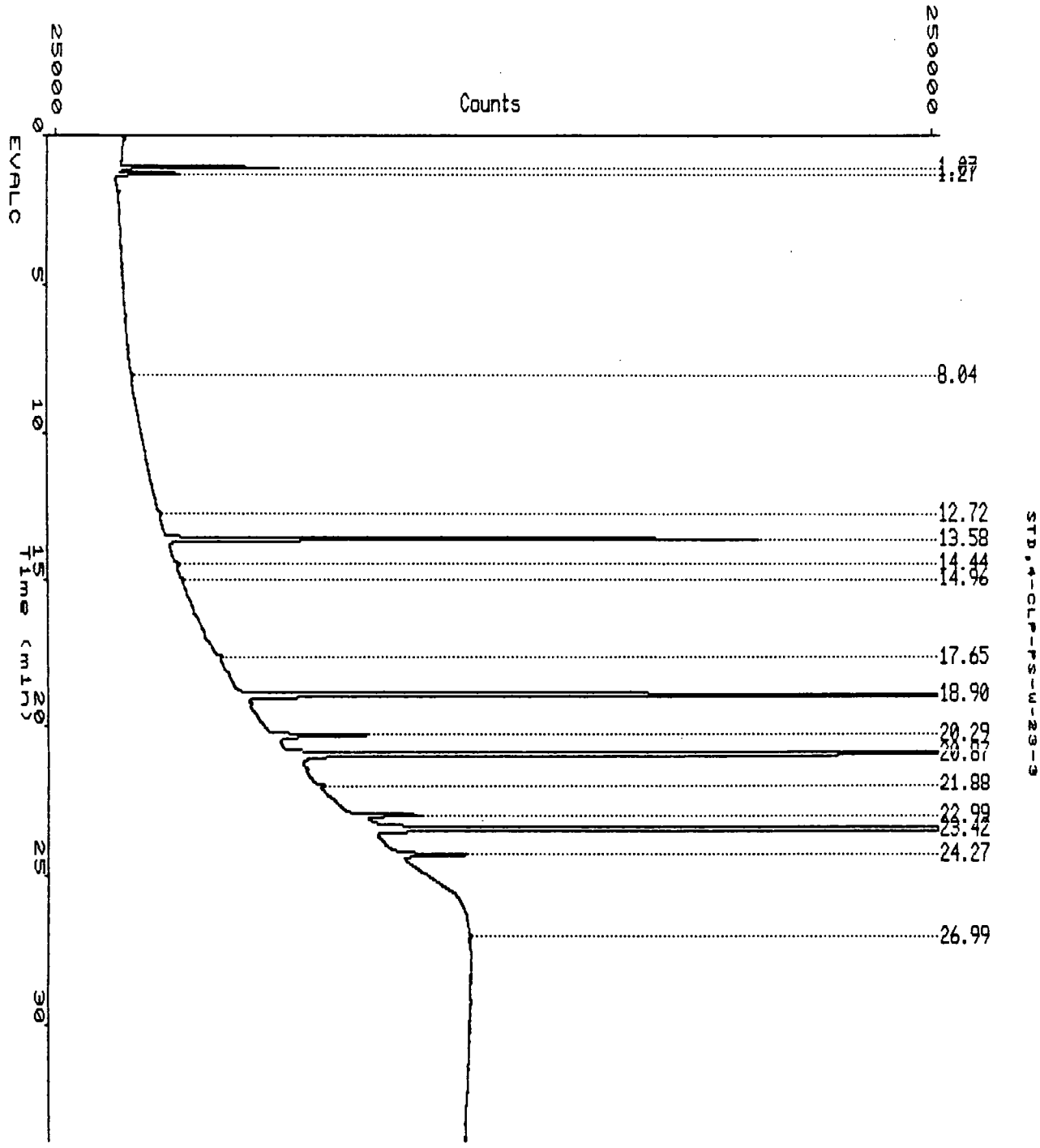
EXTERNAL STANDARD CALIBRATION

==========

Calibration sample name: EVALB INT

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	13.575	347671	25.0000	1.391E+04		
ENDRIN	18.896	819945	75.0000	1.093E+04		
DDD	20.286	75186				
DDT	20.870	648850	90.0000	7.209E+03		
DBC	23.417	944491	125.0000	7.556E+03		
ENDRIN KETONE	24.267	45139				

Data file: NAI$DIR:[DATA.CLP]F0612005
Report: 17800
Acquired: 12-JUN-1989 18:24:26
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:45:35.83
DATA FILE.....NAI$DIR:[DATA.CLP]F0612005.RAW;1
ANAL. DATE.....12-JUN-1989 18:24:26
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALC
NOTES.....STD,4-CLP-PS-W-23-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: EVALC

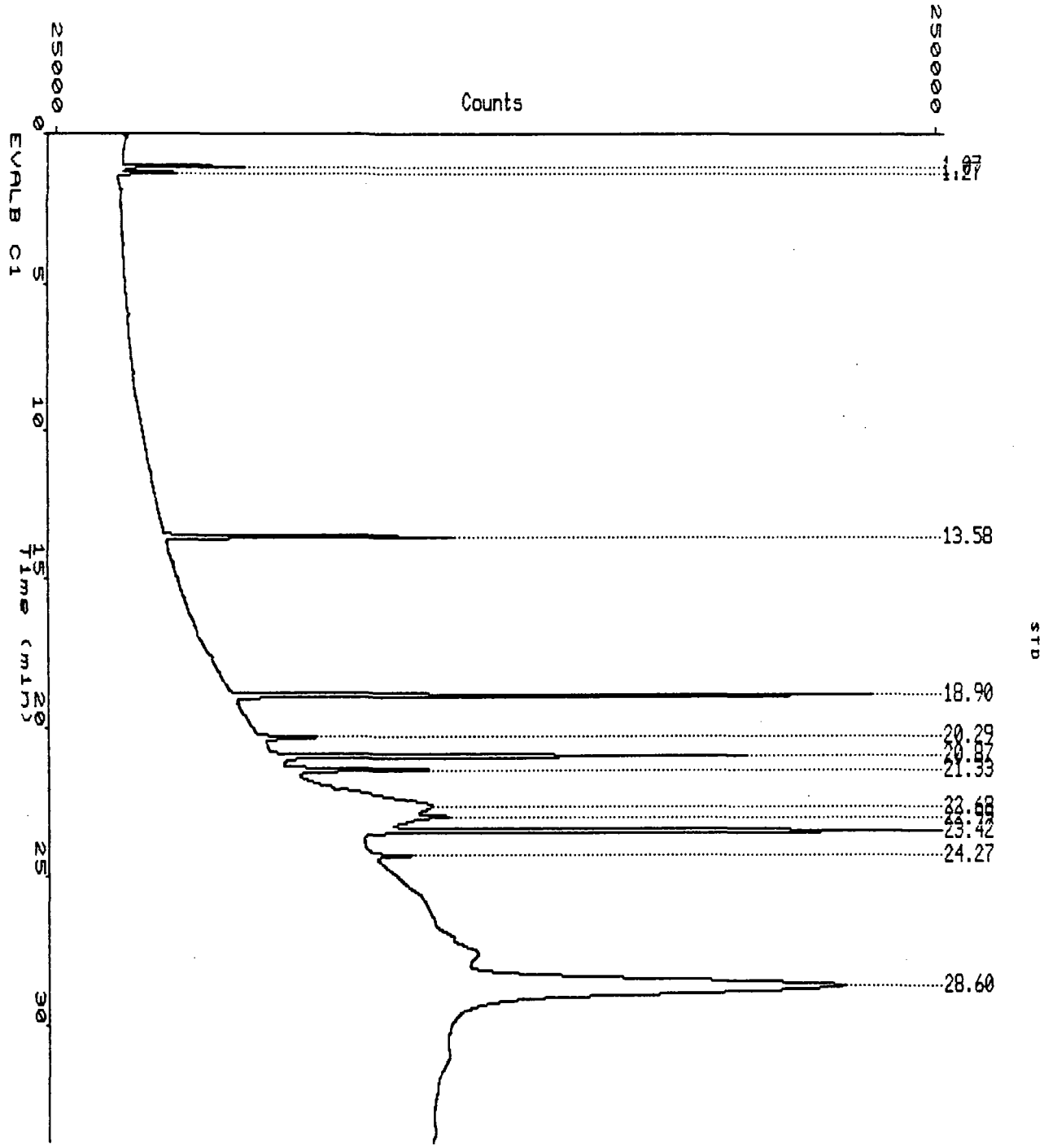
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	13.578	726583	50.0000	1.453E+04		
DDE	17.646	6252				
ENDRIN	18.898	1665887	150.0000	1.111E+04		
DDD	20.289	142833				
DDT	20.870	1363760	180.0000	7.576E+03		
ENDRIN ALDEHYDE	21.880	11114				
DBC	23.415	1847631	250.0000	7.391E+03		
ENDRIN KETONE	24.266	127885				

Data file: NAI$DIR:[DATA.CLP]F0612020

Report: 17831

Acquired: 13-JUN-1989 04:14:48

Time range: 0.00-34.00



QUANT. DATE.....27-JUN-1989 16:27:48.14
DATA FILE.....NAI$DIR:[DATA.CLP]F0612020.RAW;1
ANAL. DATE.....13-JUN-1989 04:14:48
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C1
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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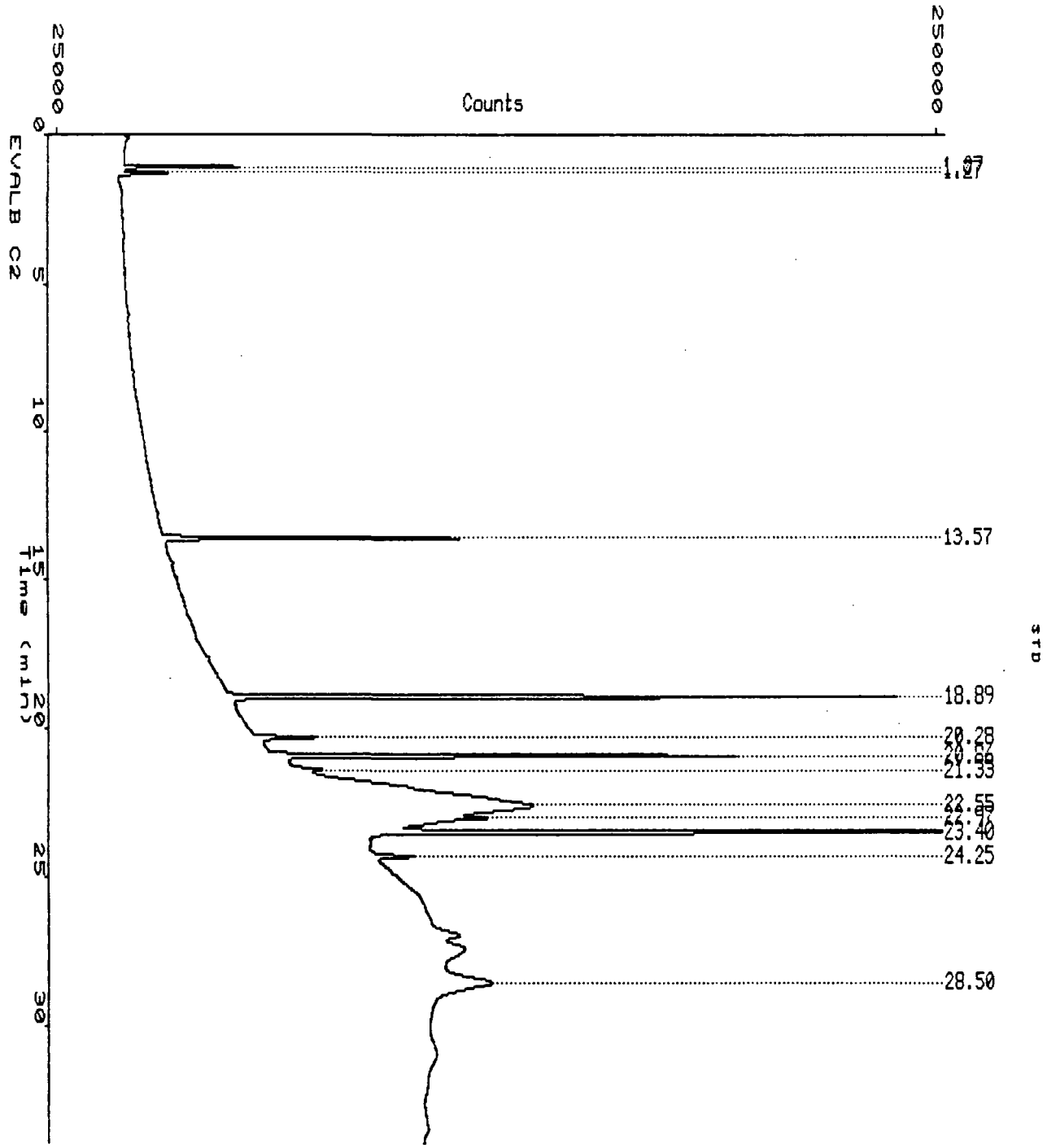
Calibration sample name: EVALB C1

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	13.578	350070	25.0000	1.400E+04		
ENDRIN	18.900	826260	75.0000	1.102E+04		
DDD	20.292	81659				
DDT	20.874	632832	90.0000	7.031E+03		
DBC	23.417	1013418	125.0000	8.107E+03		
ENDRIN KETONE	24.268	53012				

Data file: NAI$DIR:[DATA.CLP]F0612033
Report: 17846
Acquired: 13-JUN-1989 12:45:46
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:53:25.56
DATA FILE.....NAI$DIR:[DATA.CLP]F0612033.RAW;1
ANAL. DATE.....13-JUN-1989 12:45:46
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C2
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: EVALB C2

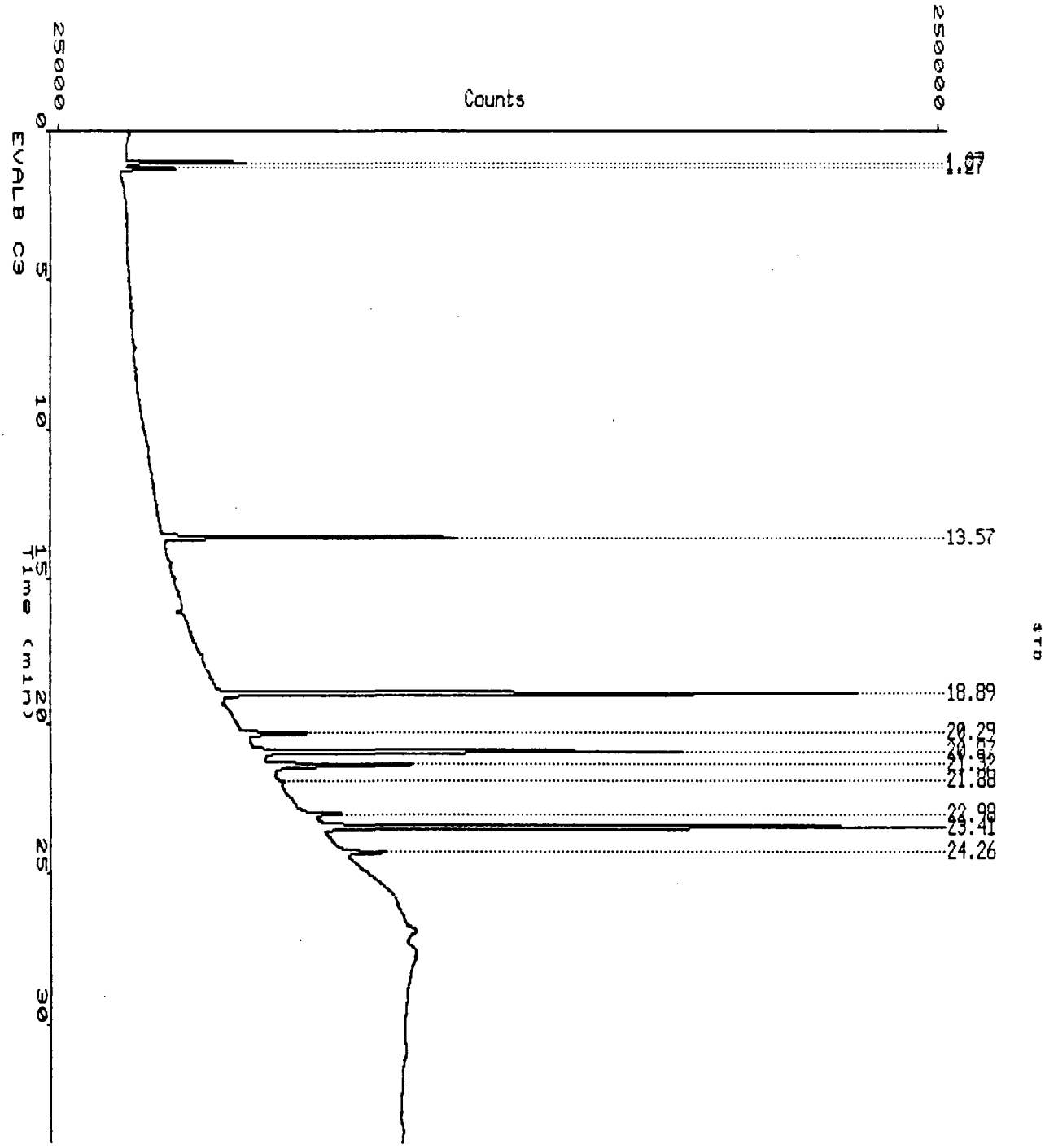
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	13.566	361843	25.0000	1.447E+04		
ENDRIN	18.886	851129	75.0000	1.135E+04		
DDD	20.278	89191				
DDT	20.861	622855	90.0000	6.921E+03		
DBC	23.404	1031973	125.0000	8.256E+03		
ENDRIN KETONE	24.254	57531				

Data file: NAI$DIR:[DATA.CLP]F0613014

Report: 17876

Acquired: 13-JUN-1989 23:39:20

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 20:18:15.15
DATA FILE.....NAI$DIR:[DATA.CLP]F0613014.RAW:1
ANAL. DATE.....13-JUN-1989 23:39:20
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C3
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: EVALB C3

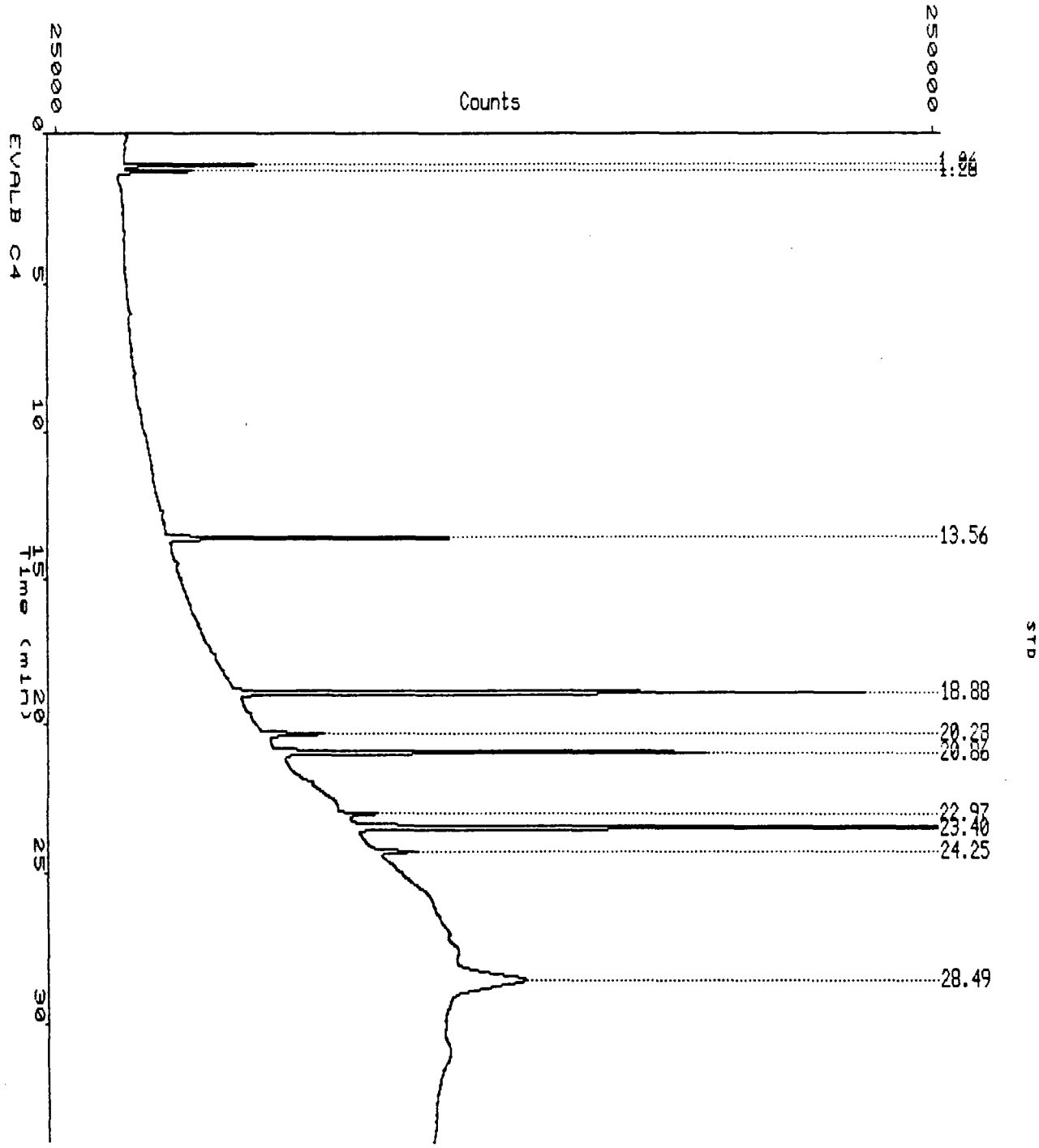
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	13.569	361067	5.0000	7.221E+04		
ENDRIN	18.891	834173	15.0000	5.561E+04		
DDD	20.286	95876				
DDT	20.867	577826	18.0000	3.210E+04		
ENDRIN ALDEHYDE	21.876	8046				
DBC	23.410	988434	25.0000	3.954E+04		
ENDRIN KETONE	24.259	63292				

Data file: NAI$DIR:[DATA.CLP]F0613026

Report: 17902

Acquired: 14-JUN-1989 07:31:16

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 20:53:58.29
DATA FILE.....NAI$DIR:[DATA.CLP]F0613026.RAW:1
ANAL. DATE.....14-JUN-1989 07:31:16
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C4
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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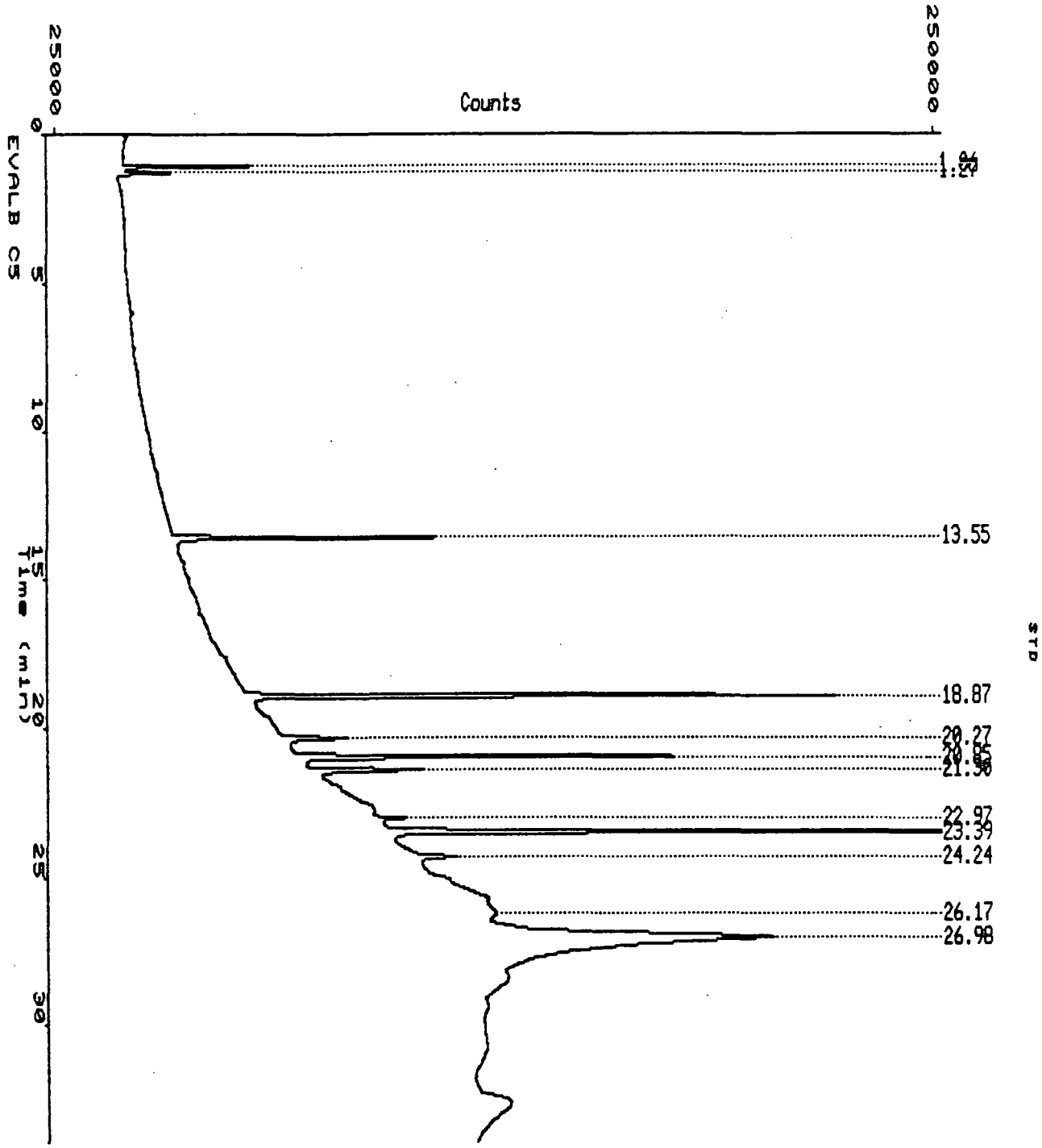
Calibration sample name: EVALB C4

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	13.563	354083	5.0000	7.082E+04		
ENDRIN	18.881	826560	15.0000	5.510E+04		
DDD	20.275	97904				
DDT	20.855	576527	18.0000	3.203E+04		
DBC	23.399	960972	25.0000	3.844E+04		
ENDRIN KETONE	24.249	58491				

Data file: NAI$DIR:[DATA.CLP]F0613038
Report: 17928
Acquired: 14-JUN-1989 15:23:15
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 21:31:17.67
DATA FILE.....NAI$DIR:[DATA.CLP]F0613038.RAW;1
ANAL. DATE.....14-JUN-1989 15:23:15
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C5
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS
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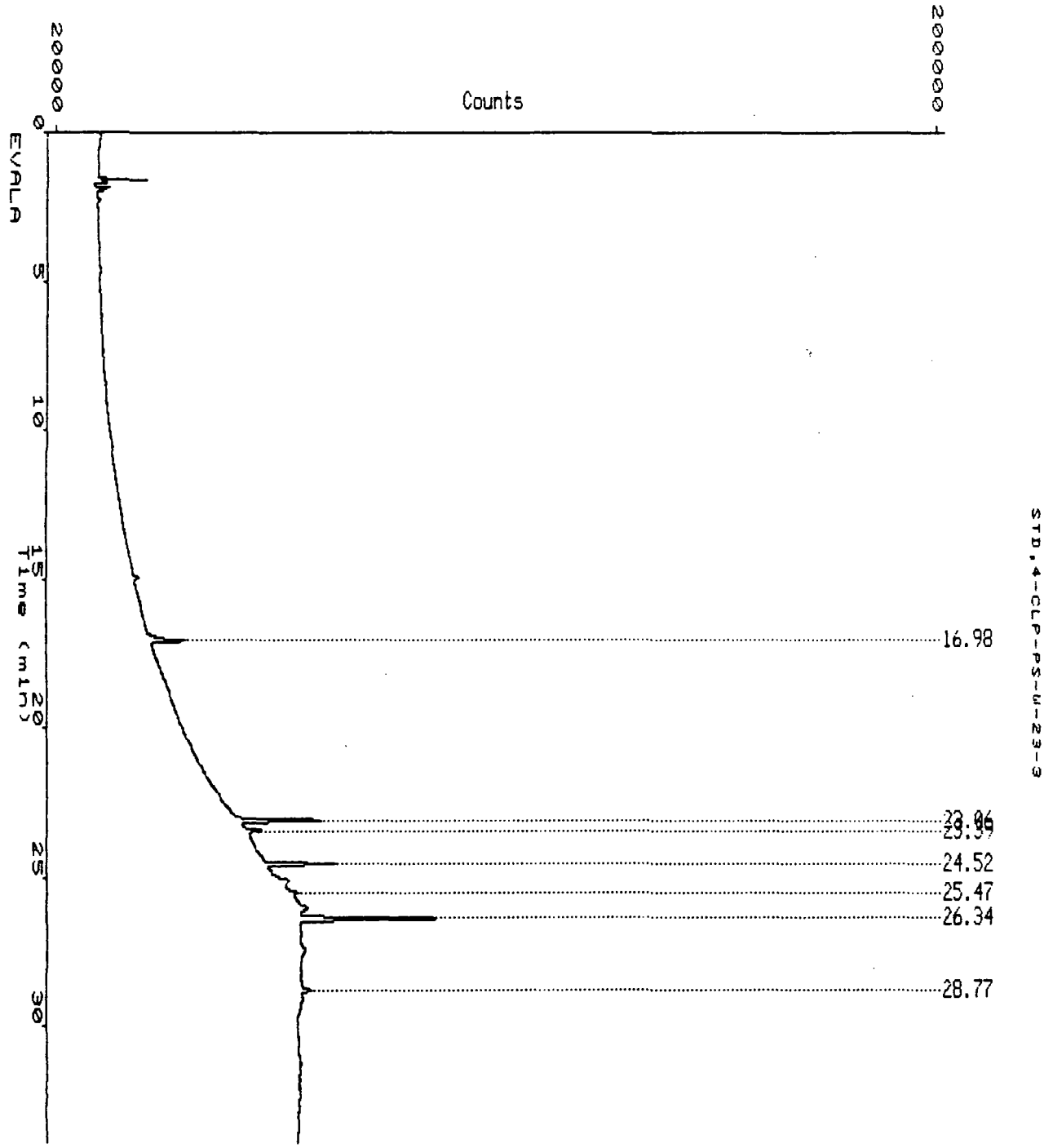
Calibration sample name: EVAL B

Peak name	R.T.(min)	NG	Peak Area	Ref Std	Bl
	1.062		90070		BV
	1.266		59316		VB
ALDRIN	13.555	9.5853	335022		BB
ENDRIN	18.873	28.521	784665		BB
DDD	20.266		102906		BB
DDT	20.847	28.326	516166		BB
	21.298		169237		BB
	22.969		45544		BV
DBC	23.392	37.882	893936		VB
ENDRIN KETONE	24.243		97738		BB
	26.168		12372		BB
	26.984		2327394		BB

Data file: NAI$DIR:[DATA.CLP]E0612002
Report: 17778
Acquired: 12-JUN-1989 16:26:03
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:13:01.32
DATA FILE.....NAI$DIR:[DATA.CLP]E0612002.RAW;1
ANAL. DATE.....12-JUN-1989 16:26:03
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALA
NOTES.....STD.4-CLP-PS-W-23-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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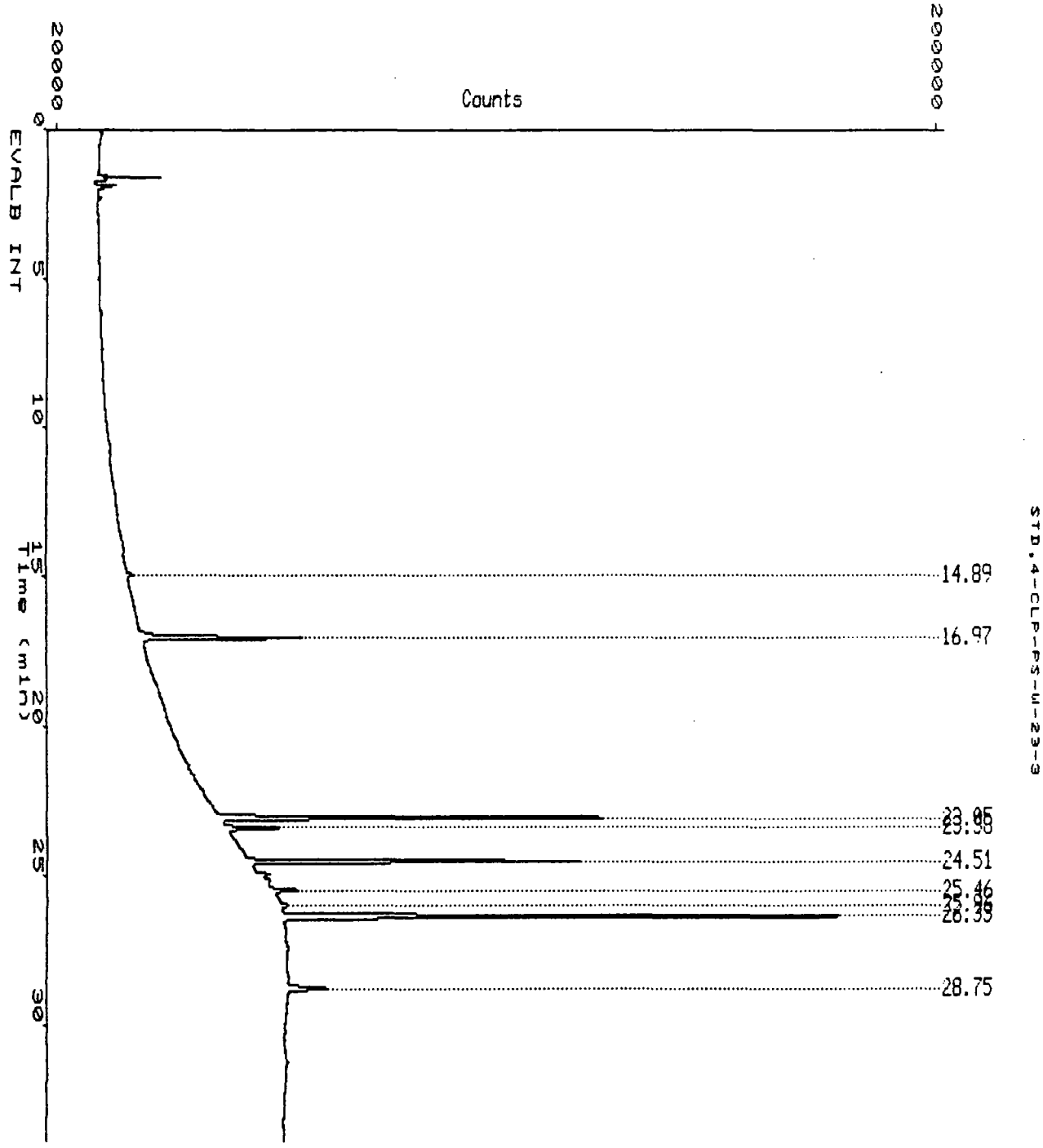
Calibration sample name: EVALA

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	16.976	42779	5.0000	8.556E+03		
ENDRIN	23.057	88161	15.0000	5.877E+03		
DDD	23.393	13892				
DDT	24.515	67887	18.0000	3.772E+03		
DBC	26.341	160365	25.0000	6.415E+03		
ENDRIN KETONE	28.767	8059				

Data file: NAI$DIR:[DATA.CLP]E0612003
Report: 17779
Acquired: 12-JUN-1989 17:05:25
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:14:08.29
DATA FILE.....NAI$DIR:[DATA.CLP]E0612003.RAW;1
ANAL. DATE.....12-JUN-1989 17:05:25
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB INT
NOTES.....STD.4-CLP-PS-W-23-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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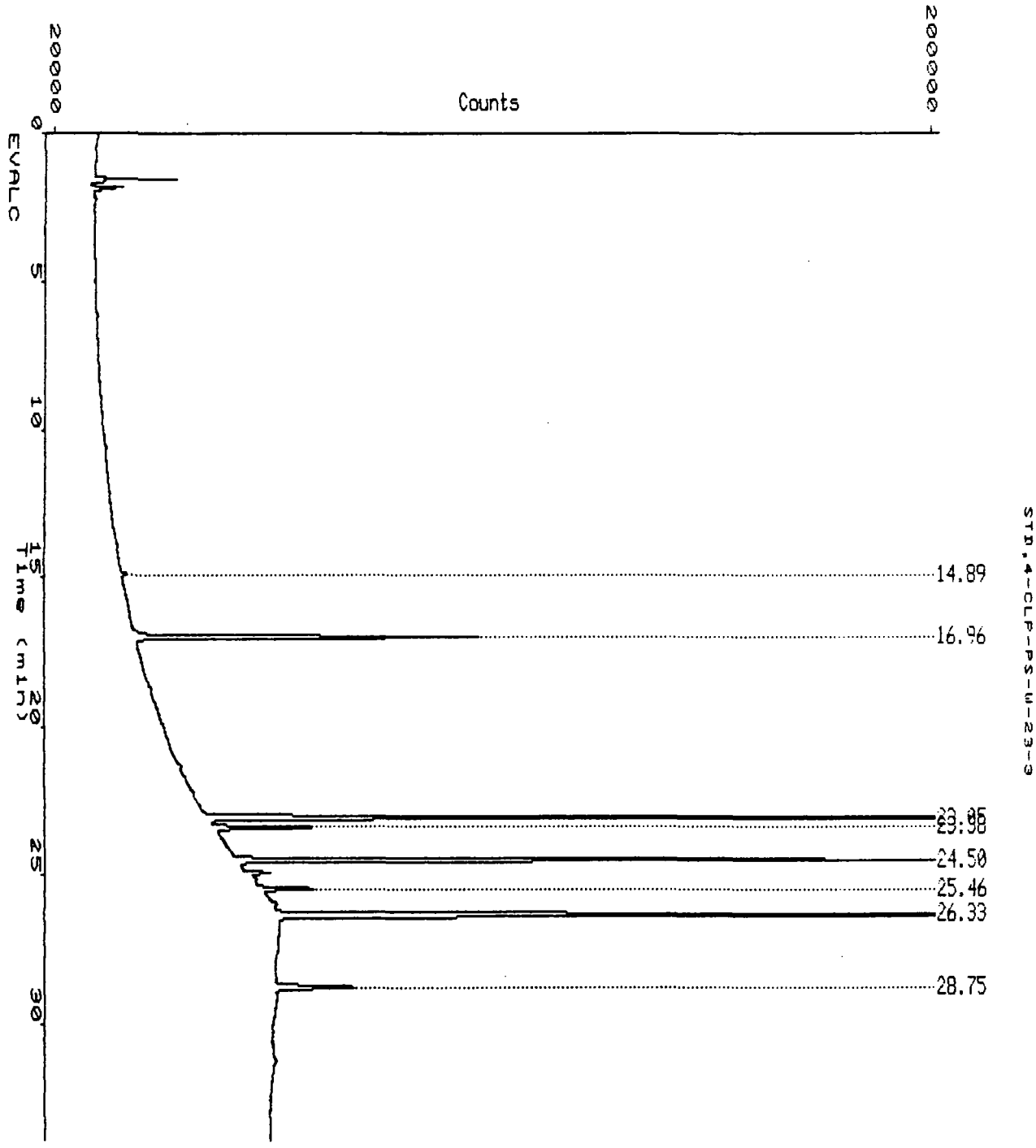
Calibration sample name: EVALB INT

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	16.968	182688	25.0000	7.308E+03		
ENDRIN	23.048	399972	75.0000	5.333E+03		
DDD	23.382	52576				
DDT	24.506	333537	90.0000	3.706E+03		
DBC	26.331	669972	125.0000	5.360E+03		
ENDRIN KETONE	28.753	51777				

Data file: NAI$DIR:[DATA.CLP]E0612004
Report: 17780
Acquired: 12-JUN-1989 17:44:47
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:15:23.63
DATA FILE.....NAI$DIR:[DATA.CLP]E0612004.RAW;1
ANAL. DATE.....12-JUN-1989 17:44:47
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALC
NOTES.....STD.4-CLP-PS-W-23-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

EXTERNAL STANDARD CALIBRATION

Calibration sample name: EVALC

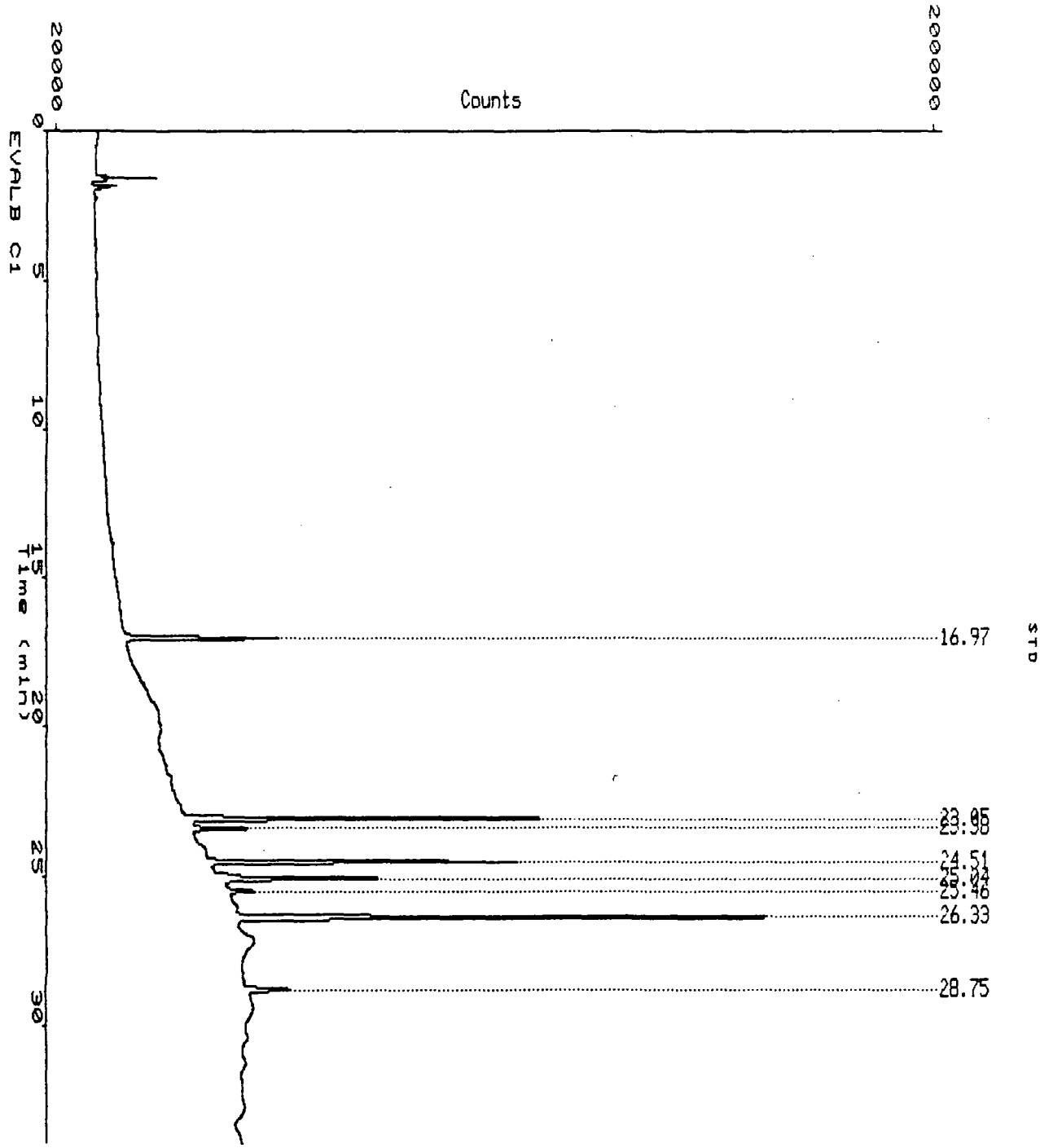
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	16.964	378346	50.0000	7.567E+03		
ENDRIN	23.046	846404	150.0000	5.643E+03		
DDD	23.380	98308				
DDT	24.505	741697	180.0000	4.121E+03		
DBC	26.328	1324504	250.0000	5.298E+03		
ENDRIN KETONE	28.753	108323				

Data file: NAI$DIR:[DATA.CLP]E0612019

Report: 17801

Acquired: 13-JUN-1989 03:35:12

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:46:55.59
DATA FILE.....NAI$DIR:[DATA.CLP]E0612019.RAW:1
ANAL. DATE.....13-JUN-1989 03:35:12
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C1
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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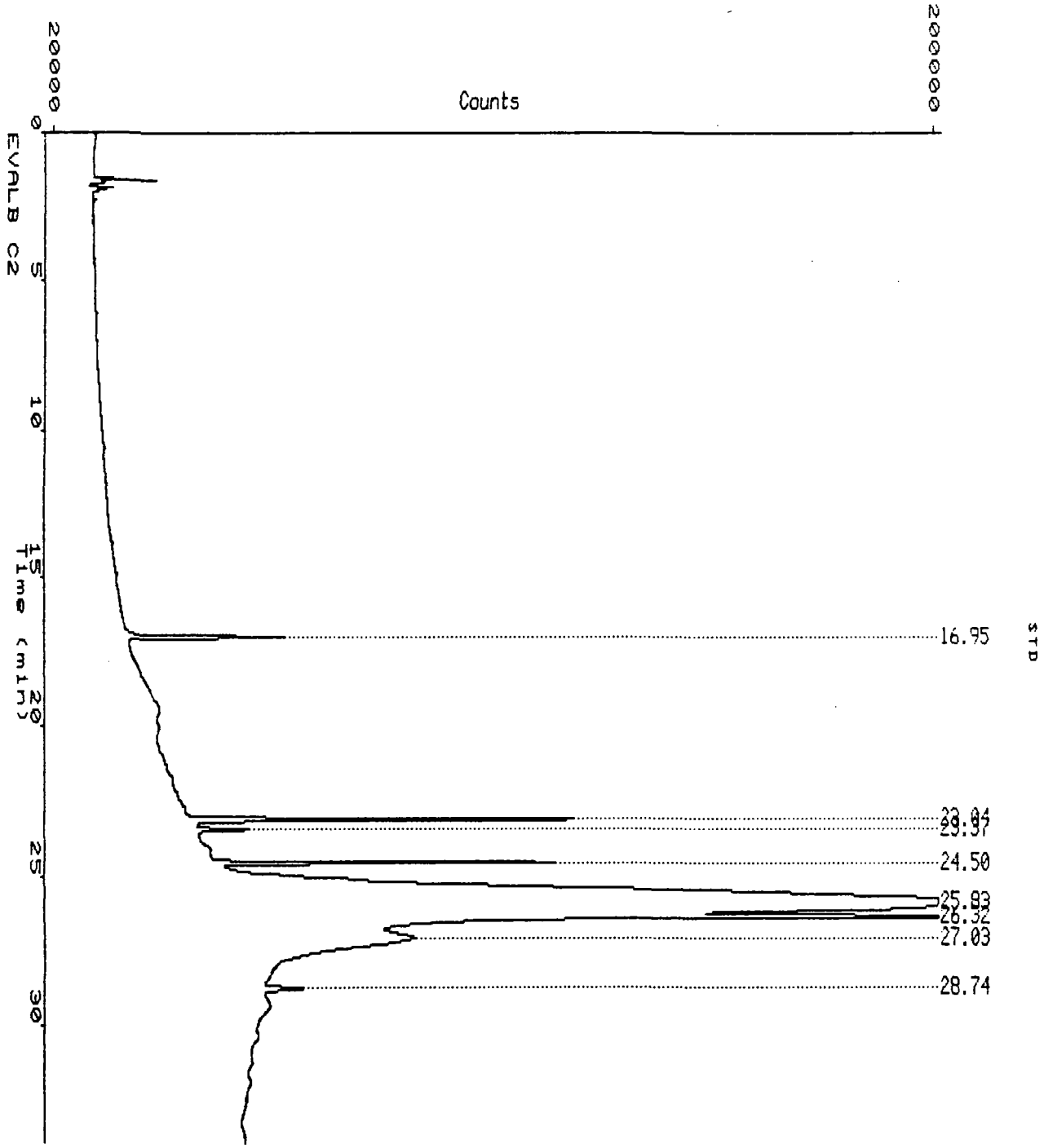
Calibration sample name: EVALB C1

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	16.967	160184	25.0000	6.407E+03		
ENDRIN	23.047	373061	75.0000	4.974E+03		
DDD	23.381	53232				
DDT	24.506	306410	90.0000	3.405E+03		
ENDRIN ALDEHYDE	25.040	138417				
DBC	26.330	646535	125.0000	5.172E+03		
ENDRIN KETONE	28.754	57481				

Data file: NAI$DIR:[DATA.CLP]E0612032
Report: 17829
Acquired: 13-JUN-1989 12:06:14
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:28:02.22
DATA FILE.....NAI$DIR:[DATA.CLP]E0612032.RAW;1
ANAL. DATE.....13-JUN-1989 12:06:14
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C2
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

EXTERNAL STANDARD CALIBRATION

Calibration sample name: EVALB C2

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	16.955	171869	25.0000	6.875E+03		
ENDRIN	23.036	401845	75.0000	5.358E+03		
DDD	23.371	49382				
DDT	24.495	337518	90.0000	3.750E+03		
DBC	26.316	1968571	125.0000	1.575E+04		
ENDRIN KETONE	28.739	51676				

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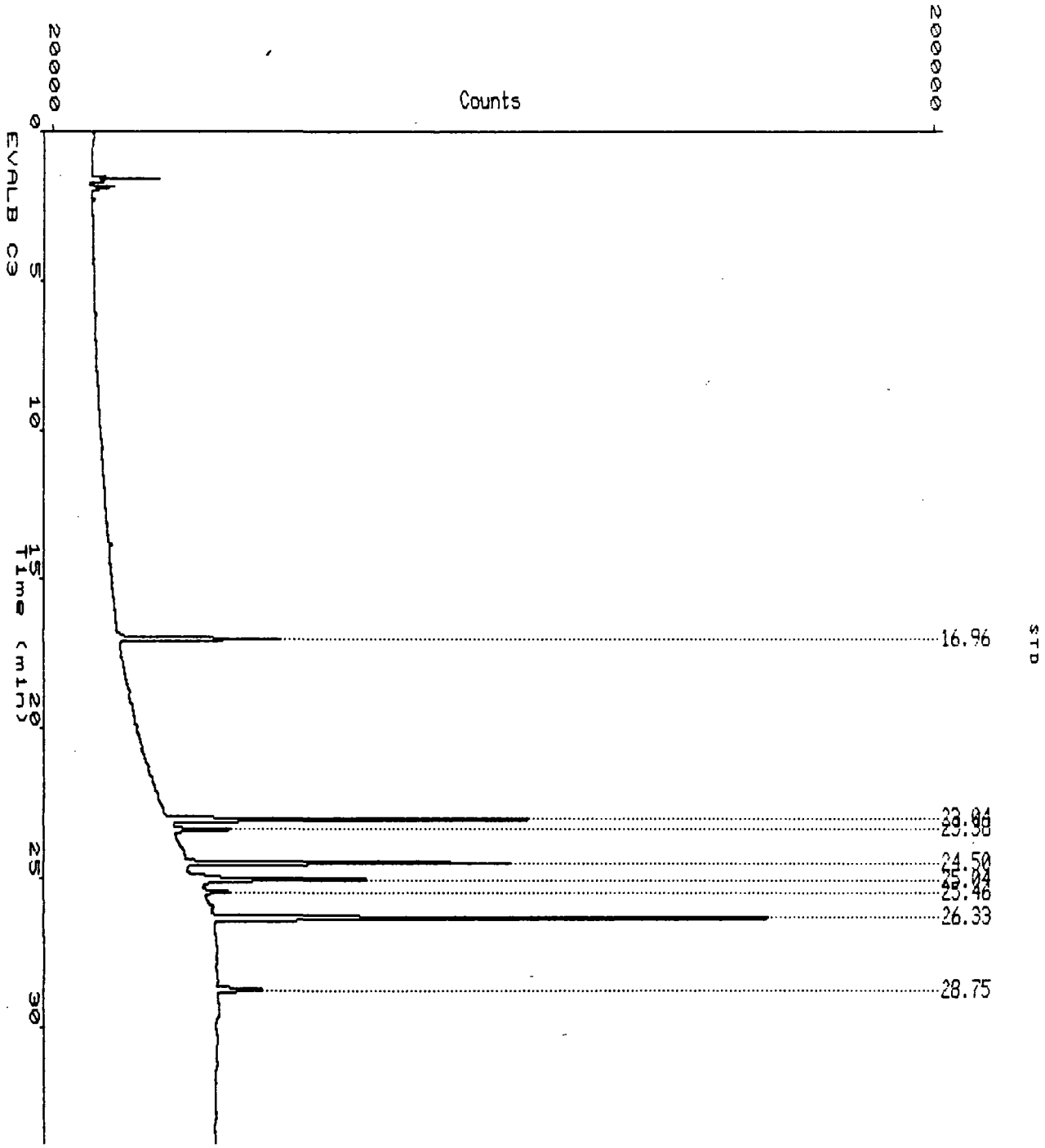
Report: 17875

Acquired: 13-JUN-1989 22:59:46

Time range: 0.00-34.00



QUANT. DATE..... 3-JUL-1989 10:19:27.07
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ANAL. DATE.....13-JUN-1989 22:59:46
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C3
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

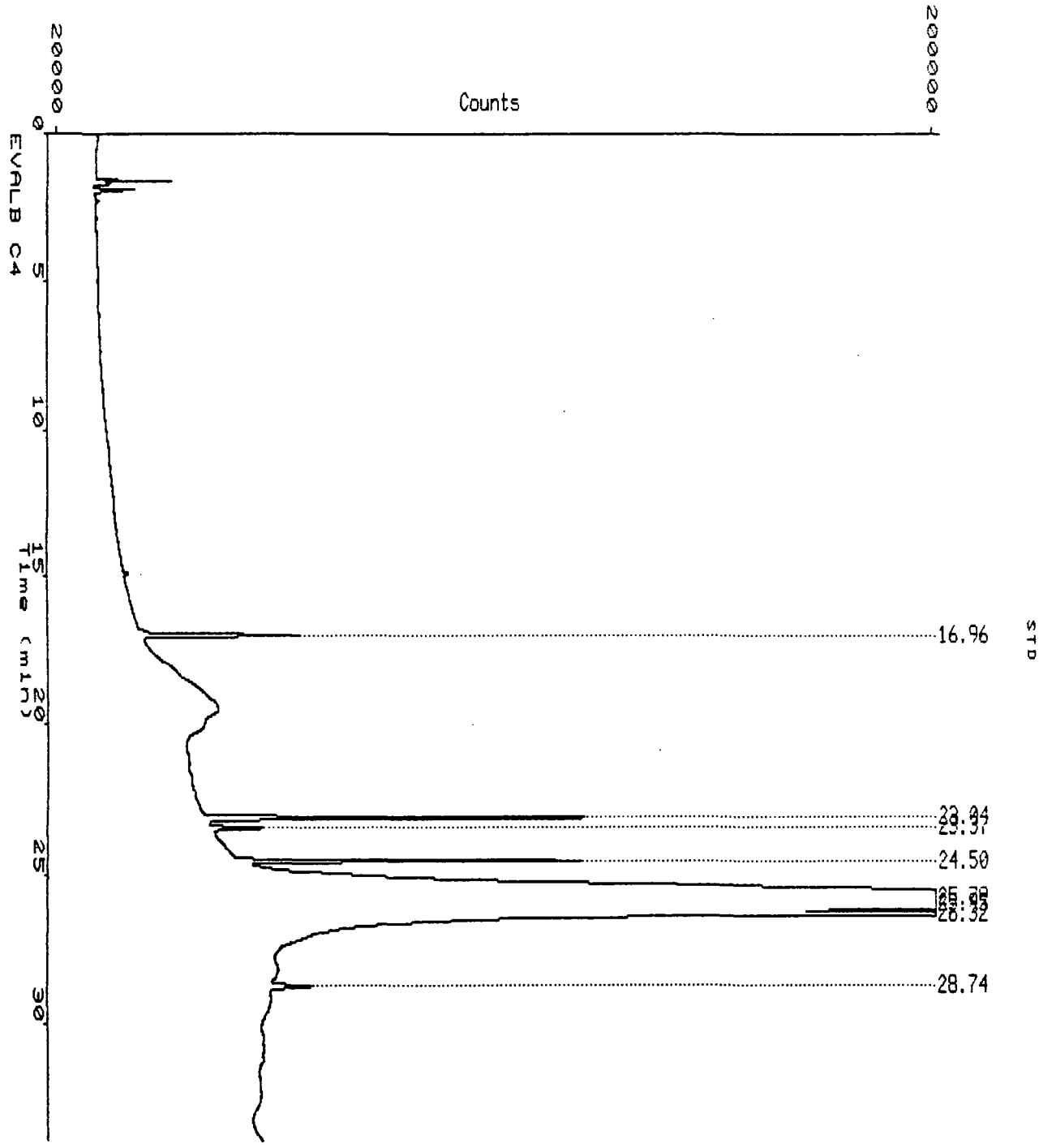
Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

EXTERNAL STANDARD CALIBRATION

Calibration sample name: EVALB C3

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	16.960	164573	5.0000	3.292E+04		
ENDRIN	23.043	377272	15.0000	2.515E+04		
DDD	23.380	47401				
DDT	24.504	323295	18.0000	1.796E+04		
ENDRIN ALDEHYDE	24.940	13913				
DBC	26.329	666777	25.0000	2.667E+04		
ENDRIN KETONE	28.750	61433				

Data file: NAI$DIR:[DATA.CLP]E0613025
Report: 17901
Acquired: 14-JUN-1989 06:51:40
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 20:52:47.49
DATA FILE.....NAI$DIR:[DATA.CLPJE0613025.RAW:1
ANAL. DATE.....14-JUN-1989 06:51:40
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C4
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

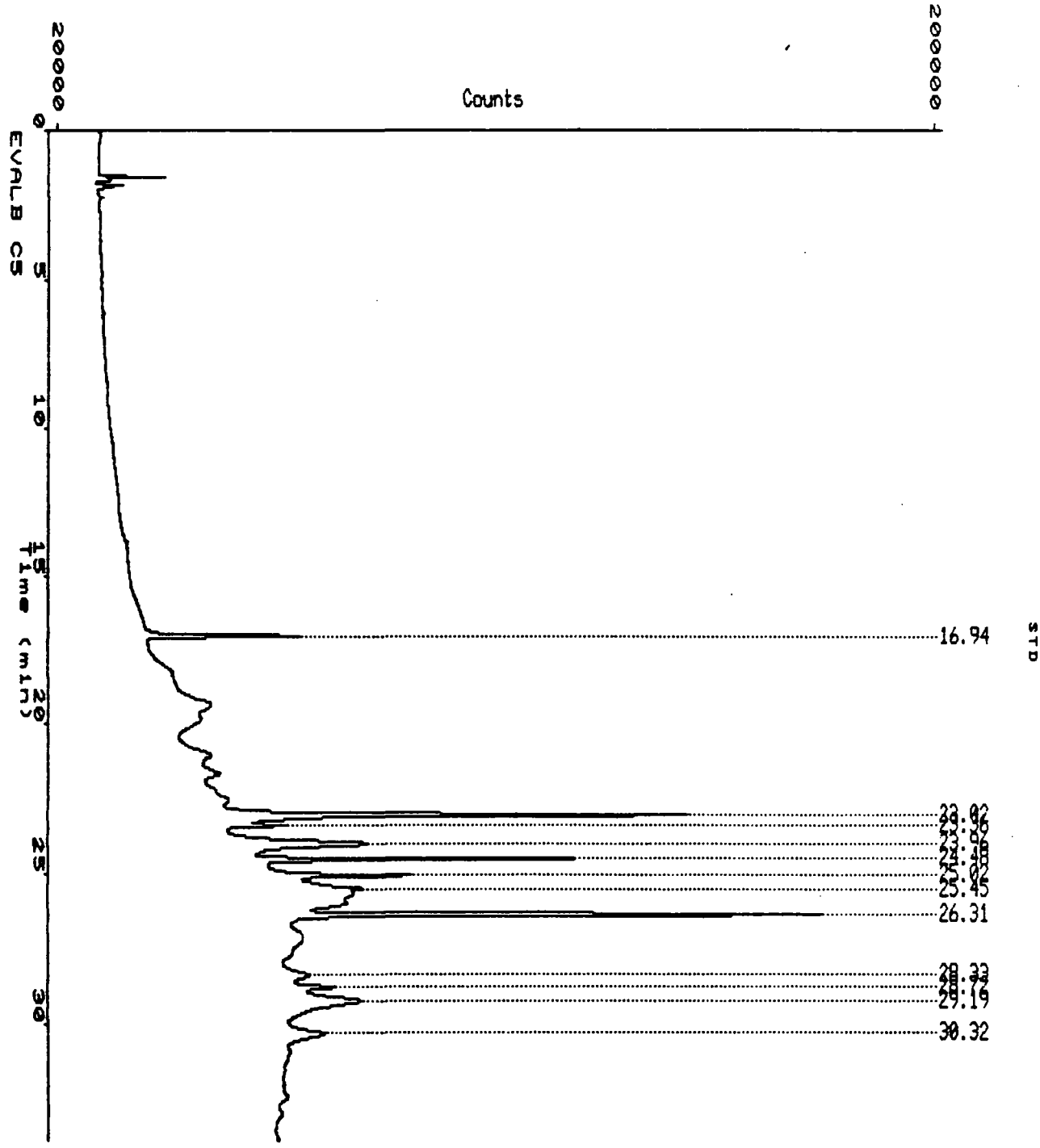
Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

EXTERNAL STANDARD CALIBRATION

Calibration sample name: EVALB C4

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
ALDRIN	16.957	175254	5.0000	3.505E+04		
ENDRIN	23.037	402650	15.0000	2.684E+04		
DDD	23.372	51780				
DDT	24.497	341556	18.0000	1.898E+04		
DBC	26.316	2137255	25.0000	8.549E+04		
ENDRIN KETONE	28.742	52696				

Data file: NAI$DIR:[DATA.CLP]E0613037
Report: 17927
Acquired: 14-JUN-1989 14:43:17
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 21:30:08.30
DATA FILE.....NAI$DIR:[DATA.CLP]E0613037.RAW;1
ANAL. DATE.....14-JUN-1989 14:43:17
ANAL. RUN TIME.....33.992 MIN
EPA SAMPLE NAME.....EVALB C5
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... EVALUATION CHECK FOR LINEARITY

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS
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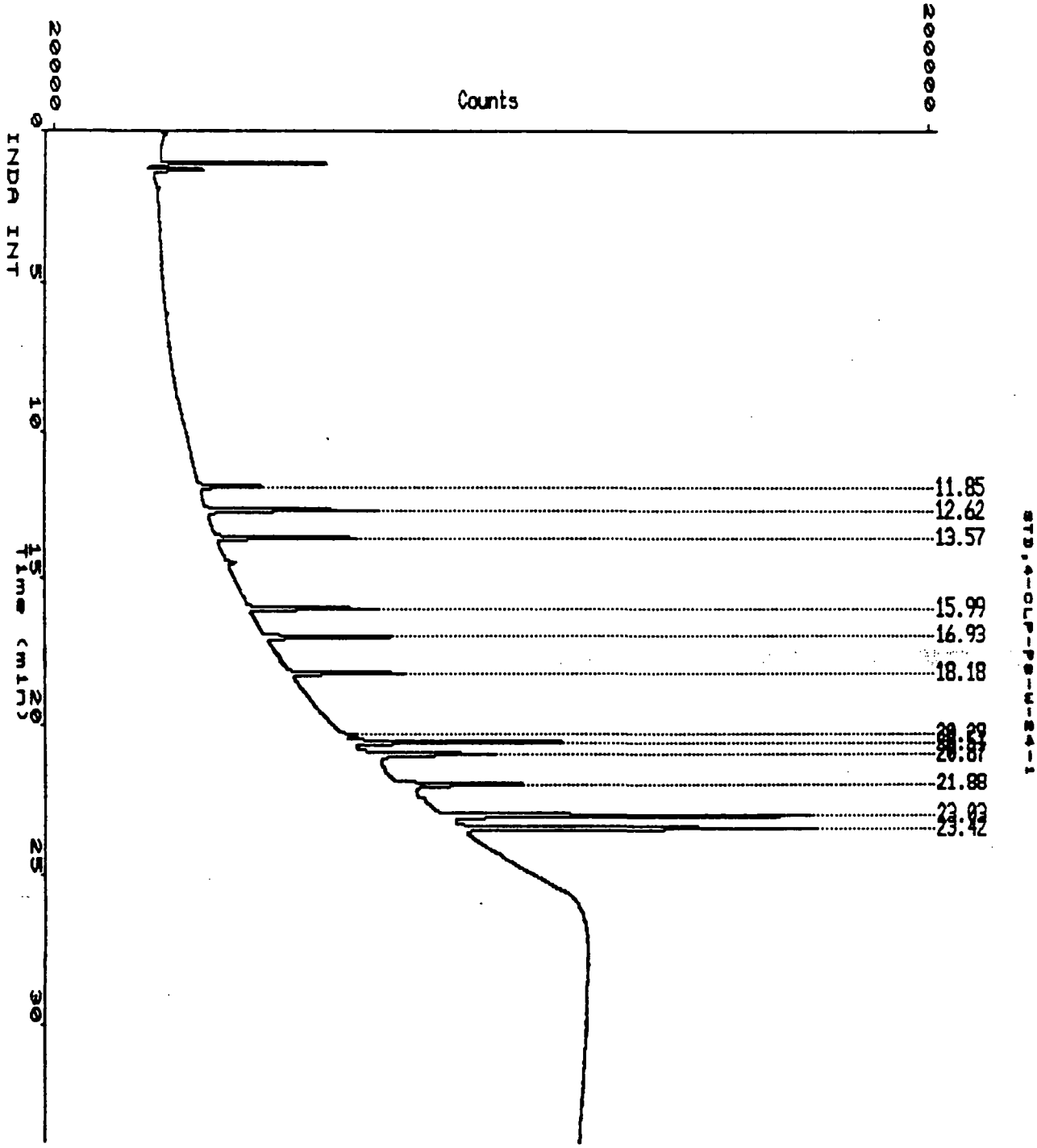
Calibration sample name: EVAL B

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
ALDRIN	16.944	22.969	157907		BB
ENDRIN	23.023	1.33E+02	714441		BE
DDD	23.357		87055		EB
	23.963		420478		BB
DDT	24.485	83.908	314672		BB
ENDRIN ALDEHYD	25.021		78391		BB
	25.449		25971		BB
DBC	26.309	39.883	628094		BB
	28.330		39108		BB
ENDRIN KETONE	28.725		47495		BB
	29.189		248290		BB
	30.321		120092		BB

Data file: NAI$DIR:[DATA.CLP]F0612006
Report: 17802
Acquired: 12-JUN-1989 19:03:52
Time range: 0.00-34.00



QUANT. DATE..... 3-JUL-1989 09:57:06.60
DATA FILE.....NAI$DIR:[DATA.CLP]F0612006.RAW;1
ANAL. DATE.....12-JUN-1989 19:03:52
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA INT
NOTES.....STD,4-CLP-PS-W-24-1

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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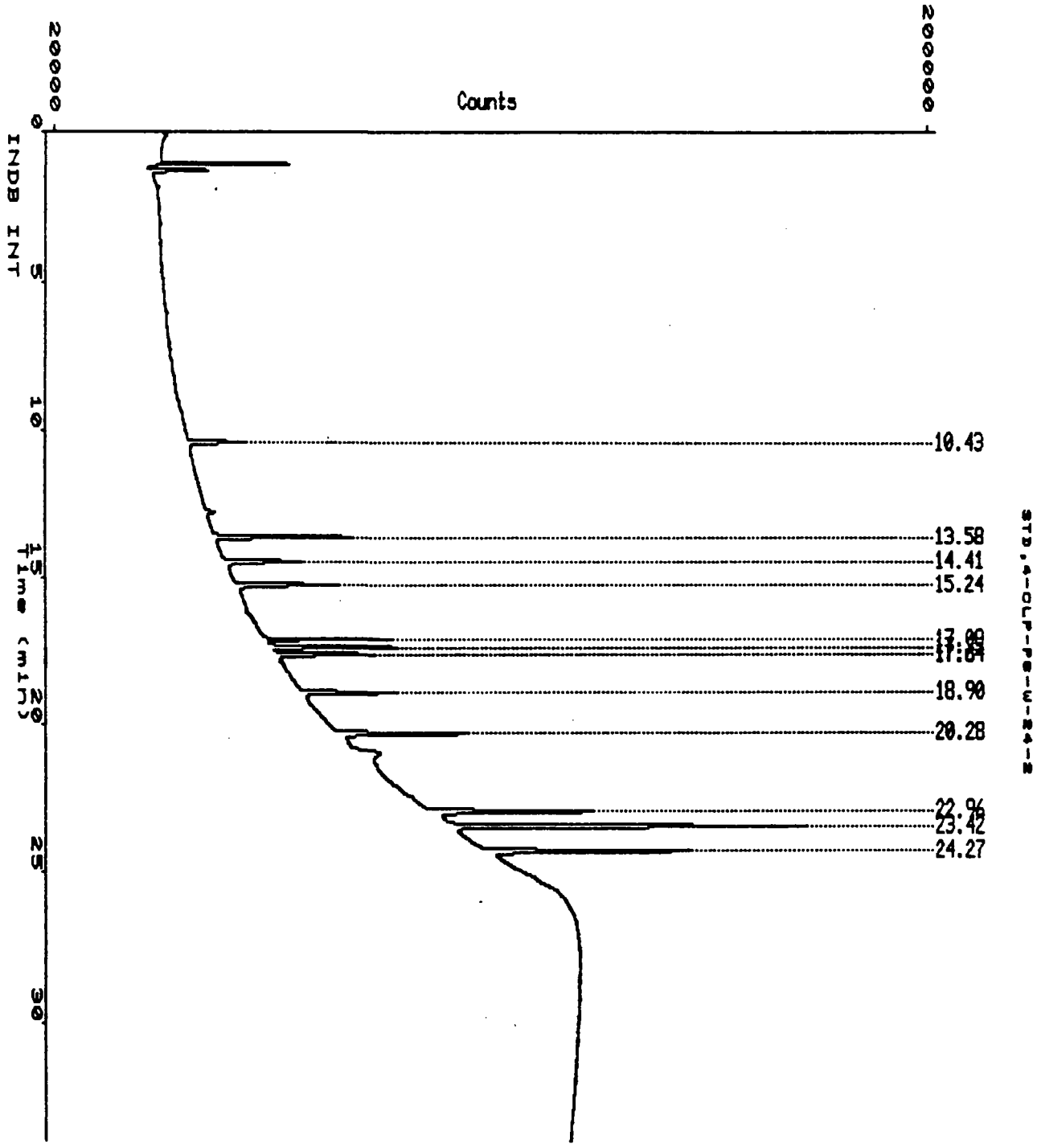
Calibration sample name: INDA INT

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	11.851	62903	5.0000	1.258E+04		
HEPTACHLOR	12.625	177445	10.0000	1.775E+04		
ALDRIN	13.575	136612	10.0000	1.366E+04		
HEPT.EPOXIDE	15.988	138349	10.0000	1.384E+04		
ENDOSULFAN I	16.928	131813	10.0000	1.318E+04		
DIELDRIN	18.182	117631	10.0000	1.176E+04		
ENDOSULFAN II	20.505	224770	20.0000	1.124E+04		
DDT	20.873	124952	20.0000	6.248E+03		
ENDRIN ALDEHYDE	21.877	185275	25.0000	7.411E+03		
METHOXYCHLOR	23.025	421309	100.0000	4.213E+03		
DBC	23.416	401587	50.0000	8.032E+03		

Data file: NAI$DIR:[DATA.CLP]F0612007
Report: 17804
Acquired: 12-JUN-1989 19:43:15
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:51:02.15
DATA FILE.....NAI$DIR:[DATA.CLP]F0612007.RAW;1
ANAL. DATE.....12-JUN-1989 19:43:15
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDB INT
NOTES.....STD,4-CLP-PS-W-24-2

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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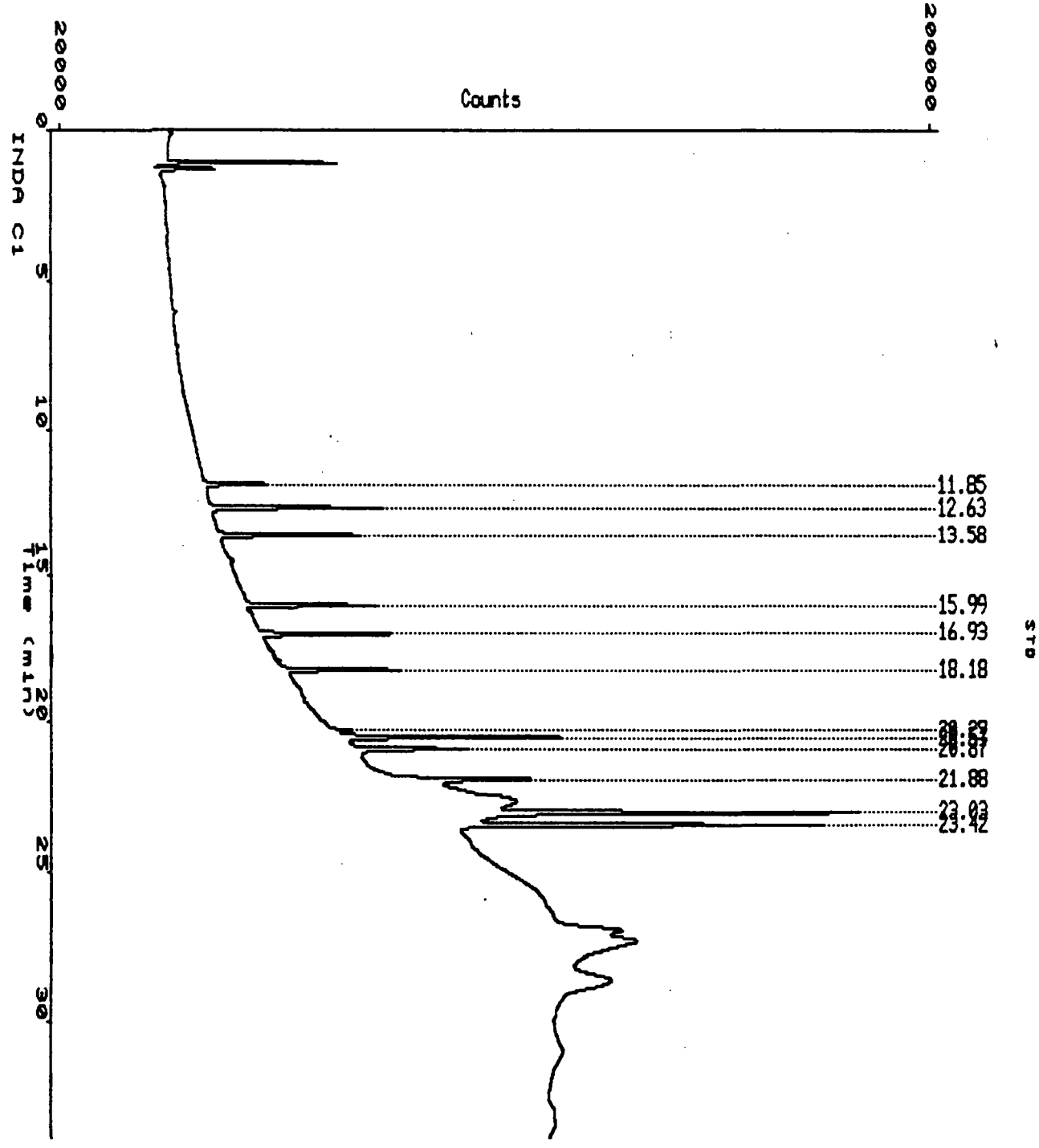
Calibration sample name: INDB INT

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
A-BHC	10.433	57363	5.0000	1.147E+04		
ALDRIN	13.578	135524	10.0000	1.355E+04		
B-BHC	14.412	85696	10.0000	8.570E+03		
D-BHC	15.240	109696	10.0000	1.097E+04		
G-CHLORDANE	17.080	130140	10.0000	1.301E+04		
A-CHLORDANE	17.352	135170	10.0000	1.352E+04		
DDE	17.636	106027	10.0000	1.060E+04		
ENDRIN	18.897	100848	10.0000	1.009E+04		
DDD	20.281	140733	20.0000	7.037E+03		
ENDO.SULFATE	22.961	179961	20.0000	8.998E+03		
DBC	23.416	390749	50.0000	7.815E+03		
ENDRIN KETONE	24.266	217028	20.0000	1.085E+04		

Data file: NAI$DIR:[DATA.CLP]F0612026
Report: 17837
Acquired: 13-JUN-1989 08:10:43
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:40:55.24
DATA FILE.....NAI$DIR:[DATA.CLP]F0612026.RAW;1
ANAL. DATE.....13-JUN-1989 08:10:43
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA C1
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION
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Calibration sample name: INDA C1

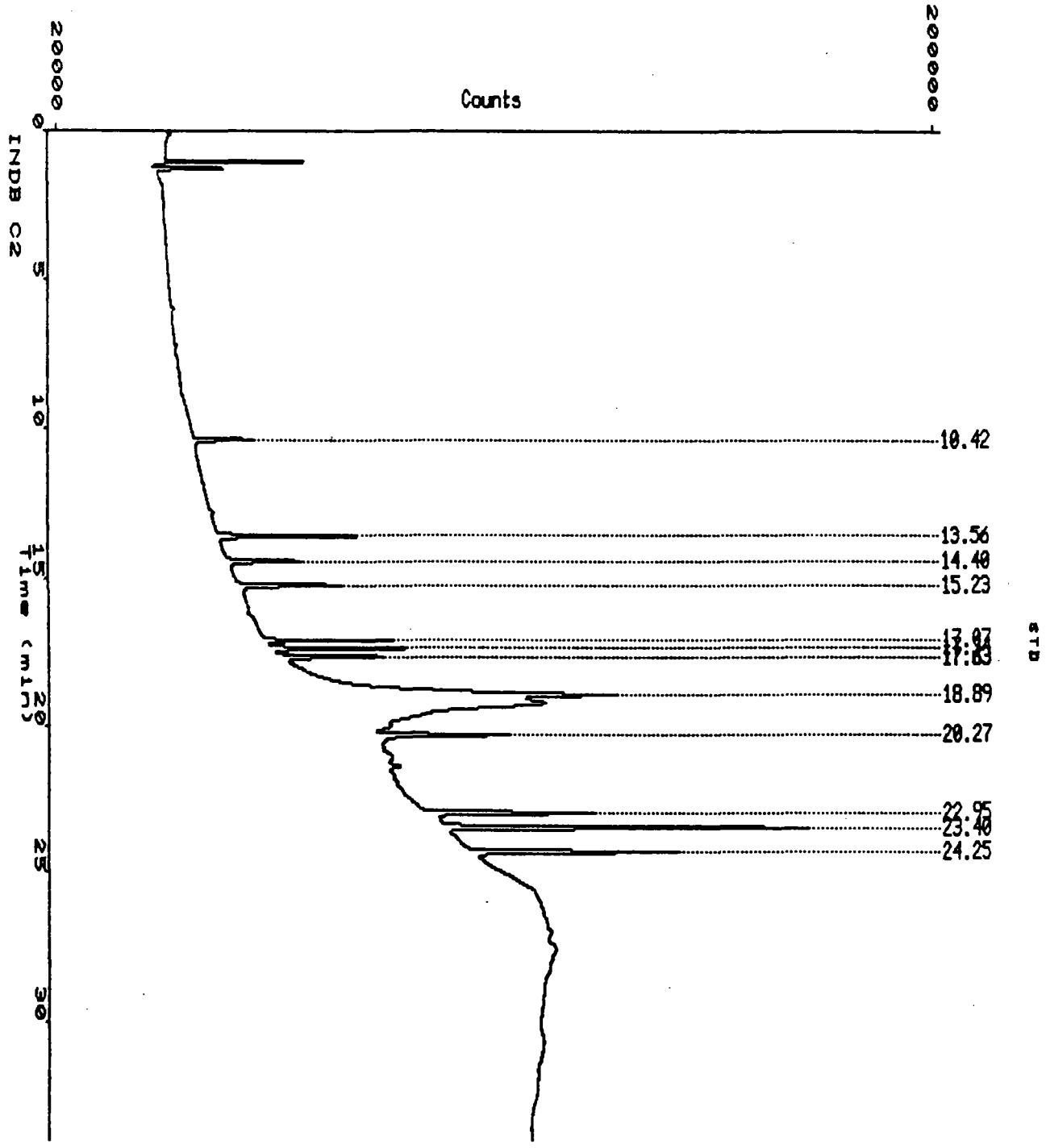
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	11.854	63350	5.0000	1.267E+04		
HEPTACHLOR	12.626	172363	10.0000	1.724E+04		
ALDRIN	13.576	138416	10.0000	1.384E+04		
HEPT.EPOXIDE	15.989	137906	10.0000	1.379E+04		
ENDOSULFAN I	16.930	133922	10.0000	1.339E+04		
DIELDRIN	18.181	119545	10.0000	1.196E+04		
ENDOSULFAN II	20.505	237482	20.0000	1.187E+04		
DDT	20.873	137608	20.0000	6.880E+03		
ENDRIN ALDEHYDE	21.879	160172	25.0000	6.407E+03		
METHOXYCHLOR	23.026	436161	100.0000	4.362E+03		
DBC	23.417	389546	50.0000	7.791E+03		

Data file: NAI$DIR:[DATA.CLP]F0613007

Report: 17860

Acquired: 13-JUN-1989 19:03:53

Time range: 0.00-34.00



QUANT. DATE..... 6-JUL-1989 10:59:06.84
DATA FILE.....NAI$DIR:[DATA.CLP]F0613007.RAW;1
ANAL. DATE.....13-JUN-1989 19:03:53
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDB C2
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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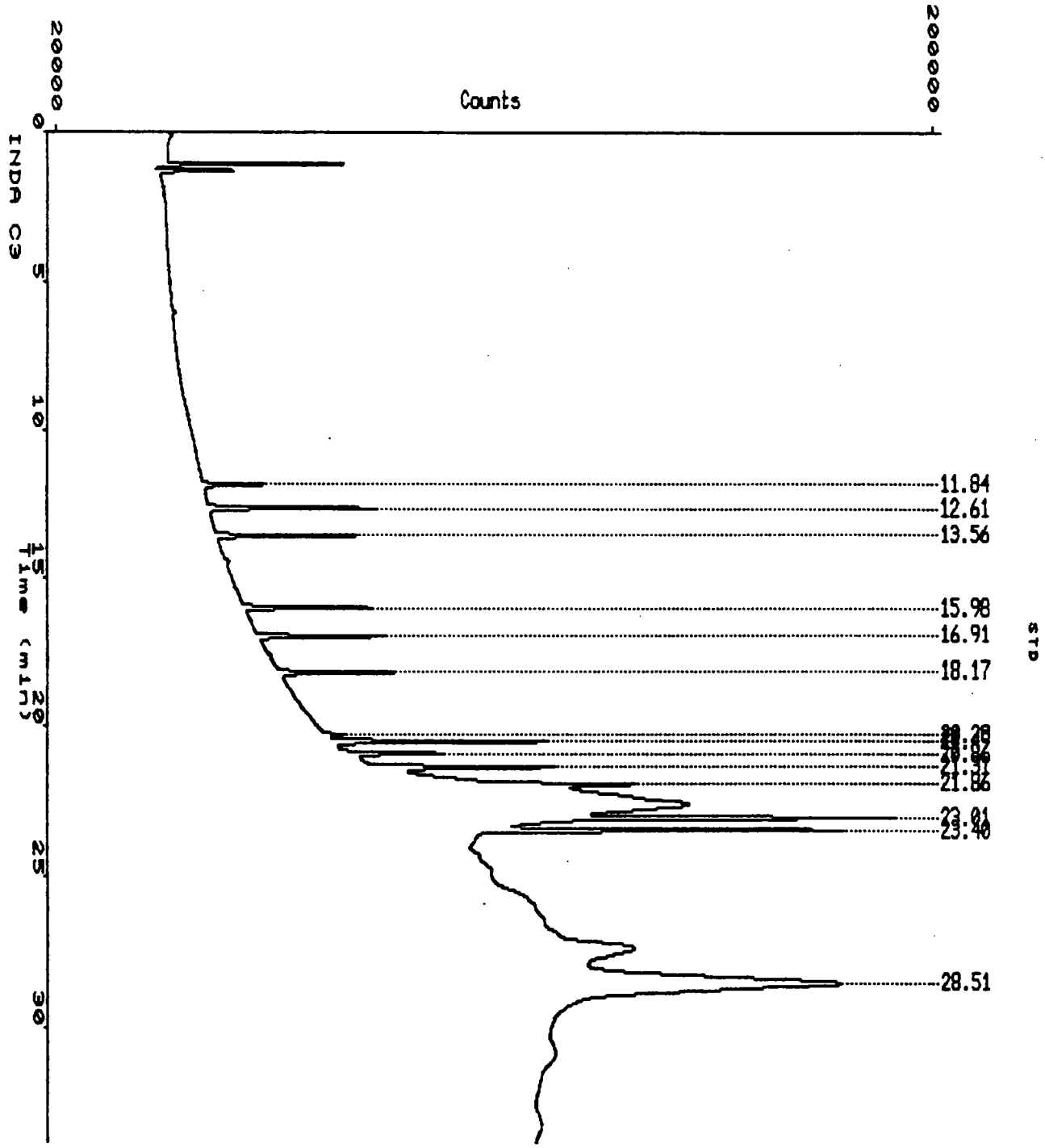
Calibration sample name: INDB C2

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
A-BHC	10.425	58240	5.0000	1.165E+04		
ALDRIN	13.564	138480	10.0000	1.385E+04		
B-BHC	14.400	78618	10.0000	7.862E+03		
D-BHC	15.230	113818	10.0000	1.138E+04		
G-CHLORDANE	17.067	133928	10.0000	1.339E+04		
A-CHLORDANE	17.339	137493	10.0000	1.375E+04		
DDE	17.626	108103	10.0000	1.081E+04		
ENDRIN	18.888	93273	10.0000	9.327E+03		
DDD	20.273	136617	20.0000	6.831E+03		
ENDO.SULFATE	22.946	183440	20.0000	9.172E+03		
DBC	23.403	398081	50.0000	7.962E+03		
ENDRIN KETONE	24.251	212215	20.0000	1.061E+04		

Data file: NAI$DIR:[DATA.CLP]F0613020
Report: 17888
Acquired: 14-JUN-1989 03:35:20
Time range: 0.00-34.00



QUANT. DATE..... 5-JUL-1989 09:02:44.11
DATA FILE.....NAI$DIR:[DATA.CLP]F0613020.RAW;1
ANAL. DATE.....14-JUN-1989 03:35:20
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA C3
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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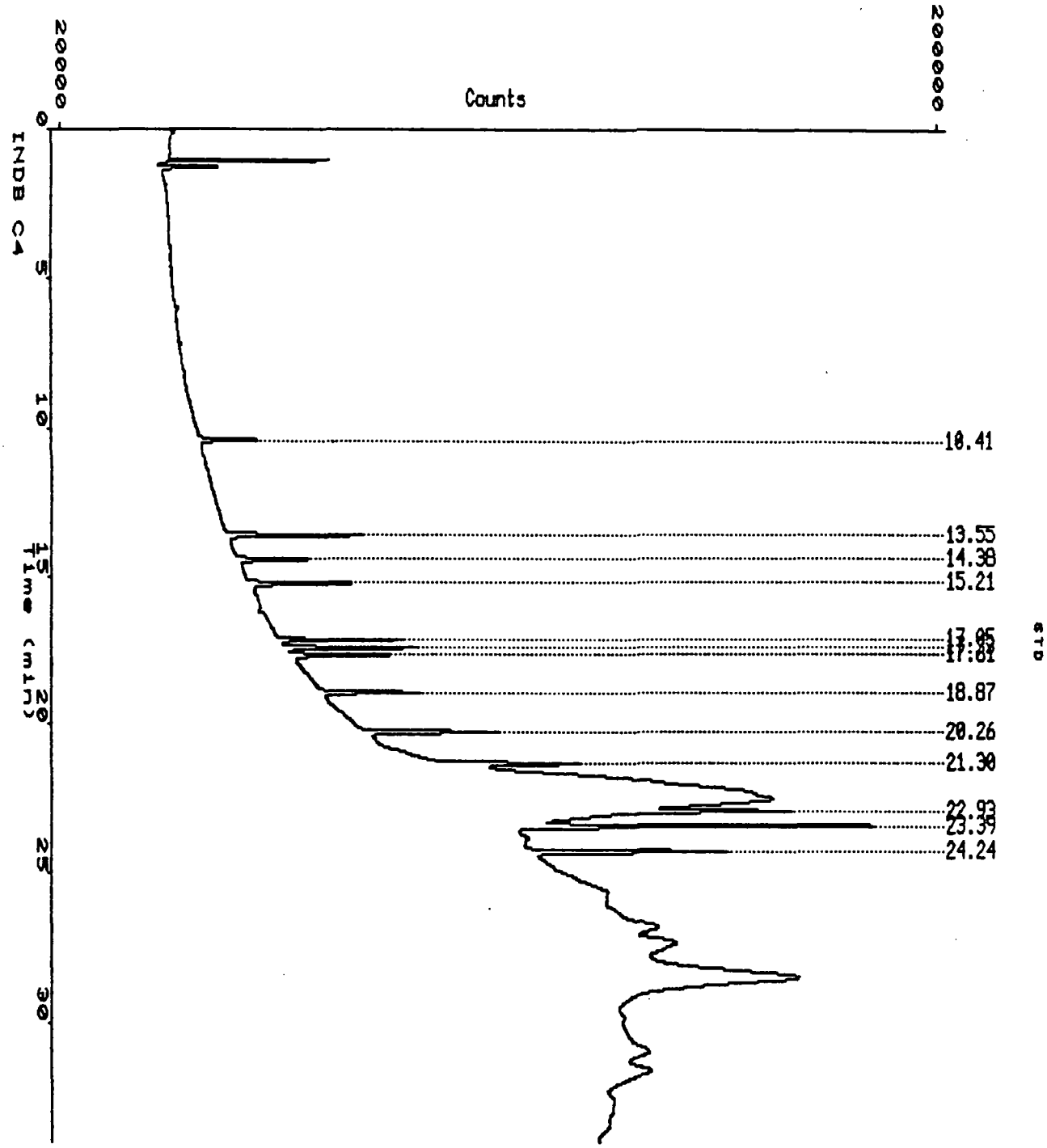
Calibration sample name: INDA C3

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	11.844	62336	5.0000	1.247E+04		
HEPTACHLOR	12.614	166816	10.0000	1.668E+04		
ALDRIN	13.564	137618	10.0000	1.376E+04		
HEPT.EPOXIDE	15.976	133523	10.0000	1.335E+04		
ENDOSULFAN I	16.915	132370	10.0000	1.324E+04		
DIELDRIN	18.168	119770	10.0000	1.198E+04		
ENDOSULFAN II	20.491	225981	20.0000	1.130E+04		
DDT	20.859	104463	20.0000	5.223E+03		
ENDRIN ALDEHYDE	21.864	133505	25.0000	5.340E+03		
METHOXYCHLOR	23.010	382713	100.0000	3.827E+03		
DBC	23.400	372734	50.0000	7.455E+03		

Data file: NAI$DIR:[DATA.CLP]F0613032
Report: 17914
Acquired: 14-JUN-1989 11:27:06
Time range: 0.00-34.00



QUANT. DATE.....14-JUN-1989 12:04:31.40
DATA FILE.....NAI$DIR:[DATA.CLP]F0613032.RAW;1
ANAL. DATE.....14-JUN-1989 11:27:06
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDB C4
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: INDB C4

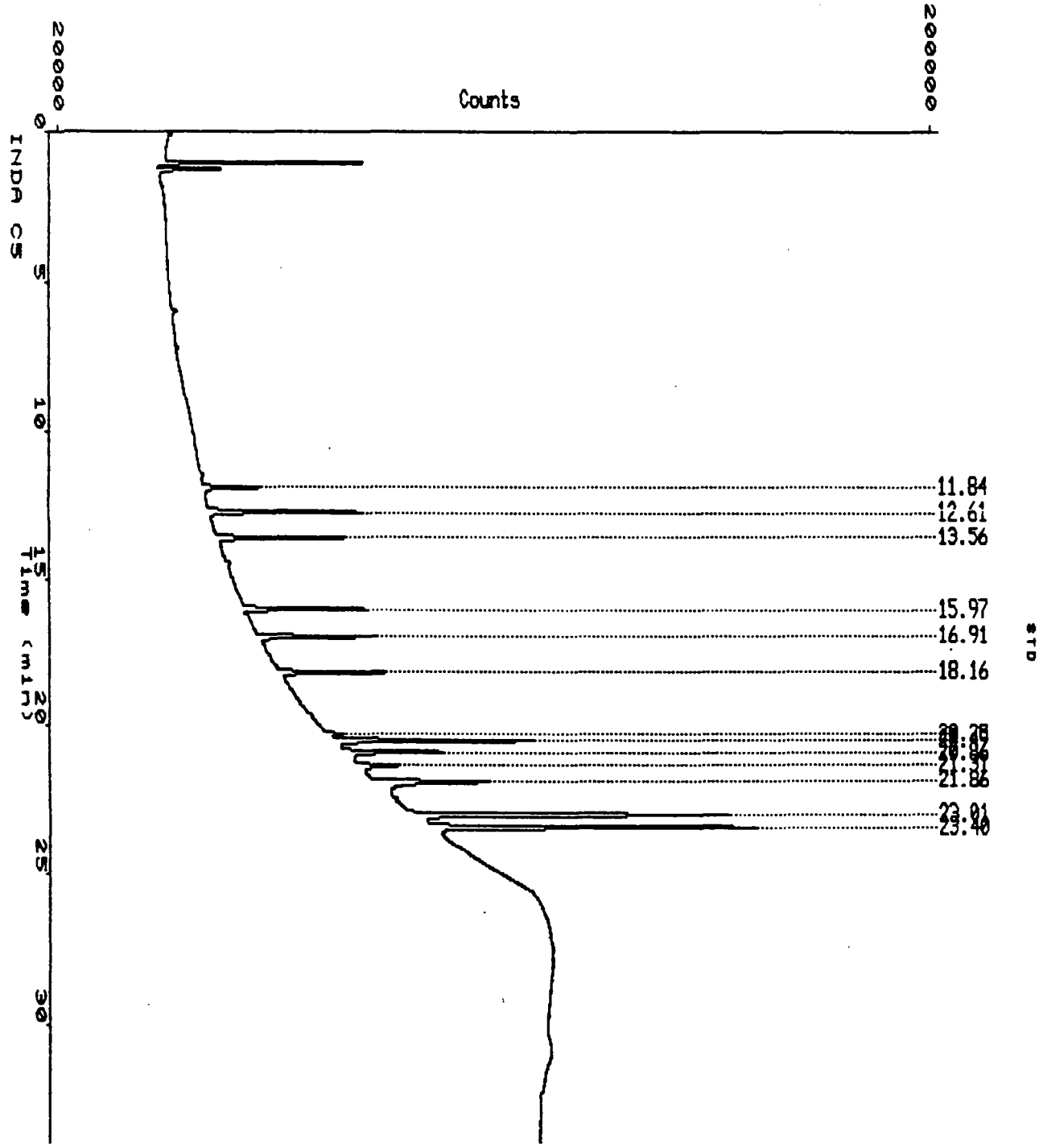
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
A-BHC	10.410	58284	5.0000	1.166E+04		
ALDRIN	13.551	135040	10.0000	1.350E+04		
B-BHC	14.383	75029	10.0000	7.503E+03		
D-BHC	15.213	108267	10.0000	1.083E+04		
G-CHLORDANE	17.052	129680	10.0000	1.297E+04		
A-CHLORDANE	17.325	135951	10.0000	1.360E+04		
DDE	17.610	107167	10.0000	1.072E+04		
ENDRIN	18.871	100785	10.0000	1.008E+04		
DDD	20.258	146417	20.0000	7.321E+03		
ENDO.SULFATE	22.929	164656	20.0000	8.233E+03		
DBC	23.390	367603	50.0000	7.352E+03		
ENDRIN KETONE	24.239	216355	20.0000	1.082E+04		

Data file: MAI$DIR:[DATA.CLP]F0614007

Report: 17970

Acquired: 14-JUN-1989 20:26:18

Time range: 0.00-34.00



QUANT. DATE.....27-JUN-1989 07:29:27.07
DATA FILE.....NAI$DIR:[DATA.CLPJF0614007.RAW;1
ANAL. DATE.....14-JUN-1989 20:26:18
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA C5
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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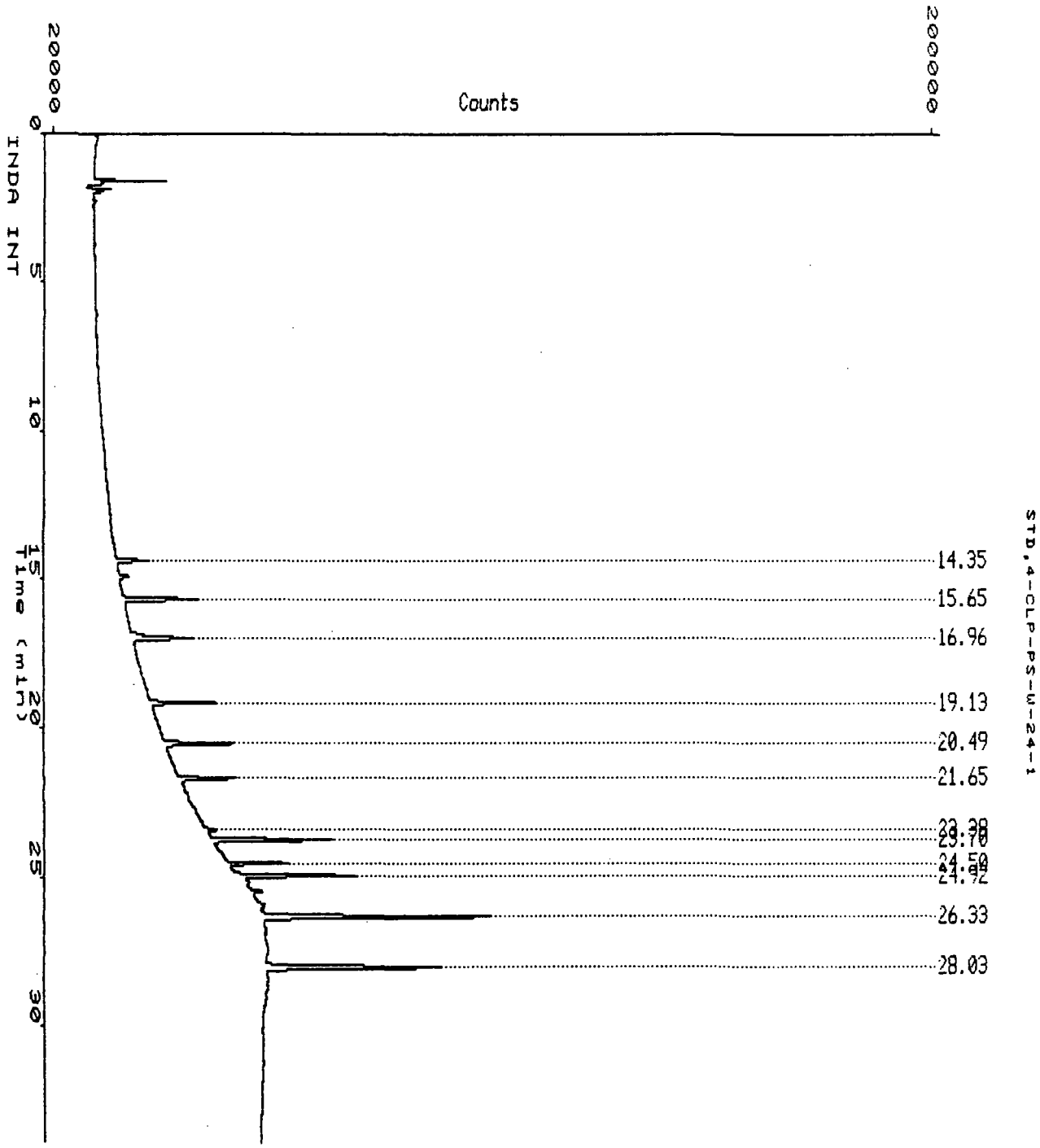
Calibration sample name: INDA C5

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	11.838	61619	5.0000	1.232E+04		
HEPTACHLOR	12.610	162632	10.0000	1.626E+04		
ALDRIN	13.559	131493	10.0000	1.315E+04		
HEPT.EPOXIDE	15.972	130455	10.0000	1.305E+04		
ENDOSULFAN I	16.910	125746	10.0000	1.258E+04		
DIELDRIN	18.162	112432	10.0000	1.124E+04		
ENDOSULFAN II	20.486	214290	20.0000	1.072E+04		
DDT	20.855	110409	20.0000	5.520E+03		
ENDRIN ALDEHYDE	21.856	184131	25.0000	7.365E+03		
METHOXYCHLOR	23.007	370517	100.0000	3.705E+03		
DBC	23.399	382004	50.0000	7.640E+03		

Data file: NAI$DIR:[DATA.CLP]E0612005
Report: 17781
Acquired: 12-JUN-1989 18:24:10
Time range: 0.00-34.00



QUANT. DATE..... 3-JUL-1989 10:41:30.73
DATA FILE.....NAI$DIR:[DATA.CLP]E0612005.RAW;1
ANAL. DATE.....12-JUN-1989 18:24:10
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA INT
NOTES.....STD,4-CLP-PS-W-24-1

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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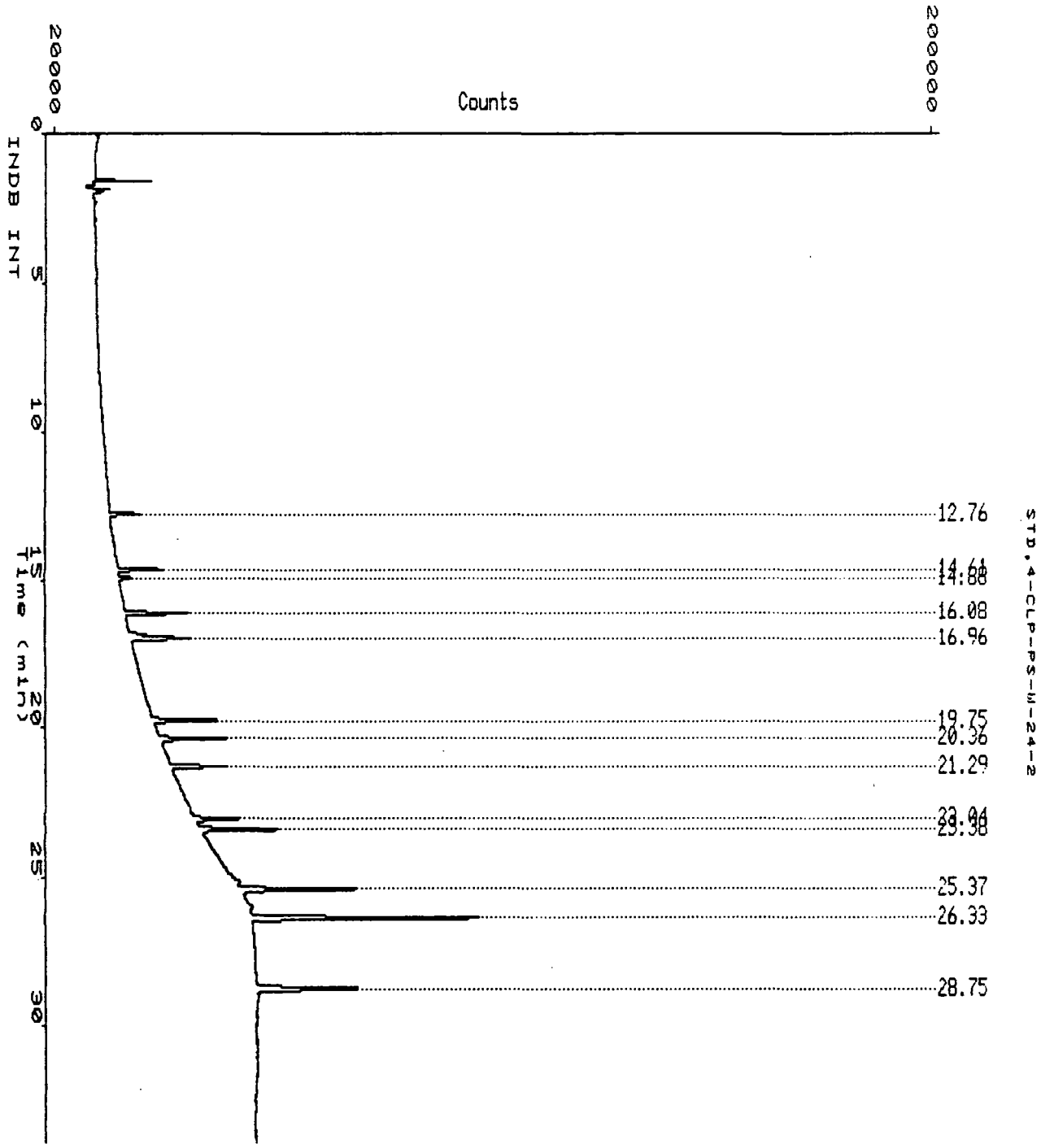
Calibration sample name: INDA INT

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	14.348	29483	5.0000	5.897E+03		
HEPTACHLOR	15.653	78427	10.0000	7.843E+03		
ALDRIN	16.961	52685	10.0000	5.269E+03		
HEPT.EPOXIDE	19.132	69772	10.0000	6.977E+03		
ENDOSULFAN I	20.491	72210	10.0000	7.221E+03		
DIELDRIN	21.652	60048	10.0000	6.005E+03		
ENDOSULFAN II	23.704	127691	20.0000	6.385E+03		
DDT	24.501	60206	20.0000	3.010E+03		
ENDRIN ALDEHYDE	24.917	121878	25.0000	4.875E+03		
DBC	26.326	272988	50.0000	5.460E+03		
METHOXYCHLOR	28.031	229968	100.0000	2.300E+03		

Data file: NAI$DIR:[DATA.CLP]E0612006
Report: 17782
Acquired: 12-JUN-1989 19:03:37
Time range: 0.00-34.00



QUANT. DATE..... 5-JUL-1989 10:41:03.58
DATA FILE.....NAI$DIR:[DATA.CLP]E0612006.RAW:1
ANAL. DATE.....12-JUN-1989 19:03:37
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDB INT
NOTES.....STD,4-CLP-PS-W-24-2

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: INDB INT

Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
A-BHC	12.760	26515	5.0000	5.303E+03		
B-BHC	14.611	42273	10.0000	4.227E+03		
D-BHC	16.079	56677	10.0000	5.668E+03		
ALDRIN	16.960	67461	10.0000	6.746E+03		
G-CHLORDANE	19.749	140390	10.0000	1.404E+04		
A-CHLORDANE	20.363	187490	10.0000	1.875E+04		
DDE	21.291	169164	10.0000	1.692E+04		
ENDRIN	23.044	238080	10.0000	2.381E+04		
DDD	23.377	279056	20.0000	1.395E+04		
ENDO.SULFATE	25.370	549778	20.0000	2.749E+04		
DBC	26.329	783450	50.0000	1.567E+04		
ENDRIN KETONE	28.751	645583	20.0000	3.228E+04		

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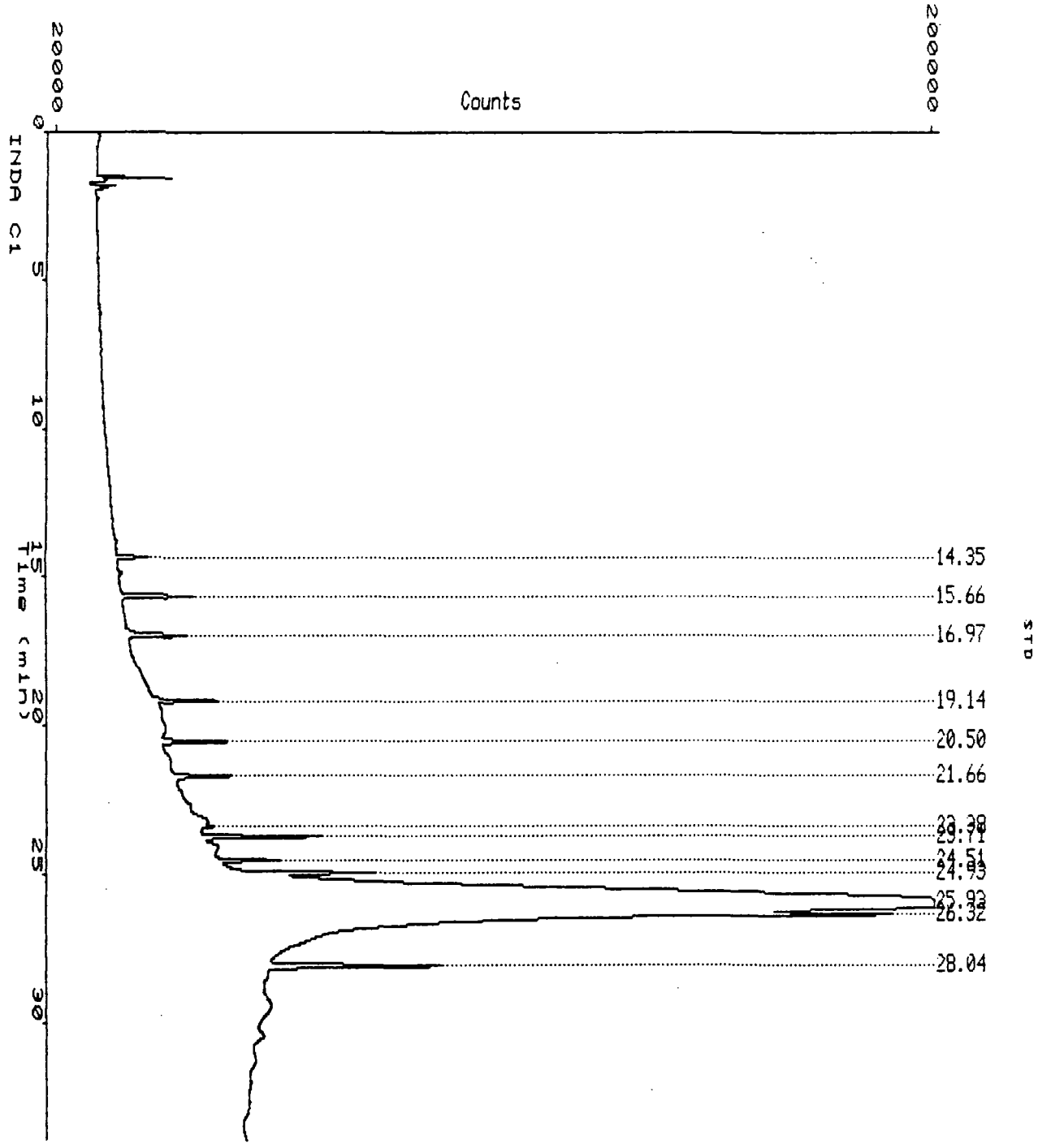
Report: 17813
Acquired: 13-JUN-1989 07:31:06
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:04:51.37
DATA FILE.....NAI$DIR:[DATA.CLP]E0612025.RAW;1
ANAL. DATE.....13-JUN-1989 07:31:06
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA C1
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: INDA C1

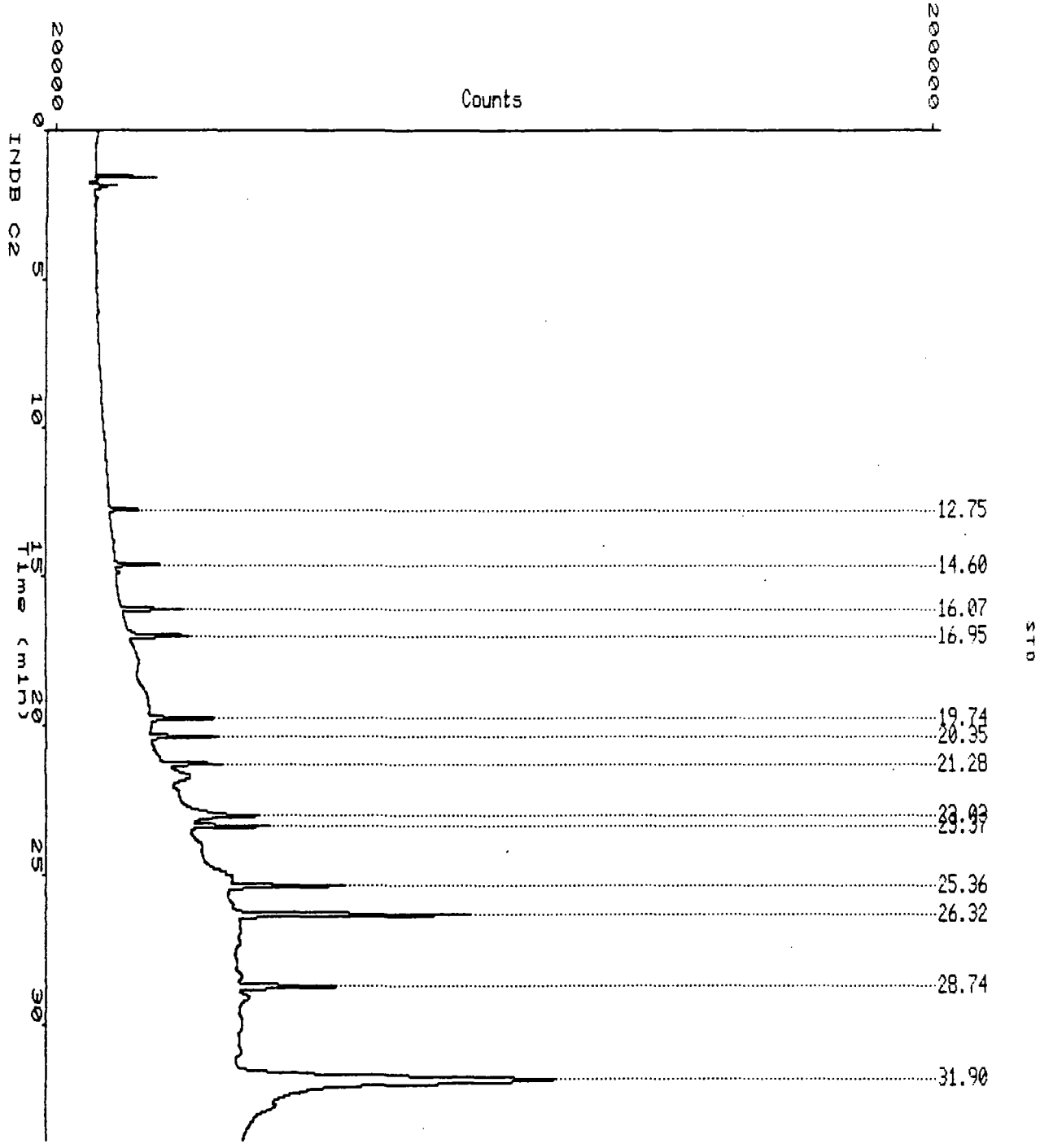
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	14.354	29214	5.0000	5.843E+03		
HEPTACHLOR	15.658	77400	10.0000	7.740E+03		
ALDRIN	16.968	57229	10.0000	5.723E+03		
HEPT.EPOXIDE	19.138	68475	10.0000	6.848E+03		
ENDOSULFAN I	20.498	69826	10.0000	6.983E+03		
DIELDRIN	21.660	68615	10.0000	6.862E+03		
ENDOSULFAN II	23.712	124788	20.0000	6.239E+03		
DDT	24.508	59634	20.0000	2.982E+03		
ENDRIN ALDEHYDE	24.928	189698	25.0000	7.588E+03		
DBC	26.317	2638416	50.0000	5.277E+04		
METHOXYCHLOR	28.041	237586	100.0000	2.376E+03		

Data file: NAI$DIR:[DATA.CLP]E0613006

Report: 17859

Acquired: 13-JUN-1989 18:24:12

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 19:57:31.79
DATA FILE.....NAI$DIR:[DATA.CLP]E0613006.RAW:1
ANAL. DATE.....13-JUN-1989 18:24:12
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDB C2
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

EXTERNAL STANDARD CALIBRATION

Calibration sample name: INDB C2

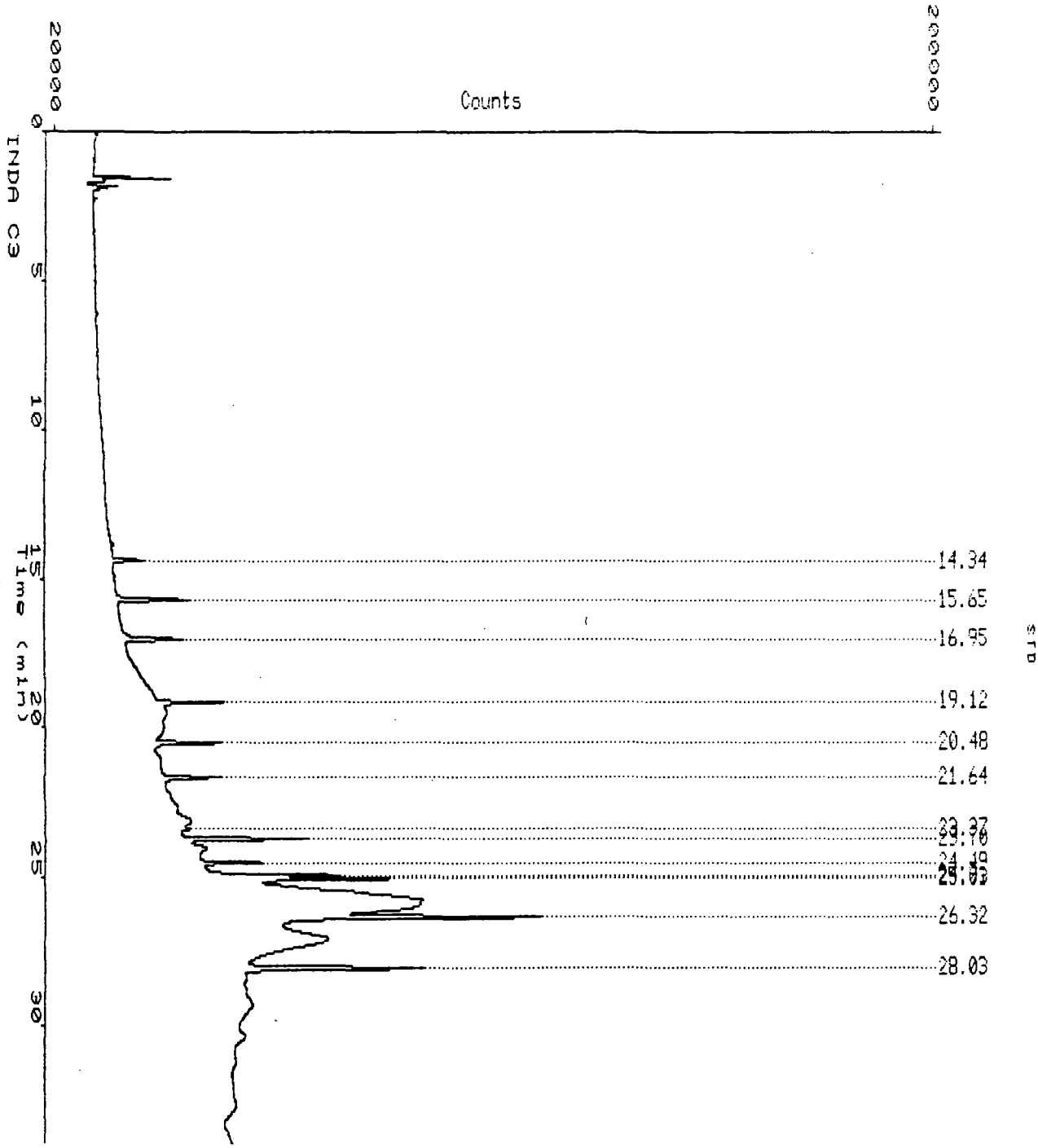
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
A-BHC	12.749	26810	5.0000	5.362E+03		
B-BHC	14.602	42793	10.0000	4.279E+03		
D-BHC	16.069	57432	10.0000	5.743E+03		
ALDRIN	16.950	58298	10.0000	5.830E+03		
G-CHLORDANE	19.737	69529	10.0000	6.953E+03		
A-CHLORDANE	20.352	71835	10.0000	7.184E+03		
DDE	21.279	53319	10.0000	5.332E+03		
ENDRIN	23.030	111776	10.0000	1.118E+04		
DDD	23.366	76840	20.0000	3.842E+03		
ENDO.SULFATE	25.357	126076	20.0000	6.304E+03		
DBC	26.318	283199	50.0000	5.664E+03		
ENDRIN KETONE	28.738	135337	20.0000	6.767E+03		

Data file: NAI$DIR:[DATA.CLP]E0613019

Report: 18085

Acquired: 14-JUN-1989 02:55:45

Time range: 0.00-34.00



QUANT. DATE.....27-JUN-1989 11:37:25.29
DATA FILE.....NAI$DIR:[DATA.CLP]E0613019.RAW:1
ANAL. DATE.....14-JUN-1989 02:55:45
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA C3
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: INDA C3

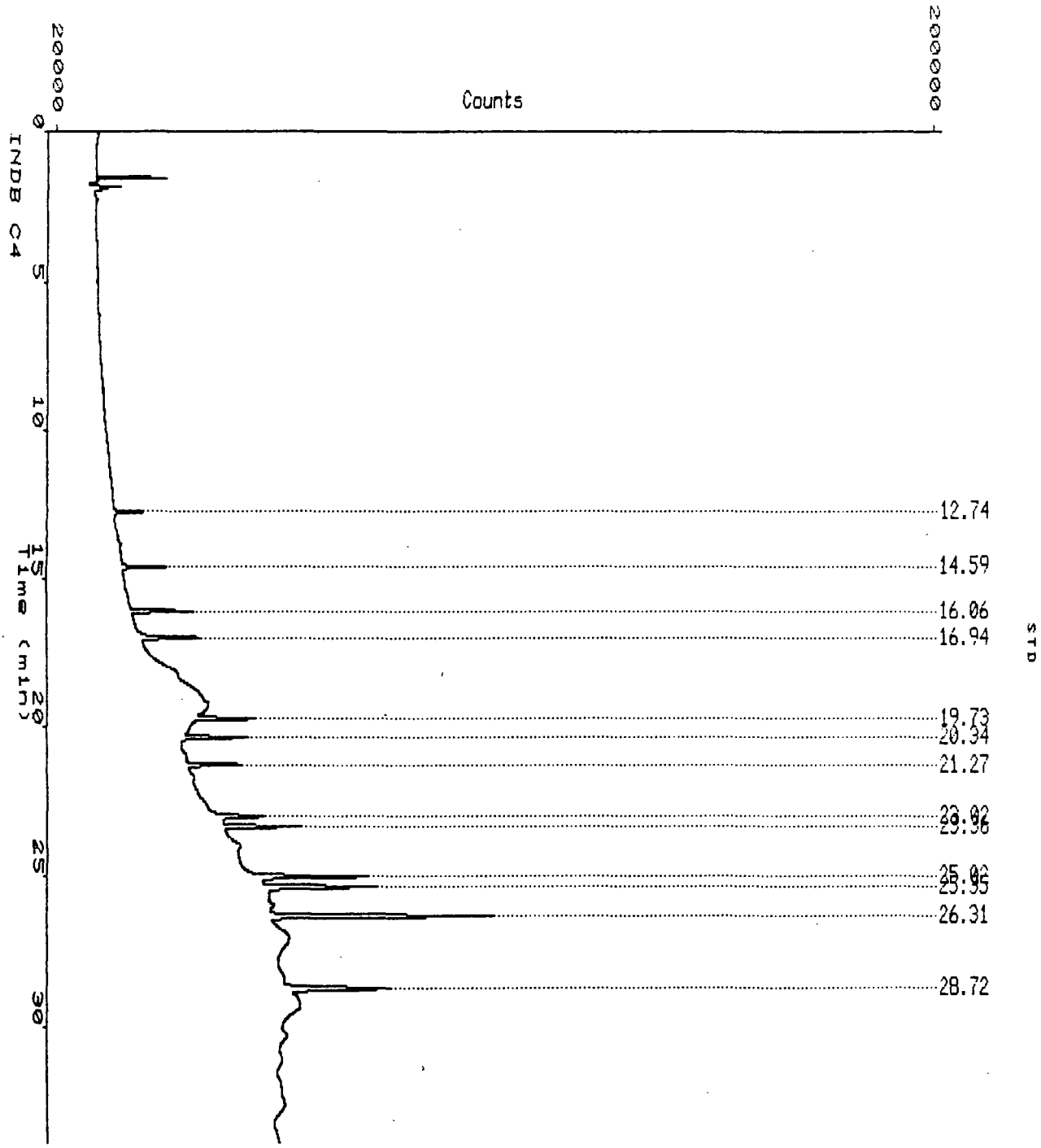
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	14.342	29281	5.0000	5.856E+03		
HEPTACHLOR	15.645	78110	10.0000	7.811E+03		
ALDRIN	16.954	58264	10.0000	5.826E+03		
HEPT.EPOXIDE	19.123	67120	10.0000	6.712E+03		
ENDOSULFAN I	20.483	71401	10.0000	7.140E+03		
DIELDRIN	21.644	66102	10.0000	6.610E+03		
ENDOSULFAN II	23.697	124516	20.0000	6.226E+03		
DDT	24.495	58758	20.0000	2.938E+03		
ENDRIN ALDEHYDE	24.913	112657	25.0000	4.506E+03		
DBC	26.320	254635	50.0000	5.093E+03		
METHOXYCHLOR	28.027	227717	100.0000	2.277E+03		

Data file: NAI$DIR:[DATA.CLP]E0613031

Report: 17913

Acquired: 14-JUN-1989 10:47:30

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 21:09:34.22
DATA FILE.....NAI$DIR:[DATA.CLP]E0613031.RAW:1
ANAL. DATE.....14-JUN-1989 10:47:30
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDB C4
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

EXTERNAL STANDARD CALIBRATION

Calibration sample name: INDB C4

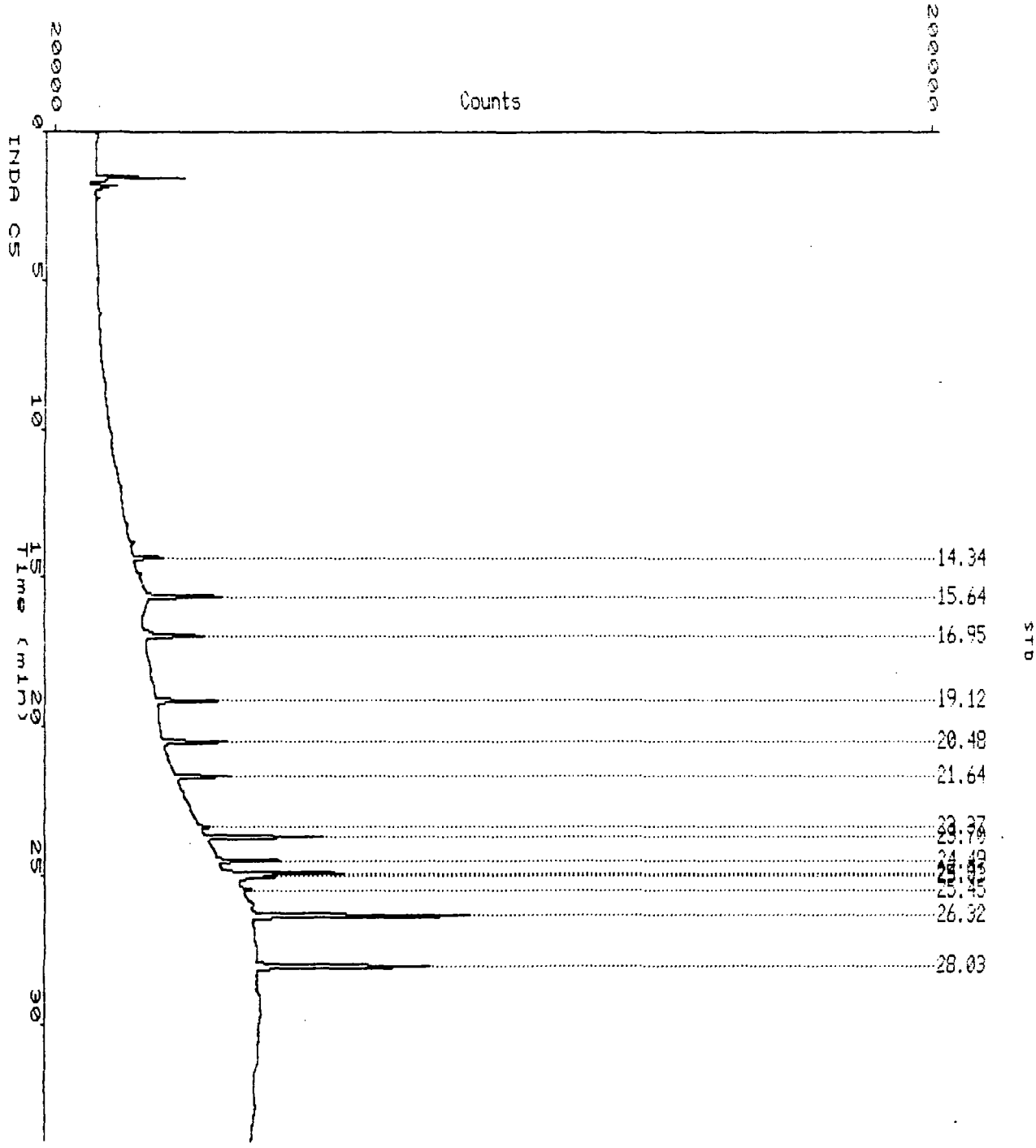
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
A-BHC	12.741	26292	5.0000	5.258E+03		
B-BHC	14.594	41691	10.0000	4.169E+03		
D-BHC	16.060	56170	10.0000	5.617E+03		
ALDRIN	16.941	59232	10.0000	5.923E+03		
G-CHLORDANE	19.727	63692	10.0000	6.369E+03		
A-CHLORDANE	20.341	66661	10.0000	6.666E+03		
DDE	21.270	53370	10.0000	5.337E+03		
ENDRIN	23.021	52008	10.0000	5.201E+03		
DDD	23.358	74210	20.0000	3.711E+03		
ENDO.SULFATE	25.348	136281	20.0000	6.814E+03		
DBC	26.307	263986	50.0000	5.280E+03		
ENDRIN KETONE	28.722	136947	20.0000	6.847E+03		

Data file: NAI$DIR:[DATA.CLP]E0614006

Report: 18053

Acquired: 14-JUN-1989 19:46:36

Time range: 0.00-34.00



QUANT. DATE.....27-JUN-1989 10:30:32.48
DATA FILE.....NAI$DIR:[DATA.CLP]E0614006.RAW;1
ANAL. DATE.....14-JUN-1989 19:46:26
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....INDA C5
NOTES.....STD

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Volume injected.....1.000

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EXTERNAL STANDARD CALIBRATION

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Calibration sample name: INDA C5

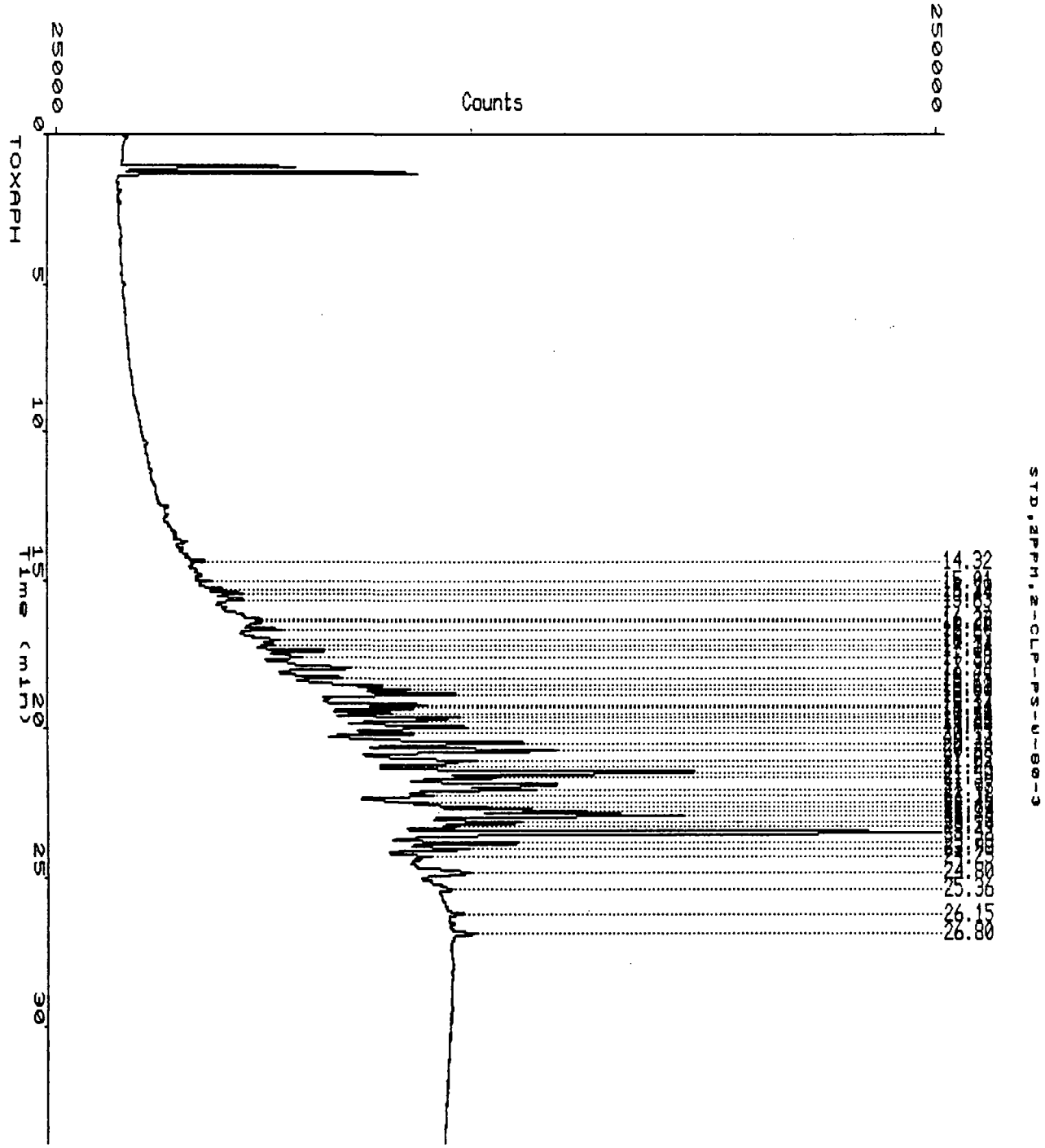
Peak Name	R.T. (min)	Peak Area	Conc	CF	Ref	Std
G-BHC	14.339	29141	5.0000	5.828E+03		
HEPTACHLOR	15.641	80514	10.0000	8.051E+03		
ALDRIN	16.951	56059	10.0000	5.606E+03		
HEPT.EPOXIDE	19.120	67325	10.0000	6.733E+03		
ENDOSULFAN I	20.480	69612	10.0000	6.961E+03		
DIELDRIN	21.643	59233	10.0000	5.923E+03		
ENDOSULFAN II	23.696	123200	20.0000	6.160E+03		
DDT	24.493	60805	20.0000	3.040E+03		
ENDRIN ALDEHYDE	24.910	126922	25.0000	5.077E+03		
DBC	26.320	259978	50.0000	5.200E+03		
METHOXYCHLOR	28.025	229034	100.0000	2.290E+03		

Data file: NAI$DIR:[DATA.CLP]F0612008

Report: 17806

Acquired: 12-JUN-1989 20:22:38

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:53:50.30
DATA FILE.....NAI$DIR:[DATA.CLP]F0612008.RAW;1
ANAL. DATE.....12-JUN-1989 20:22:38
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....TOXAPH
NOTES.....STD,2PPM,2-CLP-PS-W-80-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS
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Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	14.324		16341		BB
	15.013		16079		BB
D-BHC	15.291	2.2976	25204		BV
	15.439		45373		VV
	15.632		63850		VB
	16.263		21098		BV
	16.373		17118		VB
	16.603		41796		BB
ENDOSULFAN I	16.968	5.1960	68490		BV
G-CHLORDANE	17.141	3.0816	40104		VB
A-CHLORDANE	17.342	6.5551	88605		BV
DDE	17.582	8.0239	85075		VB
	17.940		199795		BB
DIELDRIN	18.250	7.0451	82872		BV
	18.510		144460		VV
	18.632		184714		VV
	18.788		242212		VB
	19.141		129605		BV
	19.263		105261		VB
	19.412		68853		BB
	19.595		168803		BV
	19.682		89886		VB
	19.891		118914		BB
	20.150		78960		BB
ENDOSULFAN II	20.441	37.484	416851		BV
	20.682		367864		VB
	21.020		44614		BB
	21.237		16433		BB

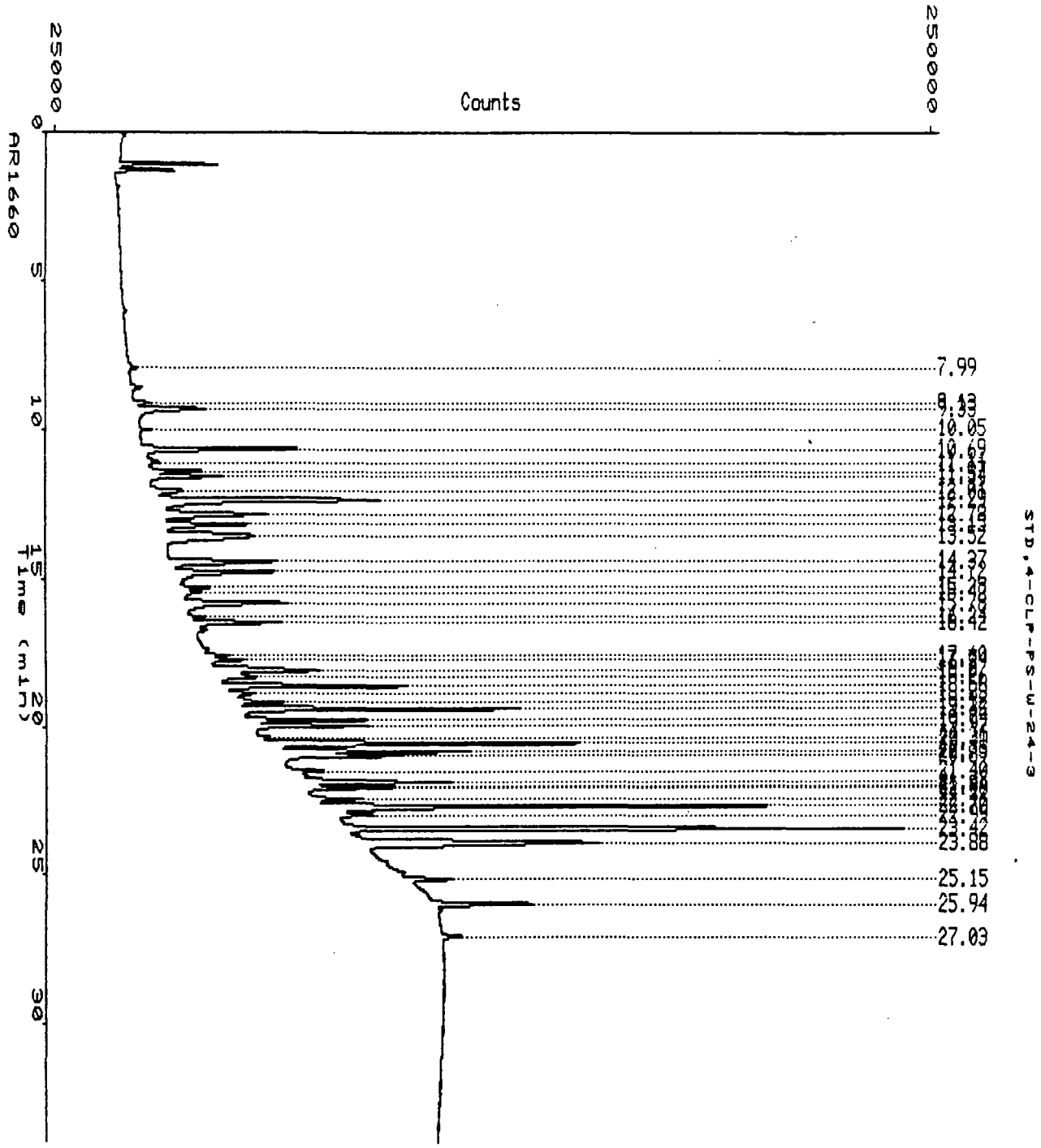
	21.397		601403	BV
	21.584		151621	VB
ENDRIN ALDEHYD	21.969	13.132	97320	BB
	22.179		56729	BB
	22.486		124598	BV
	22.602		177391	VV
	22.731		322857	VV
ENDO.SULFATE	22.864	60.802	547097	VV
METHOXYCHLOR	23.098	77.111	324876	VV
	23.236		112577	VV
DBC	23.417	1.49E+02	1180880	VV
	23.787		199604	VV
	23.983		139960	VB
ENDRIN KETONE	24.249	3.1689	34387	BB
	24.803		65865	BB
	25.357		37866	BB
	26.146		20679	BB
	26.795		33584	BB

Data file: NAI$DIR:[DATA.CLP]F0612009

Report: 17808

Acquired: 12-JUN-1989 21:01:57

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:57:14.55
DATA FILE.....NAI$DIR:[DATA.CLP]F0612009.RAW;1
ANAL. DATE.....12-JUN-1989 21:01:57
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1660
NOTES.....STD,4-CLP-PS-W-24-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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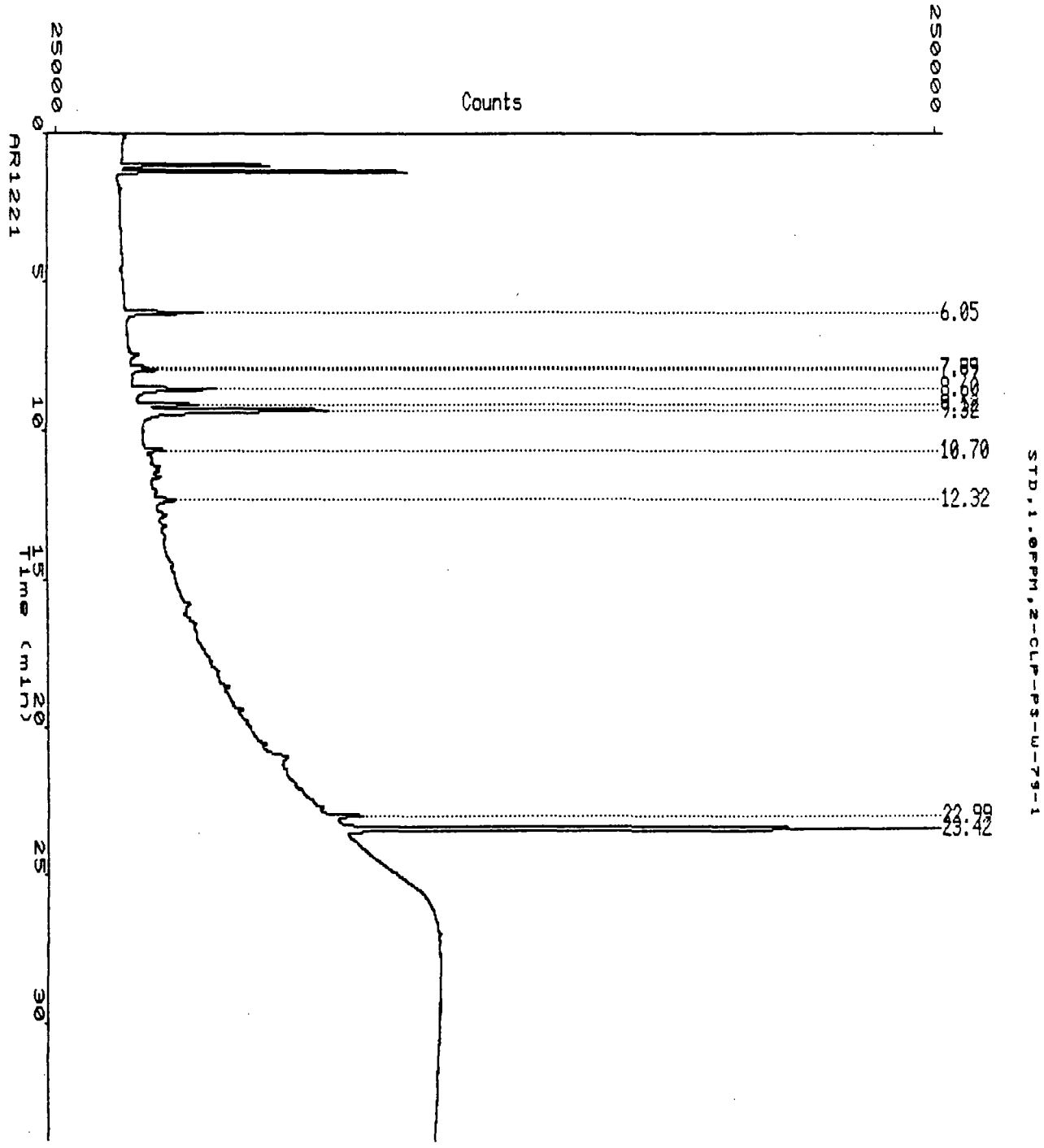
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	7.987		6209		BB
	9.128		22009		BV
	9.329		138266		VB
	10.053		13865		BB
	10.685		231995		BB
	11.106		8117		BB
	11.372		70151		BV
	11.542		105187		VB
	12.011		67317		BV
	12.292		521504		VV
	12.778		250903		VV
	13.145		176076		VV
ALDRIN	13.520	23.856	324603		VB
B-BHC	14.374	24.955	213857		BV
	14.725		188188		VB
D-BHC	15.282	3.4511	37857		BV
	15.424		32498		VB
	15.778		206418		BB
	16.235		16786		BV
	16.423		123974		VB
DDE	17.595	2.7795	29470		BV
	17.744		45802		VB
	18.075		215489		BV
DIELDRIN	18.263	7.2749	85575		VB
	18.563		261205		BV
ENDRIN	18.831	4.2130	42487		VV
	19.119		81091		VV
	19.320		404075		VB

	19.739		164451	BV
	19.923		188387	VB
DDD	20.307	1.7262	12147	BV
ENDOSULFAN II	20.493	49.585	551416	VV
	20.753		277272	VV
DDT	20.891	24.138	199992	VB
	21.398		31743	BB
	21.769		219140	BV
ENDRIN ALDEHYD	21.944	15.459	114568	VV
	22.076		65203	VB
	22.459		96871	BB
	22.700		545781	BB
ENDO.SULFATE	22.986	4.0450	36397	BB
DBC	23.417	97.976	776303	BB
	23.884		598496	BB
	25.152		60252	BB
	25.938		141213	BB
	27.031		28636	BB

Data file: NAI$DIR:[DATA.CLP]F0612010
Report: 17810
Acquired: 12-JUN-1989 21:41:20
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:00:31.22
DATA FILE.....NAI$DIR:[DATA.CLP]F0612010.RAW;1
ANAL. DATE.....12-JUN-1989 21:41:20
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1221
NOTES.....STD,1.0PPM.2-CLP-PS-W-79-1

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

EXTERNAL STANDARD ANALYSIS

Calibration sample name: IND

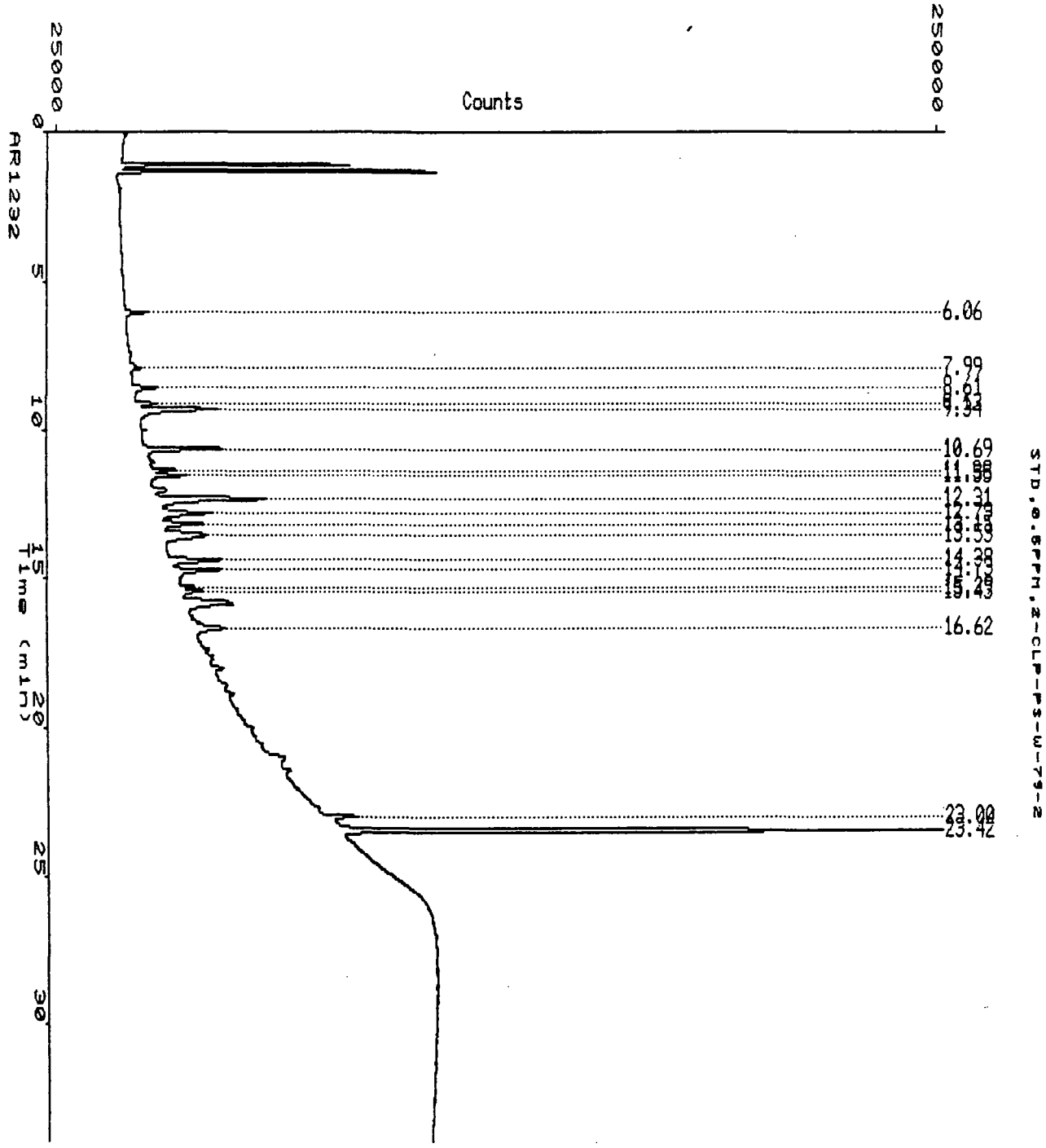
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	6.046		66855		BB
	7.887		19224		BV
	7.985		35133		VB
	8.597		145014		BB
	9.124		94892		BV
	9.324		395265		VB
	10.696		23895		BB
	12.316		42857		BB
ENDO.SULFATE	22.995	4.7705	42925		BB
DBC	23.419	1.24E+02	979719		BB

Data file: NAI$DIR:[DATA.CLP]F0612011

Report: 17812

Acquired: 12-JUN-1989 22:20:43

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:03:24.03
DATA FILE.....NAI$DIR:[DATA.CLP]F0612011.RAW;1
ANAL. DATE.....12-JUN-1989 22:20:43
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1232
NOTES.....STD,0.5PPM.2-CLP-PS-W-79-2

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

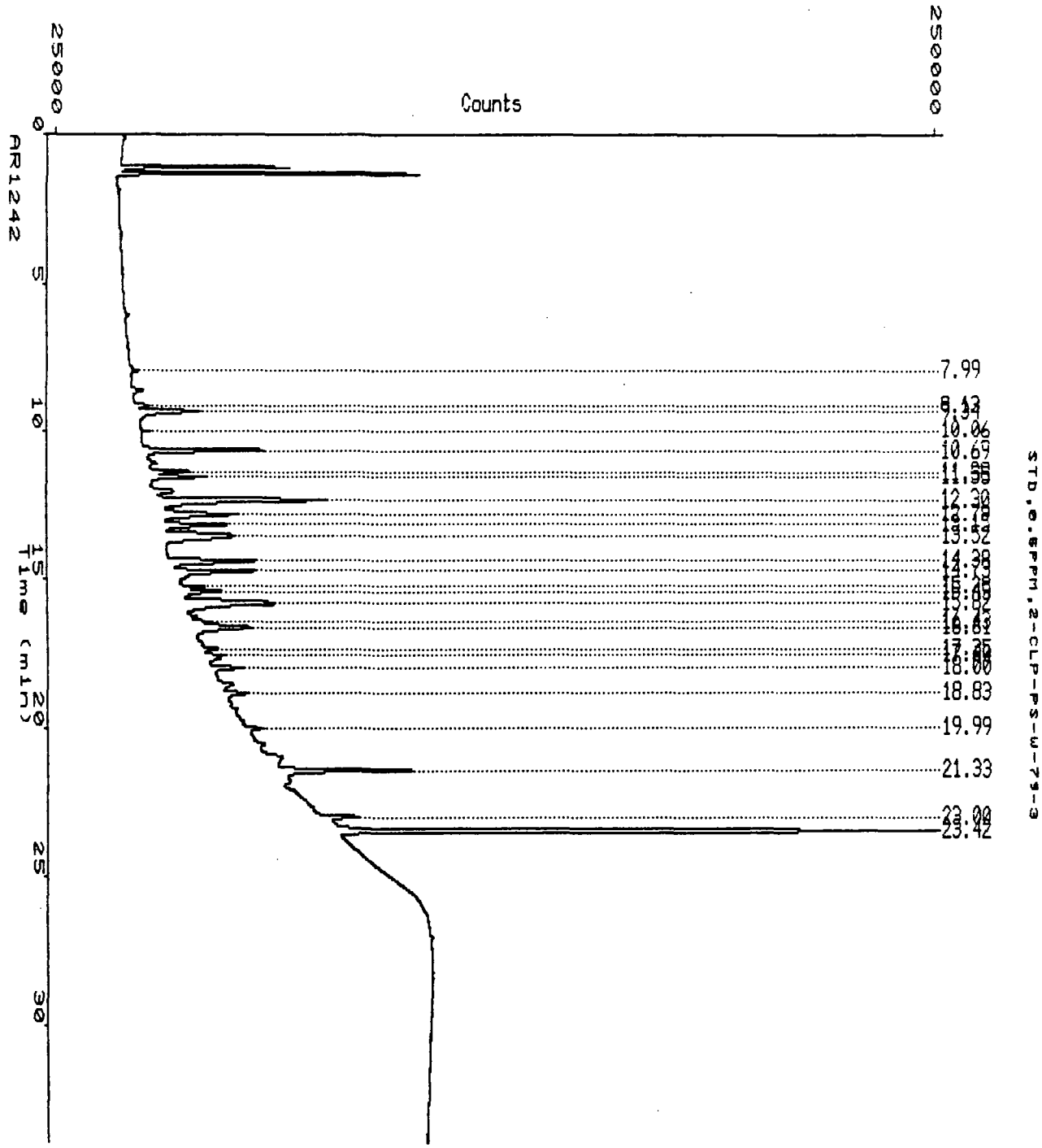
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	6.057		25802		BB
	7.991		6876		BB
	8.606		42101		BB
	9.134		32007		BV
	9.336		168636		VB
	10.693		117294		BB
	11.380		33294		BV
	11.549		50779		VB
	12.306		249663		BV
	12.789		113787		VV
	13.154		78823		VV
ALDRIN	13.534	10.261	139615		VB
B-BHC	14.382	11.695	100225		BB
	14.730		82777		BB
D-BHC	15.285	1.5795	17327		BV
	15.430		35026		VB
	16.623		71199		BB
ENDO.SULFATE	22.997	4.6505	41845		BB
DBC	23.420	1.18E+02	936192		BB

Data file: NAI$DIR:[DATA.CLP]F0612012

Report: 17814

Acquired: 12-JUN-1989 23:00:07

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:06:20.62
DATA FILE.....NAI$DIR:[DATA.CLP]F0612012.RAW;1
ANAL. DATE.....12-JUN-1989 23:00:07
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1242
NOTES.....STD,0.5PPM.2-CLP-PS-W-79-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

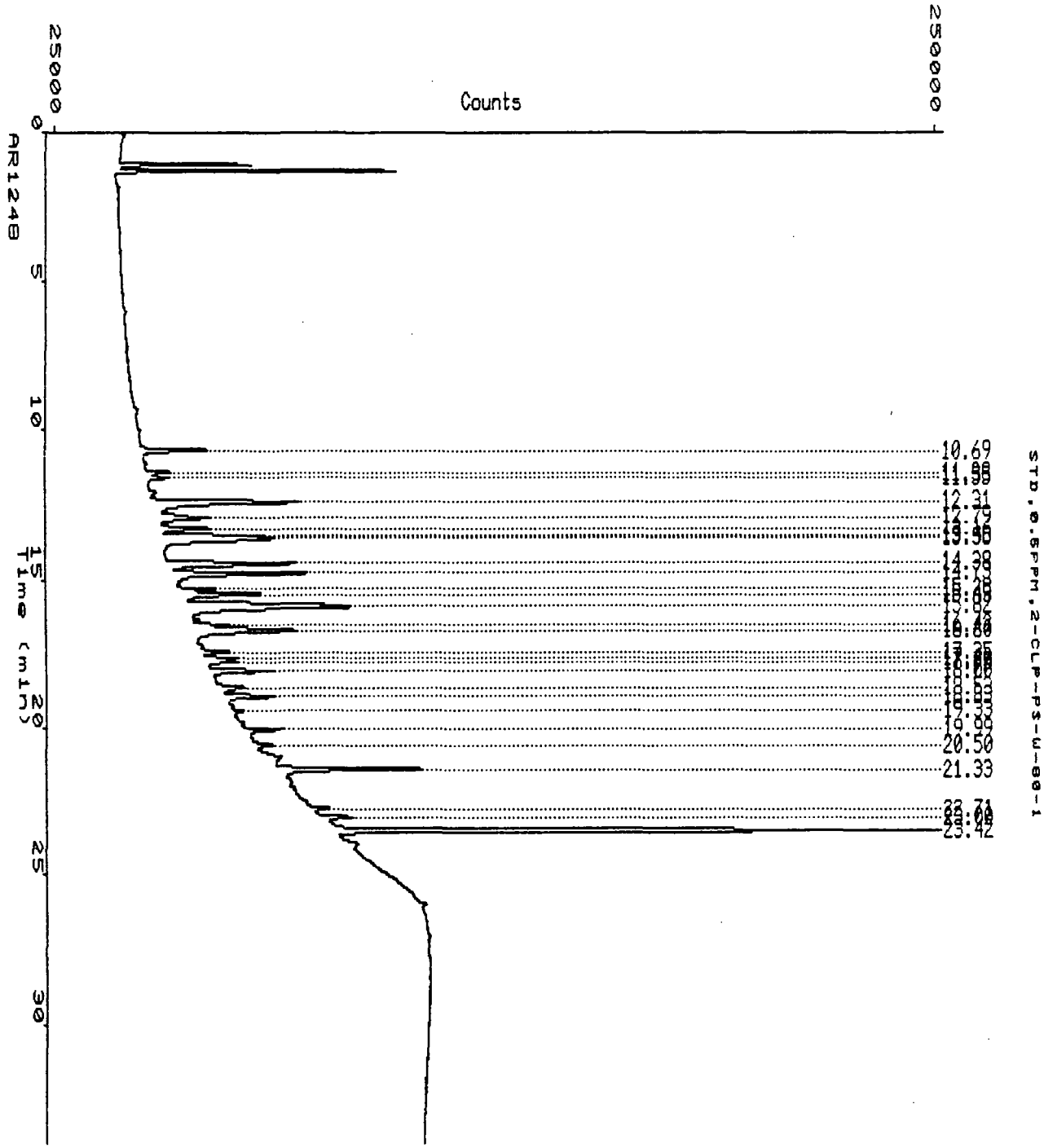
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	7.992		5814		BB
	9.135		20660		BV
	9.337		127619		VB
	10.058		8766		BB
	10.691		180505		BB
	11.378		54502		BV
	11.546		82989		VB
	12.300		383869		BV
	12.786		176950		VV
	13.152		126931		VV
ALDRIN	13.524	18.170	247241		VB
B-BHC	14.378	20.056	171873		BV
	14.727		146363		VB
D-BHC	15.283	2.7776	30469		BV
	15.427		66198		VB
	15.824		16184		BB
	16.425		24773		BV
	16.611		167026		VB
A-CHLORDANE	17.348	1.4376	19432		BB
DDE	17.596	1.1742	12450		BB
	17.999		46688		BB
ENDRIN	18.829	3.4580	34873		BB
	19.990		26209		BB
	21.328		210425		BB
ENDO.SULFATE	22.995	5.0236	45203		BB
DBC	23.420	1.31E+02	1036575		BB

Data file: NAI$DIR:[DATA.CLP]F0612013

Report: 17816

Acquired: 12-JUN-1989 23:39:27

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:09:20.10
DATA FILE.....NAI$DIR:[DATA.CLP]F0612013.RAW;1
ANAL. DATE.....12-JUN-1989 23:39:27
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1248
NOTES.....STD,0.5PPM,2-CLP-PS-W-80-1

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

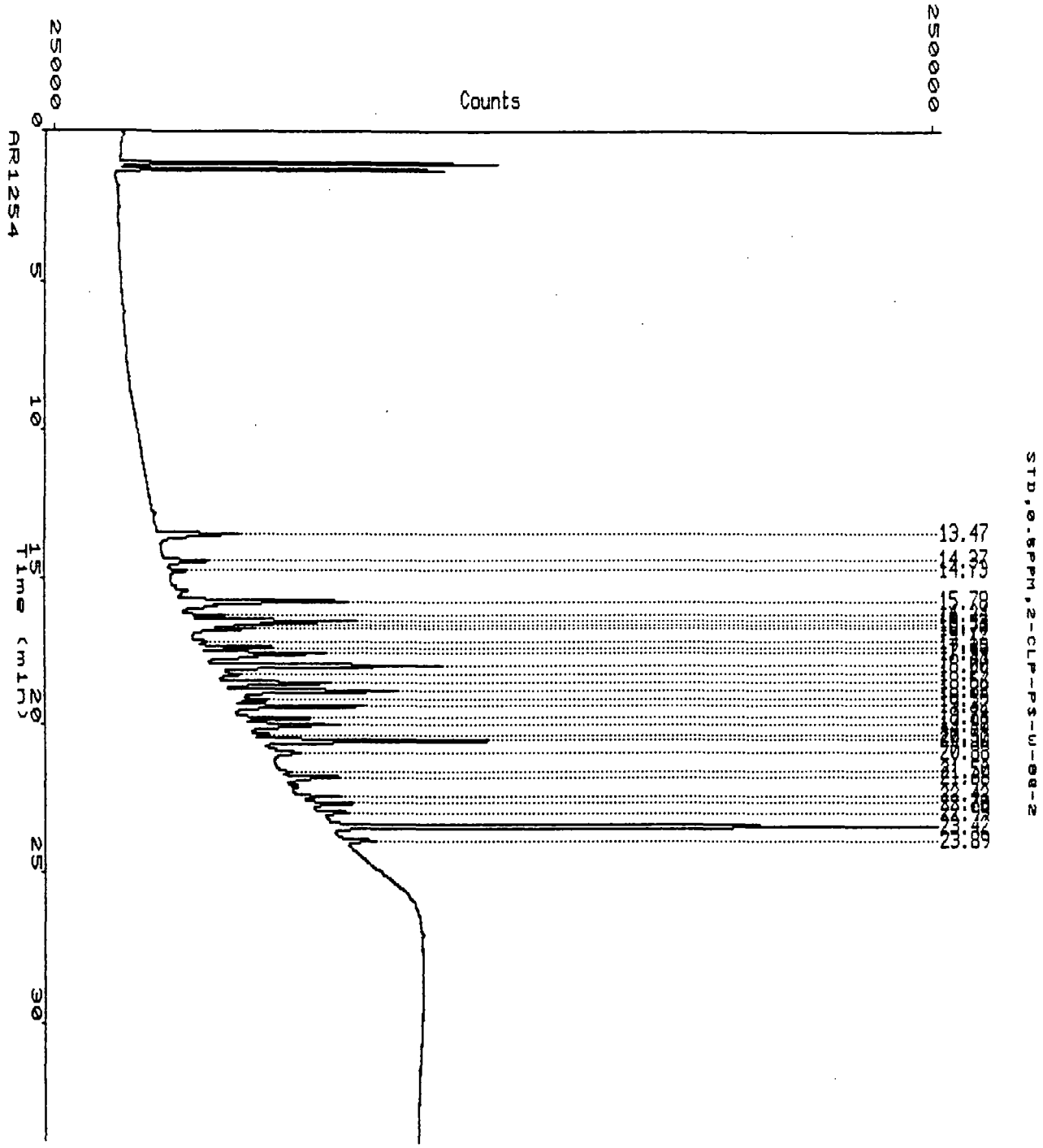
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	10.691		99590		BB
	11.380		35724		BV
	11.547		32375		VB
	12.305		348008		BV
	12.787		127727		VV
	13.163		94273		VV
	13.478		122482		VV
ALDRIN	13.550	19.539	265867		VB
B-BHC	14.376	29.784	255240		BV
	14.726		236018		VB
D-BHC	15.283	4.3337	47539		BV
	15.425		146224		VV
	15.818		515972		VB
	16.425		44636		BV
	16.600		307168		VB
A-CHLORDANE	17.350	2.9439	39793		BB
DDE	17.598	4.0379	42813		BV
	17.699		42458		VB
	17.999		90619		BB
	18.531		47341		BV
ENDRIN	18.829	7.6864	77516		VB
	19.327		11944		BB
	19.990		63597		BB
ENDOSULFAN II	20.505	2.1692	24123		BB
	21.330		227139		BB
	22.706		23078		BB
ENDO.SULFATE	22.998	4.3213	38883		BB
DBC	23.420	1.15E+02	912654		BB

Data file: NAI$DIR:[DATA.CLP]F0612014

Report: 17820

Acquired: 13-JUN-1989 00:18:47

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 18:14:35.61
DATA FILE.....NAI$DIR:[DATA.CLP]F0612014.RAW;1
ANAL. DATE.....13-JUN-1989 00:18:47
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1254
NOTES.....STD,0.5PPM.2-CLP-PS-W-80-2

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

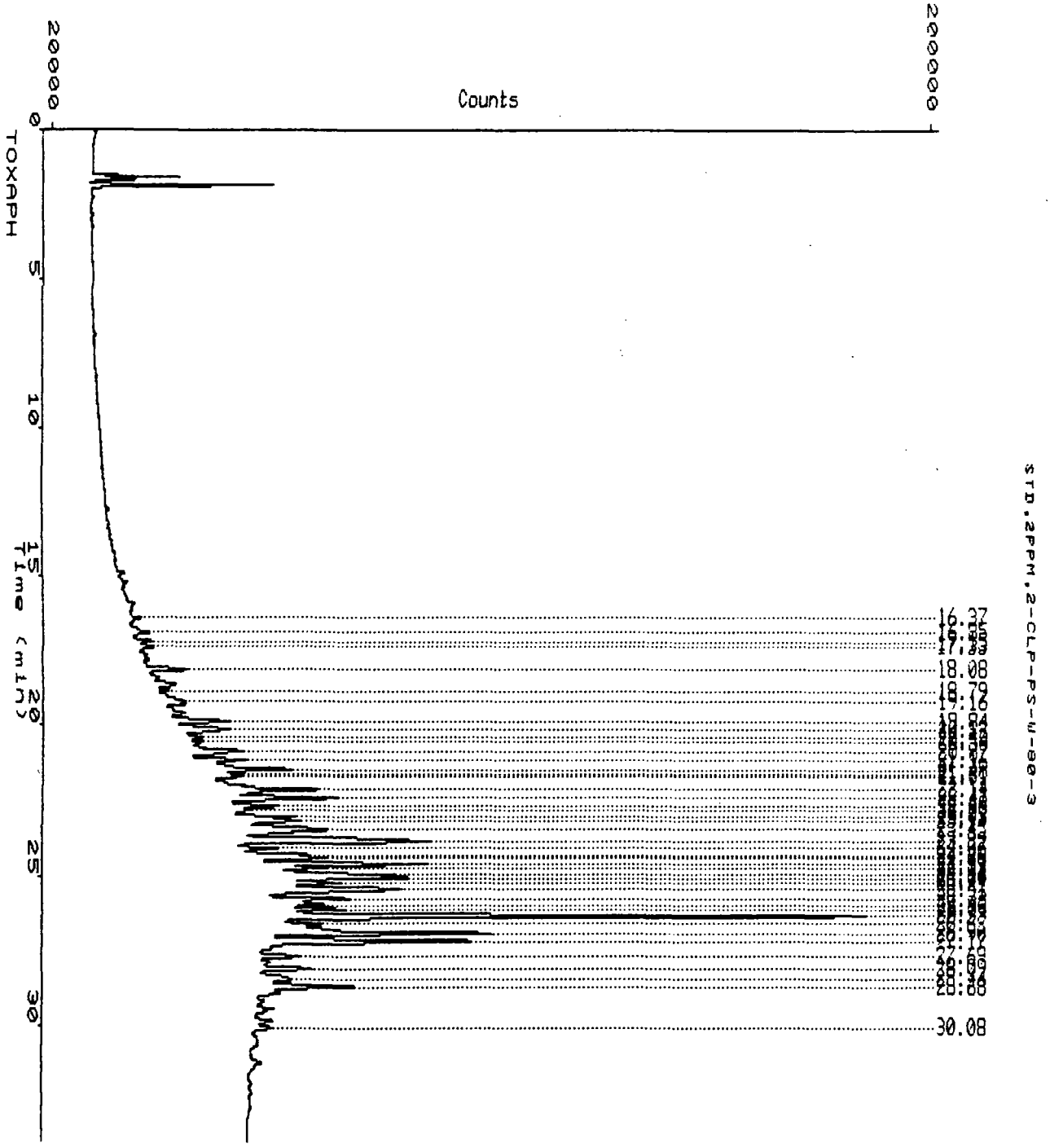
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	13.467		155986		BB
B-BHC	14.372	8.8087	75487		BV
	14.728		24599		VB
	15.776		231687		BB
	16.235		55372		BV
	16.423		253473		VV
	16.528		119787		VV
	16.699		105629		VB
G-CHLORDANE	17.165	0.94706	12325		BB
A-CHLORDANE	17.347	7.7458	104700		BB
DDE	17.593	10.134	107452		BB
	17.997		389241		BE
	18.294		40801		EB
	18.557		179889		BB
ENDRIN	18.825	24.715	249249		BB
	19.125		31091		BB
	19.322		185497		BB
	19.741		95991		BV
	19.978		221144		VB
DDD	20.306	2.6312	18515		BV
ENDOSULFAN II	20.501	34.194	380256		VV
DDT	20.878	8.6102	71338		VB
	21.502		13205		BV
	21.680		92816		VB
	22.417		68651		BB
	22.700		61460		BB
ENDO.SULFATE	22.995	4.5085	40568		BB
DBC	23.419	1.17E+02	926402		BB

Data file: NAI$DIR:[DATA.CLP]E0612007

Report: 17783

Acquired: 12-JUN-1989 19:42:59

Time range: 0.00-34.00



QUANT. DATE.....12-JUN-1989 20:20:16.31
DATA FILE.....NAI$DIR:[DATA.CLP]E0612007.RAW:1
ANAL. DATE.....12-JUN-1989 19:42:59
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....TOXAPH
NOTES.....STD.2PPM,2-CLP-PS-W-80-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	16.370		8843		BB
ALDRIN	16.851	3.2828	14893		BB
	17.153		17026		BV
	17.334		24734		VB
	18.076		46001		BB
	18.788		7897		BB
HEPT.EPOXIDE	19.162	2.0930	12583		BB
G-CHLORDANE	19.842	6.0081	73741		BB
	20.124		82182		BB
A-CHLORDANE	20.426	3.2718	15584		BB
ENDOSULFAN I	20.557	1.3961	9666		BB
	20.870		93880		BB
DDE	21.159	12.527	61983		BV
	21.478		149695		VV
	21.615		32238		VV
DIELDRIN	21.714	4.6033	27760		VB
	22.144		154481		BV
	22.406		179113		VB
	22.684		53598		BV
	22.805		14764		VB
ENDRIN	23.029	12.709	56215		BV
	23.144		70973		VB
DDD	23.445	23.270	81518		BB
ENDOSULFAN II	23.819	61.284	363733		BB
	24.067		49879		BV
	24.288		73329		VV
	24.381		122514		VV
DDT	24.592	84.734	228232		VV

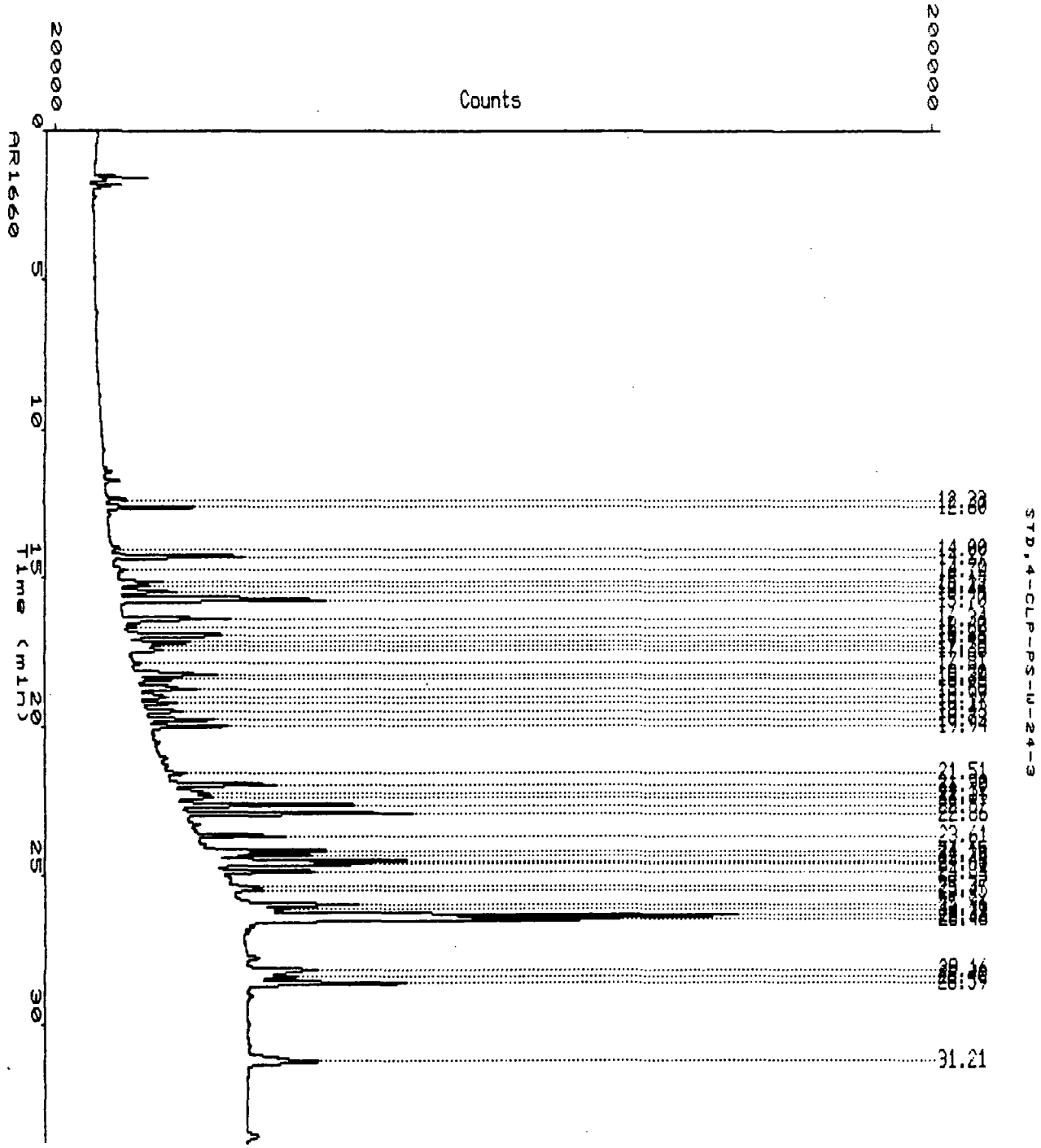
	24.728		95732	VV
ENDRIN ALDEHYD	24.958	64.281	237790	VV
	25.039		210246	VV
	25.209		137644	VV
ENDO.SULFATE	25.415	54.425	333225	VV
	25.735		141729	VV
	25.933		115959	VV
	26.087		121709	VV
DBC	26.328	1.68E+02	838542	VE
	26.616		85816	EV
	26.905		403183	VV
	27.173		313335	VB
	27.686		48903	BB
METHOXYCHLOR	28.088	29.832	64969	BB
	28.440		59612	BV
ENDRIN KETONE	28.683	18.574	117729	VB
	30.078		19910	BB

Data file: NAI$DIR:[DATA.CLP]E0612008

Report: 17785

Acquired: 12-JUN-1989 20:22:22

Time range: 0.00-34.00



QUANT. DATE.....12-JUN-1989 20:58:00.21
DATA FILE.....NAI$DIR:[DATA.CLP]E0612008.RAW:1
ANAL. DATE.....12-JUN-1989 20:22:22
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1660
NOTES.....STD.4-CLP-PS-W-24-3

Author..... ET
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

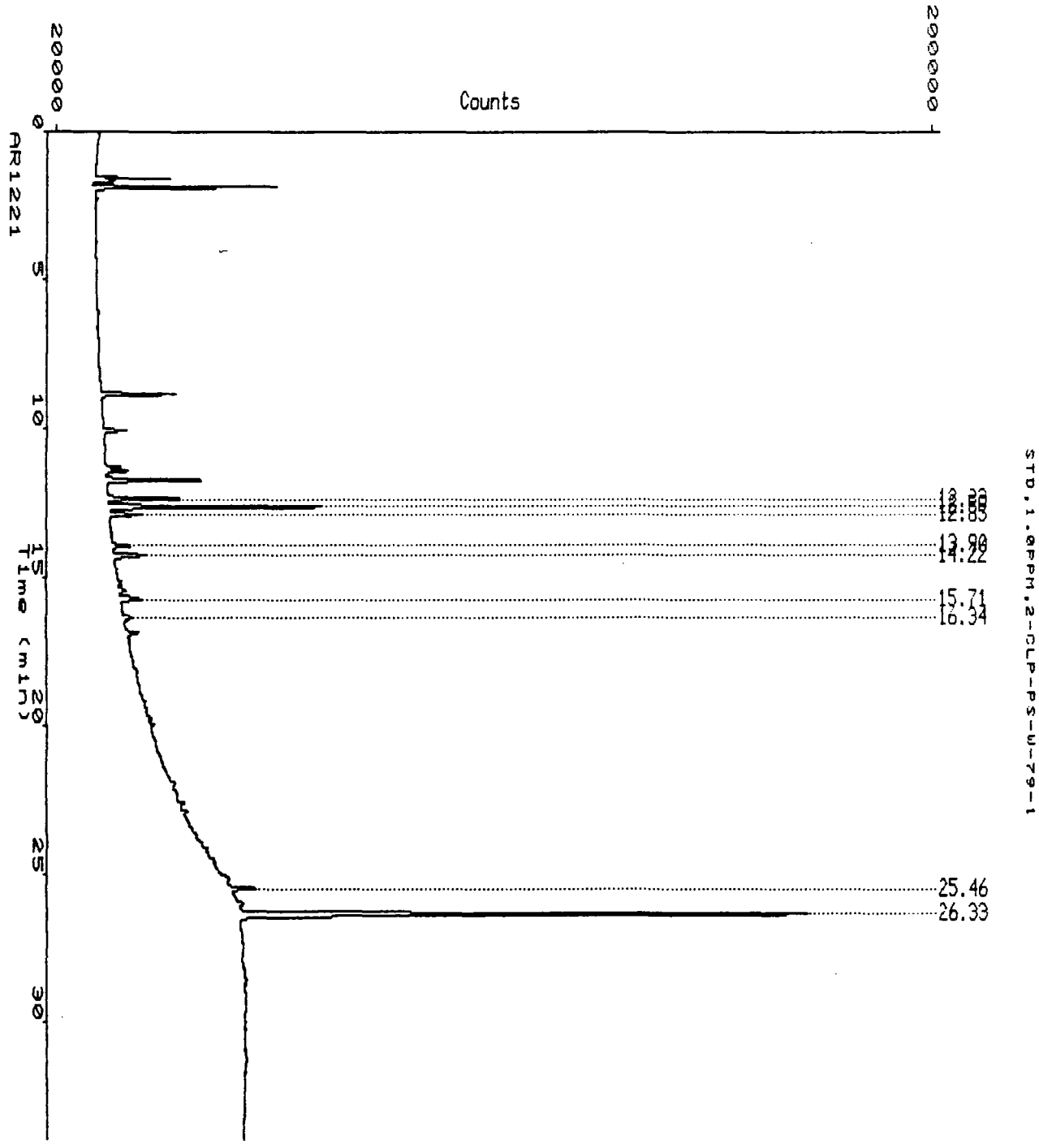
Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.332		18384		BB
	12.596		87814		BB
	13.998		6045		BB
G-BHC	14.266	31.968	160505		BB
B-BHC	14.702	2.0067	7604		BB
	15.117		43092		BV
	15.215		27718		VV
	15.442		76013		VV
HEPTACHLOR	15.702	47.376	328892		VB
	16.341		127571		BE
	16.596		11484		EB
ALDRIN	16.883	34.679	157326		BV
	17.123		66415		VV
	17.231		31785		VV
	17.379		46333		VB
	17.813		5028		BB
	18.196		114718		BV
	18.364		39981		VV
	18.678		89351		VV
	18.966		46140		VV
HEPT.EPOXIDE	19.168	5.7957	34843		VB
	19.433		46600		BV
G-CHLORDANE	19.728	6.4643	79339		VV
	19.937		88925		VB
DDE	21.510	3.7611	18609		BB
	21.896		128422		BV
	22.173		50165		VV
	22.306		57688		VB

	22.566		198152	BB
ENDRIN	22.857	56.315	249086	BB
DDD	23.615	25.992	91056	BB
	24.147		133394	BV
	24.286		110751	VV
DDT	24.487	84.338	227164	VV
	24.599		167288	VB
ENDRIN ALDEHYD	24.842	25.764	95307	BB
ENDO.SULFATE	25.370	4.4536	27268	BV
	25.453		31533	VB
	25.960		143963	BV
	26.109		71407	VV
DBC	26.327	1.28E+02	634867	VV
	26.457		460466	VB
METHOXYCHLOR	28.161	62.289	135655	BV
	28.395		66433	VV
ENDRIN KETONE	28.590	35.105	222516	VB
	31.213		156440	BB

Data file: NAI$DIR:[DATA.CLP]E0612009
Report: 17786
Acquired: 12-JUN-1989 21:01:41
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:24:31.96
DATA FILE.....NAI$DIR:[DATA.CLP]E0612009.RAW;1
ANAL. DATE.....12-JUN-1989 21:01:41
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1221
NOTES.....STD.1.0PPM.2-CLP-PS-W-79-1

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

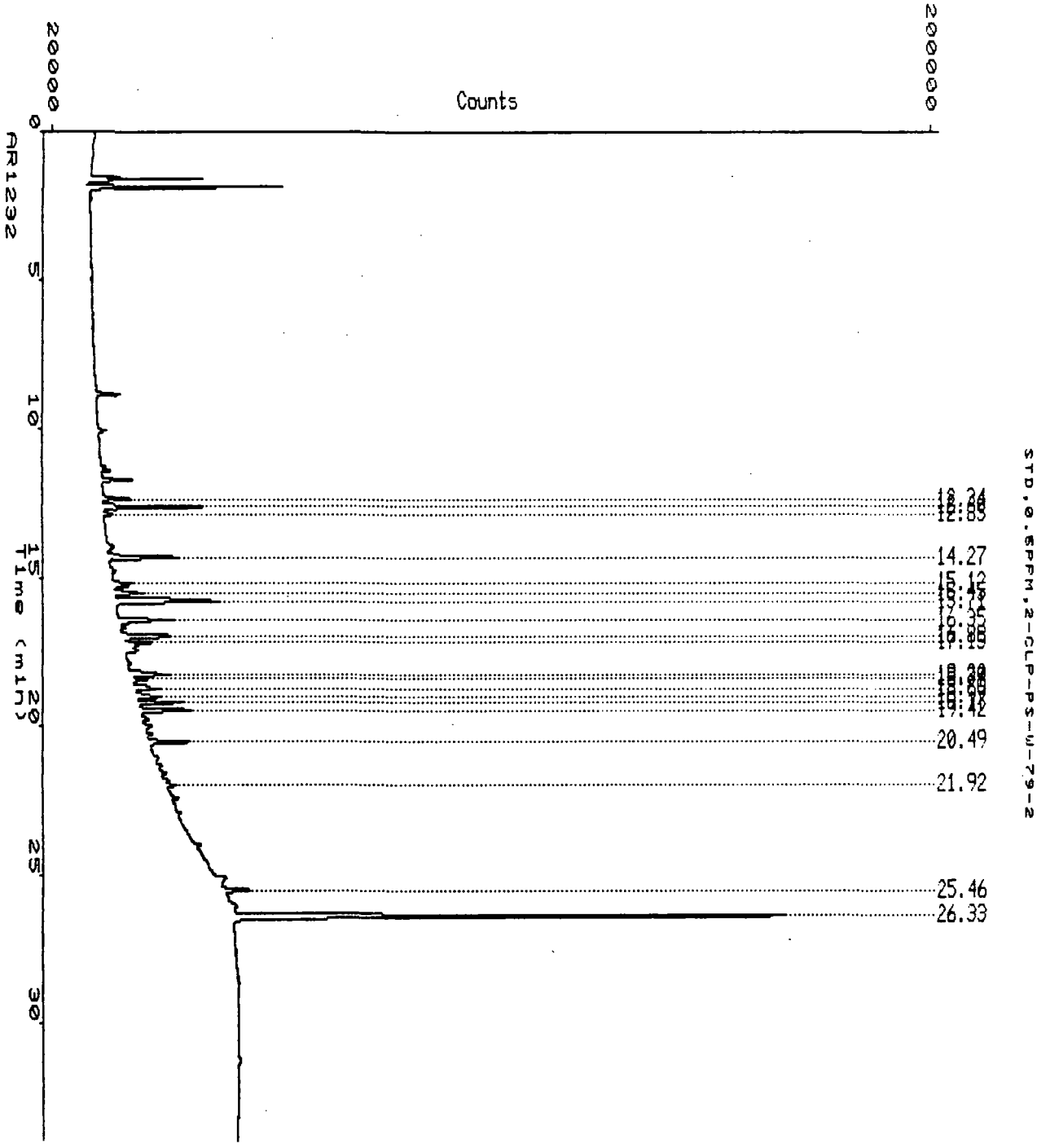
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.330		73042		BV
	12.593		215764		VV
	12.849		31825		VB
	13.903		17849		BB
	14.215		50897		BB
HEPTACHLOR	15.709	3.9990	31363		BB
	16.345		8509		BB
ENDO.SULFATE	25.458	4.0536	27244		BB
DBC	26.330	1.28E+02	703202		BB

Data file: NAI$DIR:[DATA.CLP]E0612010

Report: 17787

Acquired: 12-JUN-1989 21:41:04

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:25:54.44
DATA FILE.....NAI$DIR:[DATA.CLP]E0612010.RAW;1
ANAL. DATE.....12-JUN-1989 21:41:04
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1232
NOTES.....STD.0.5PPM.2-CLP-PS-W-79-2

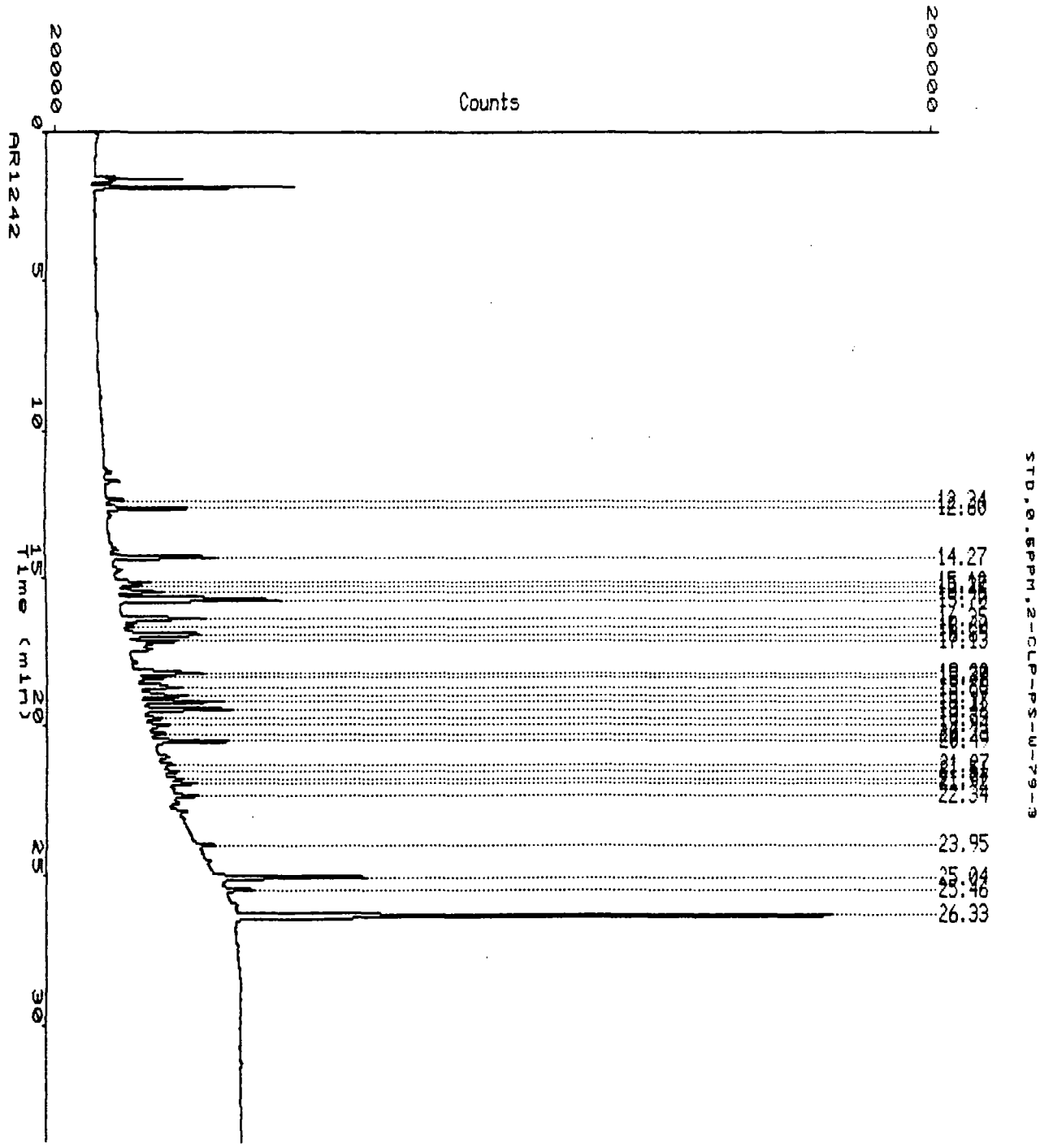
Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.335		26711		BB
	12.599		100531		BE
	12.853		9049		EB
	14.269		90577		BB
	15.121		13088		BB
	15.447		34123		BB
HEPTACHLOR	15.706	21.523	168797		BB
	16.346		60918		BB
ALDRIN	16.881	11.524	71623		BB
	17.127		19115		BB
	18.200		55788		BV
	18.369		17887		VV
	18.681		39269		VV
	18.969		34581		VV
HEPT.EPOXIDE	19.171	6.4886	45272		VV
	19.420		57991		VB
ENDOSULFAN I	20.489	5.8298	42097		BB
	21.922		8291		BB
ENDO.SULFATE	25.459	3.8551	25910		BB
DBC	26.331	1.23E+02	674083		BB

Data file: NAI$DIR:[DATA.CLP]E0612011
Report: 17788
Acquired: 12-JUN-1989 22:20:27
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:27:24.48
DATA FILE.....NAI$DIR:[DATA.CLP]E0612011.RAW;1
ANAL. DATE.....12-JUN-1989 22:20:27
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1242
NOTES.....STD,0.5PPM,2-CLP-PS-W-79-3

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.336		17895		BB
	12.600		79889		BB
	14.270		126430		BB
	15.121		33901		BV
	15.218		21422		VV
	15.446		59119		VV
HEPTACHLOR	15.704	32.963	258520		VB
	16.345		100229		BE
	16.599		9327		EB
ALDRIN	16.888	18.807	116886		BB
	17.126		32627		BB
	18.199		95188		BV
	18.368		31660		VV
	18.681		71775		VV
	18.969		65946		VV
HEPT.EPOXIDE	19.170	12.239	85393		VV
	19.420		103102		VB
G-CHLORDANE	19.729	2.4439	17051		BB
	19.943		28948		BB
	20.229		13256		BV
ENDOSULFAN I	20.490	11.461	82759		VB
DDE	21.275	2.2034	12153		BV
	21.511		15945		VB
	21.773		14412		BV
	21.921		30437		VB
	22.337		24892		BB
	23.945		17394		BB
ENDRIN ALDEHYD	25.043	35.977	175392		BB

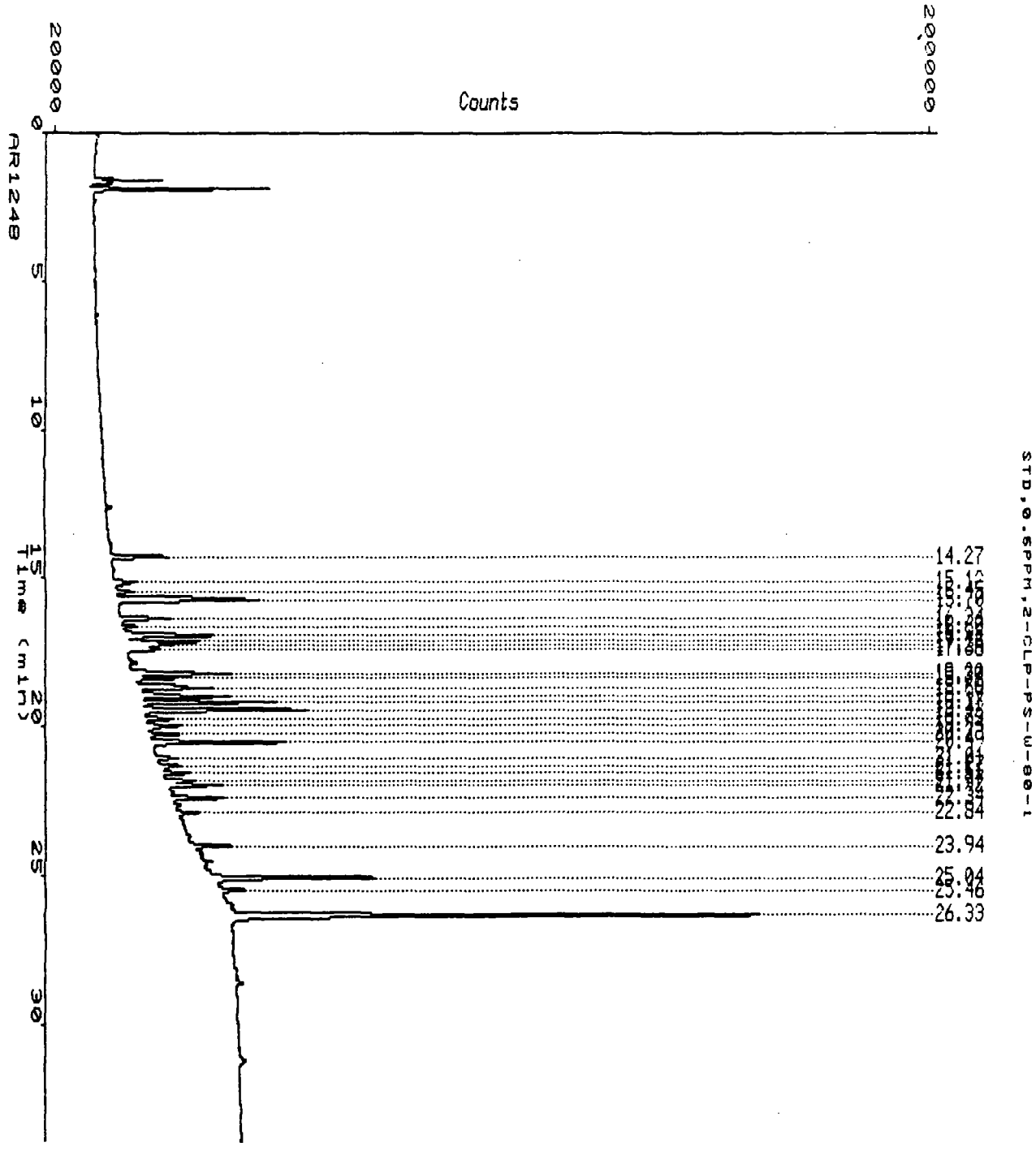
ENDO.SULFATE	25.461	4.3308	29107	BB
DBC	26.334	1.35E+02	740044	BB

Data file: NAI$DIR:[DATA.CLP]E0612012

Report: 17789

Acquired: 12-JUN-1989 22:59:51

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:29:09.57
DATA FILE.....NAI$DIR:[DATA.CLP]E0612012.RAW:1
ANAL. DATE.....12-JUN-1989 22:59:51
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1248
NOTES.....STD.0.5PPM.2-CLP-PS-W-80-1

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

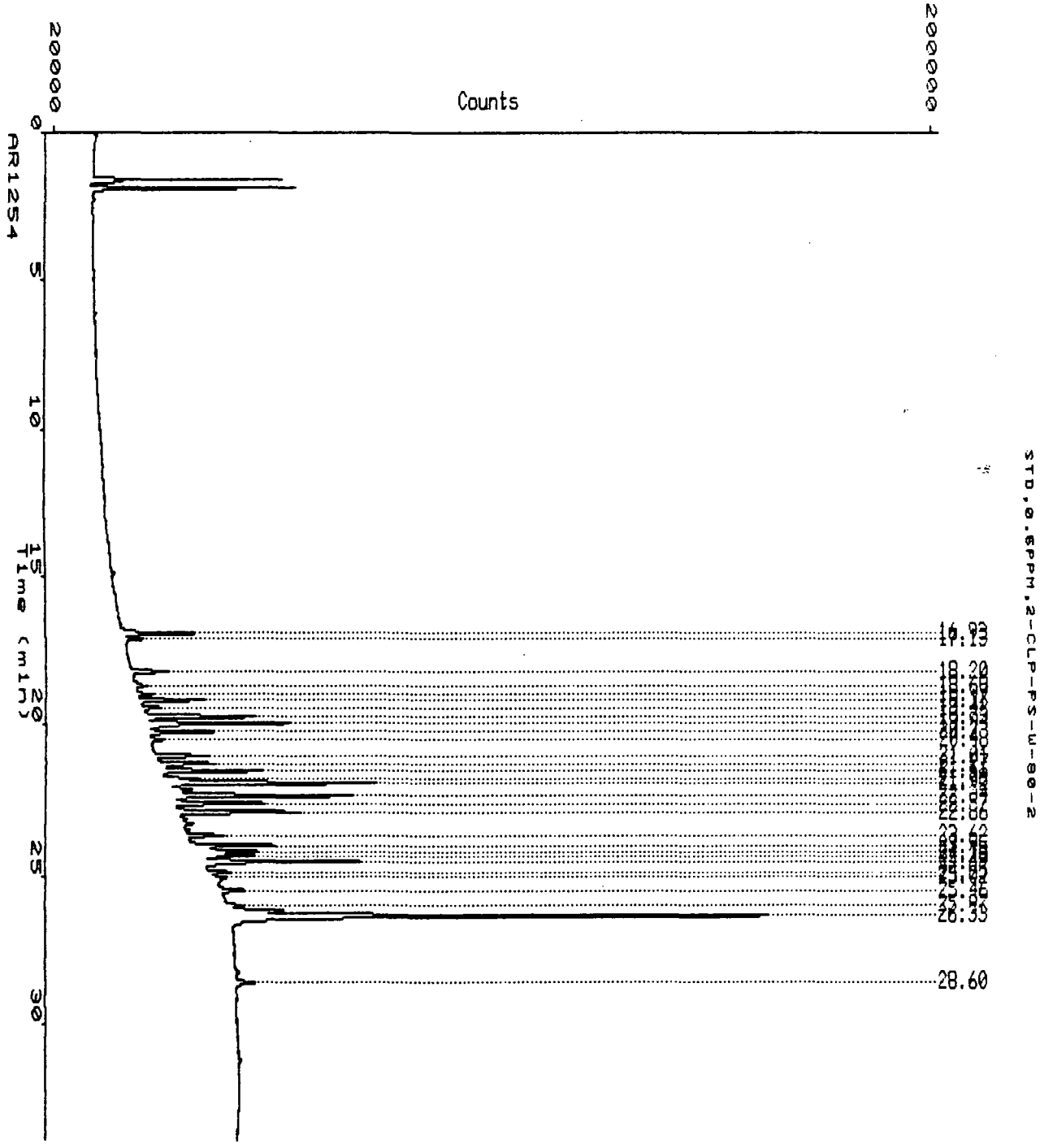
Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	14.268		65146		BB
	15.119		16408		BB
	15.447		15471		BB
HEPTACHLOR	15.703	28.717	225216		BB
	16.345		50983		BV
	16.599		12671		VB
ALDRIN	16.923	18.874	117302		BV
	17.125		75008		VV
	17.236		48172		VV
	17.383		41327		VB
	18.199		120852		BV
	18.366		42019		VB
	18.679		113091		BV
	18.968		107869		VB
HEPT.EPOXIDE	19.167	19.659	137165		BB
	19.416		182832		BB
G-CHLORDANE	19.727	4.1762	29137		BB
	19.939		25409		BB
	20.227		30086		BV
ENDOSULFAN I	20.488	19.884	143584		VB
	21.012		21447		BB
DDE	21.273	4.6145	25452		BV
	21.509		28456		VB
	21.774		31967		BV
	21.918		58254		VB
	22.336		54587		BB
	22.835		24328		BB
	23.945		38996		BB

ENDRIN ALDEHYD	25.042	38.287	186653	BB
ENDO.SULFATE	25.460	3.7227	25020	BB
DBC	26.333	1.20E+02	661068	BB

Data file: NAI$DIR:[DATA.CLP]E0612013
Report: 17792
Acquired: 12-JUN-1989 23:39:11
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 17:33:52.99
DATA FILE.....NAI$DIR:[DATA.CLP]E0612013.RAW;1
ANAL. DATE.....12-JUN-1989 23:39:11
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....AR1254
NOTES.....STD,0.5PPM,2-CLP-PS-W-80-2

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
ALDRIN	16.931	12.723	79075		BV
	17.126		15526		VB
	18.202		38219		BB
	18.683		9318		BB
	18.972		14882		BB
HEPT.EPOXIDE	19.170	9.8137	68472		BB
	19.418		17738		BB
G-CHLORDANE	19.726	20.282	141504		BV
	19.939		180961		VV
	20.228		67164		VB
ENDOSULFAN I	20.485	1.6530	11936		BB
	21.012		56540		BB
DDE	21.274	11.974	66041		BV
	21.511		106237		VB
	21.781		30720		BV
	21.918		233955		VB
	22.337		183888		BB
	22.570		99148		BB
	22.855		140209		BB
ENDOSULFAN II	23.618	5.7483	36700		BB
	23.945		86243		BV
	24.147		82703		VV
	24.286		67120		VV
DDT	24.490	66.804	201101		VB
ENDRIN ALDEHYD	24.850	4.0001	19501		BB
	25.023		8970		BB
ENDO.SULFATE	25.460	3.6093	24258		BB
	25.965		10108		BB

DBC	26.334	1.12E+02	613251	BB
	28.597		23422	BB

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK11

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: PBK11

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613002

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

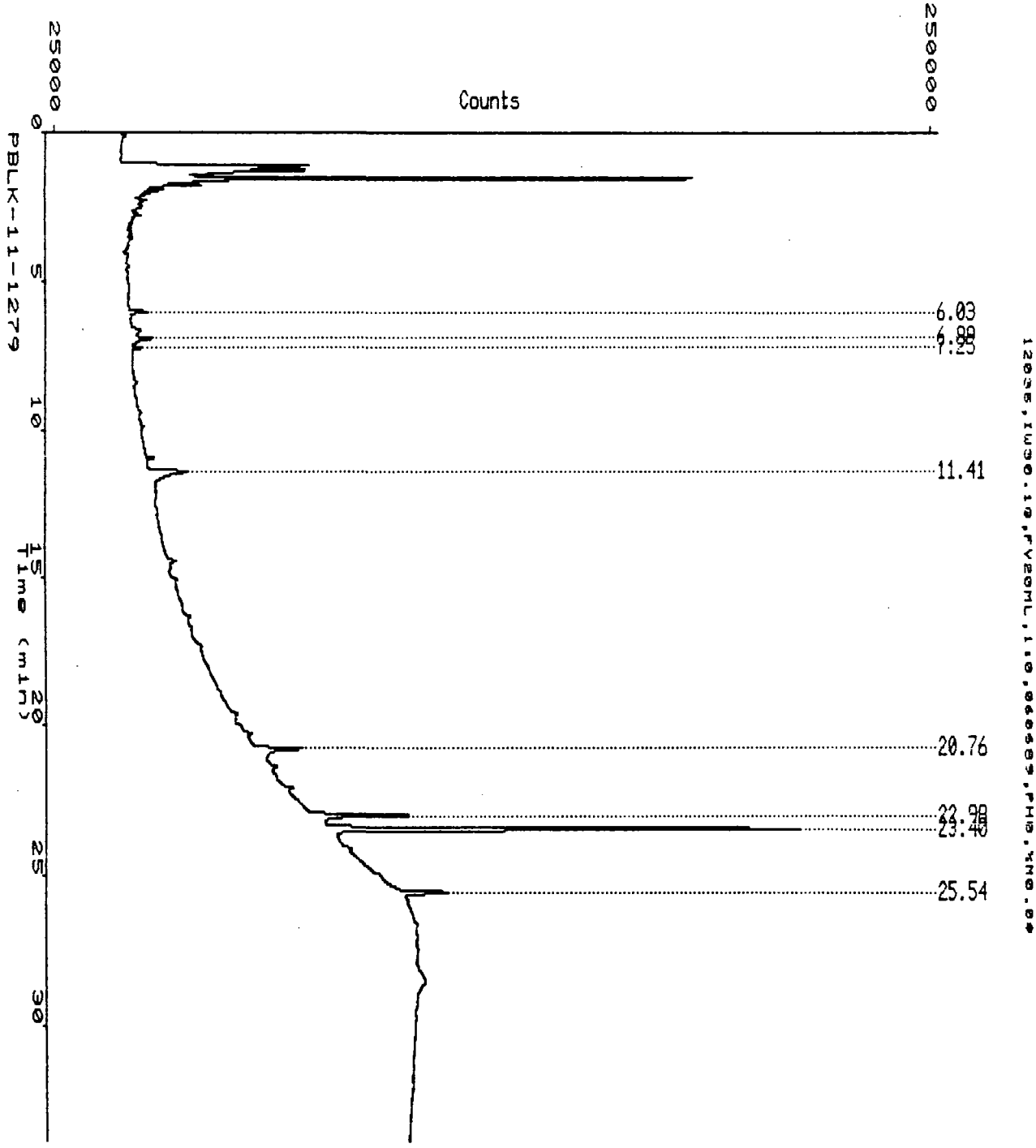
% Moisture: not dec. 0 dec.____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.00	U
319-85-7	beta-BHC	8.00	U
319-86-8	delta-BHC	8.00	U
58-89-9	gamma-BHC (Lindane)	8.00	U
76-44-8	Heptachlor	8.00	U
309-00-2	Aldrin	8.00	U
1024-57-3	Heptachlor epoxide	8.00	U
959-98-8	Endosulfan I	8.00	U
60-57-1	Dieldrin	16.00	U
72-55-9	4,4'-DDE	16.00	U
72-20-8	Endrin	16.00	U
33213-65-9	Endosulfan II	16.00	U
72-54-8	4,4'-DDD	16.00	U
1031-07-8	Endosulfan sulfate	16.00	U
50-29-3	4,4'-DDT	16.00	U
72-43-5	Methoxychlor	80.00	U
53494-70-5	Endrin ketone	16.00	U
5103-71-9	Chlordane	80.00	U
7421-93-4	Endrin Aldehyde	80.00	U
8001-35-2	Toxaphene	160.00	U
12674-11-2	Aroclor-1016	80.00	U
11104-28-2	Aroclor-1221	80.00	U
11141-16-5	Aroclor-1232	80.00	U
53469-21-9	Aroclor-1242	80.00	U
12672-29-6	Aroclor-1248	80.00	U
11097-69-1	Aroclor-1254	160.00	U
11096-82-5	Aroclor-1260	160.00	U

Data file: NAI$DIR:[DATA.CLP]F0613002
Report: 17850
Acquired: 13-JUN-1989 15:46:55
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 19:45:08.88
DATA FILE.....NAI$DIR:[DATA.CLP]F0613002.RAW;1
ANAL. DATE.....13-JUN-1989 15:46:55
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....PBLK-11-1279
NOTES.....12035,IW30.1G,FV20ML,1:0,060689,PH0,%M0.0$

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

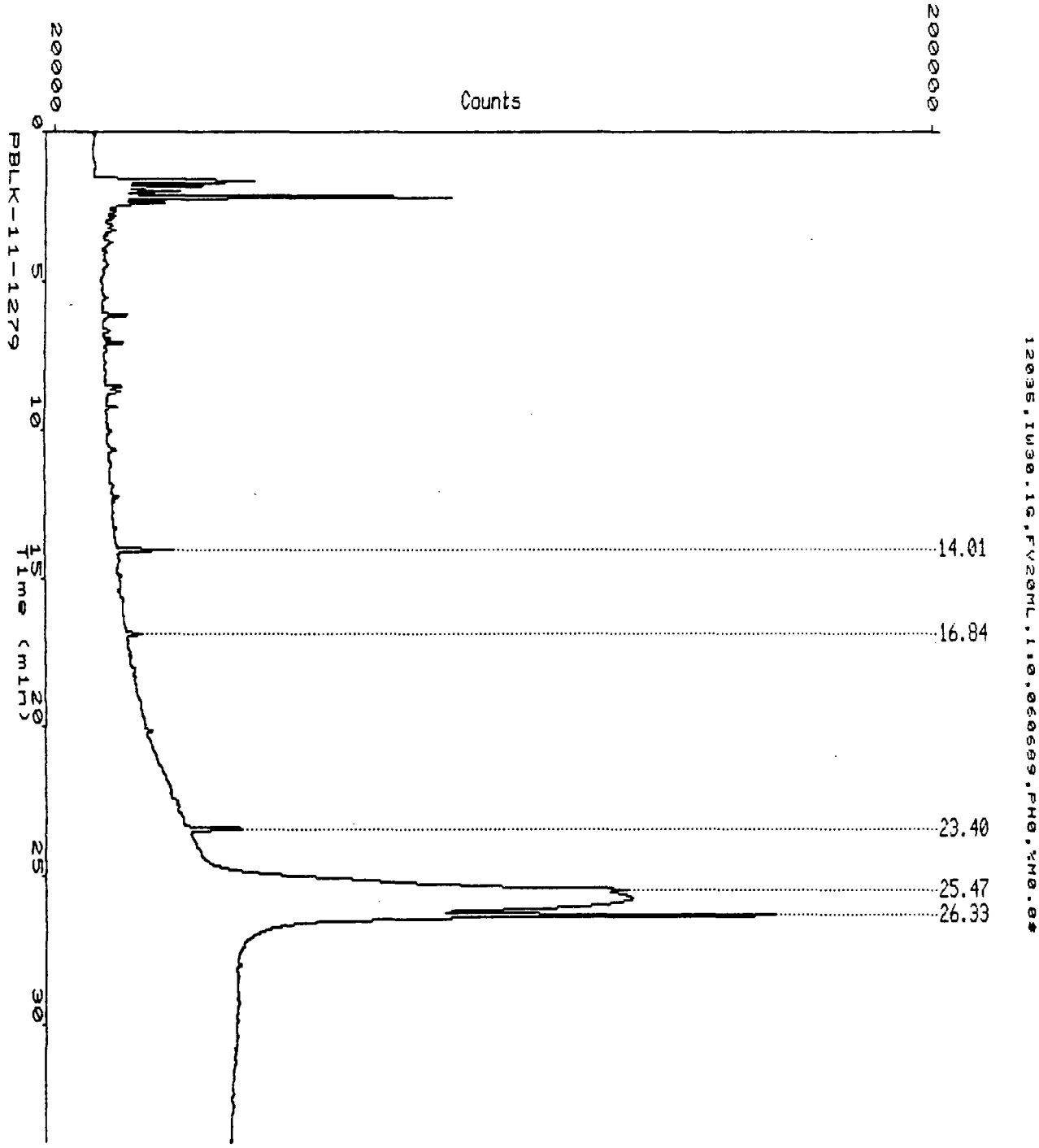
Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	6.034		10212		BB
	6.892		27286		BB
	7.246		6125		BB
	11.412		100948		BB
DDT (out RTW)	20.763	10.479	86820		BB
ENDO.SULFATE (not ref)	22.977	16.783	151014		BV
DBC	23.403	85.335	676138		VB
	25.537		72252		BB

Data file: NAI$DIR:[DATA.CLP]E0613001

Report: 17849

Acquired: 13-JUN-1989 15:07:14

Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 19:43:47.29
DATA FILE.....NAI$DIR:[DATA.CLP]E0613001.RAW;1
ANAL. DATE.....13-JUN-1989 15:07:14
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....PBLK-11-1279
NOTES.....12035,IW30.1G,FV20ML,1:0.060689,PH0,%M0.0$

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	14.014		55381		BB
	16.837		14464		BB
DDD (not cal out RT)	23.400	17.294	64447		BB
ENDO.SULFATE (out RT)	25.475	10.914	73350		BB
DBC	26.327	89.391	491374		BB

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH42MS

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: MSH42

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613003

Level: (low/med) LOW Date Received: 06/03/89

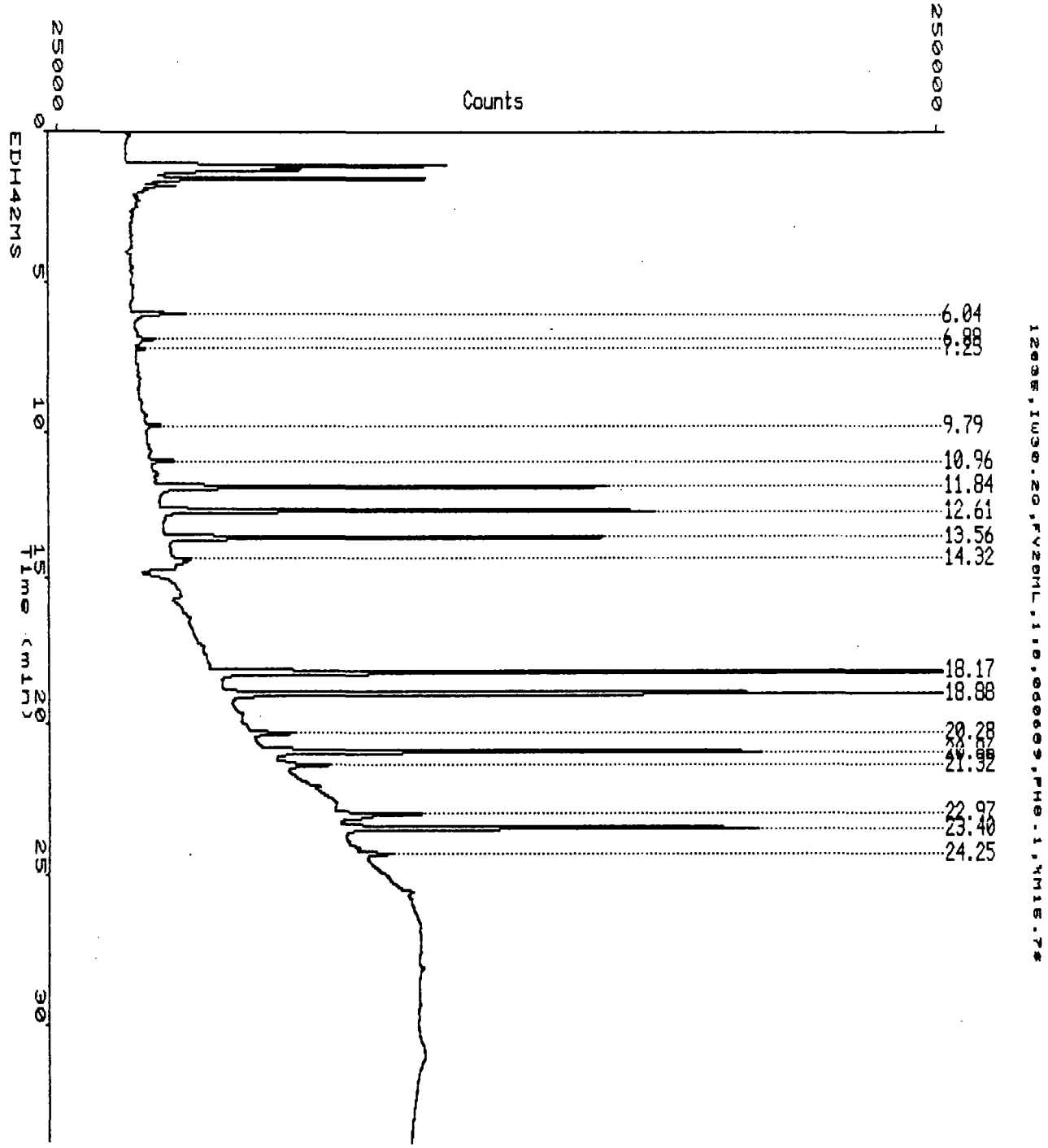
% Moisture: not dec. 16 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.50	U
319-85-7	beta-BHC	9.50	U
319-86-8	delta-BHC	9.50	U
58-89-9	gamma-BHC (Lindane)	37.00	
76-44-8	Heptachlor	28.00	
309-00-2	Aldrin	32.00	
1024-57-3	Heptachlor epoxide	9.50	U
959-98-8	Endosulfan I	9.50	U
60-57-1	Dieldrin	84.00	
72-55-9	4,4'-DDE	19.00	U
72-20-8	Endrin	84.00	
33213-65-9	Endosulfan II	19.00	U
72-54-8	4,4'-DDD	7.60	J
1031-07-8	Endosulfan sulfate	19.00	U
50-29-3	4,4'-DDT	66.00	
72-43-5	Methoxychlor	95.00	U
53494-70-5	Endrin ketone	3.40	J
5103-71-9	Chlordane	95.00	U
7421-93-4	Endrin Aldehyde	95.00	U
8001-35-2	Toxaphene	190.00	U
12674-11-2	Aroclor-1016	95.00	U
11104-28-2	Aroclor-1221	95.00	U
11141-16-5	Aroclor-1232	95.00	U
53469-21-9	Aroclor-1242	95.00	U
12672-29-6	Aroclor-1248	95.00	U
11097-69-1	Aroclor-1254	190.00	U
11096-82-5	Aroclor-1260	190.00	U

Data file: NAI$DIR:[DATA.CLP]F0613003
Report: 17852
Acquired: 13-JUN-1989 16:26:18
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 19:47:48.54
DATA FILE.....NAI$DIR:[DATA.CLP]F0613003.RAW;1
ANAL. DATE.....13-JUN-1989 16:26:18
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....EDH42MS
NOTES.....12035,IW30.2G,FV20ML,1:0,060689,PH8.1,%M15.7%

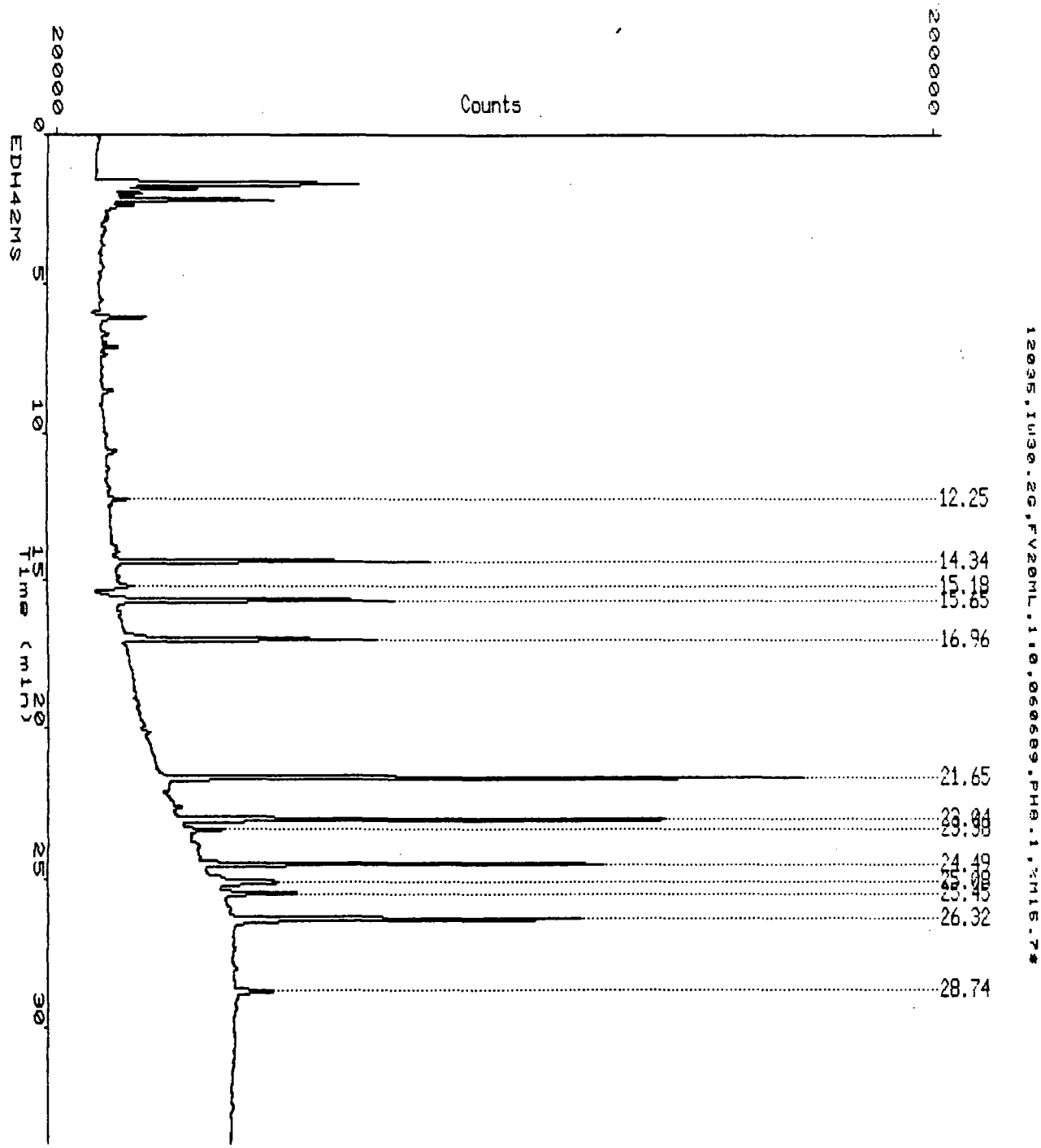
Author..... ET
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	6.038		31672		BB
	6.883		20211		BB
	7.246		8934		BB
	9.790		22899		BB
	10.962		29807		BB
G-BHC (Spike)	11.839	47.095	592479		BB
HEPTACHLOR (Spike)	12.611	35.910	637196		BB
ALDRIN (Spike)	13.562	40.425	550052		BB
	14.320		11589		BB
DIELDRIN (Spike)	18.166	1.06E+02	1241278		BB
ENDRIN (Spike)	18.881	1.06E+02	1065668		BB
DDD	20.278	9.6601	67975		BB
DDT (Spike)	20.856	83.366	690712		BV
	21.316		88553		VB
ENDO.SULFATE (total)	22.974	9.6052	86428		BB
DBC	23.401	76.510	606220		BB
ENDRIN KETONE	24.254	4.2720	46357		BB

Data file: NAI$DIR:[DATA.CLP]E0613002
Report: 17851
Acquired: 13-JUN-1989 15:46:39
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 19:46:25.87
DATA FILE.....NAI$DIR:[DATA.CLP]E0613002.RAW;1
ANAL. DATE.....13-JUN-1989 15:46:39
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....EDH42MS
NOTES.....12035,IW30.2G,FV20ML.1:0.060689.PH8.1.%M15.7%

Author..... ET
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.248		17738		BB
G-BHC (Spike)	14.344	49.045	289199		BB
	15.181		31828		BB
HEPTACHLOR (Spike)	15.645	43.880	344135		BB
ALDRIN (Spike)	16.956	47.142	292980		BB
DIELDRIN (Spike)	21.647	1.15E+02	693415		BB
ENDRIN (Spike)	23.036	1.15E+02	521327		BB
DDD ✓	23.376	11.417	42549		BB
DDT (Spike)	24.495	1.34E+02	403516		BB
	25.078		148002		BV
ENDO.SULFATE (out RTW)	25.449	14.216	95544		VB
DBC	26.320	81.751	449376		BB
ENDRIN KETONE ✓	28.743	7.5836	52643		BB

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH42MSD

Lab Name: S-CUBED Contract: 68-D9-0027

Lab Code: S3 Case No.: 12035 SAS No.: SDG No.: EDH42

Matrix: (soil/water) SOIL Lab Sample ID: MSDR2

Sample wt/vol: 30.0 (g/mL) G Lab File ID: F0613004

Level: (low/med) LOW Date Received: 06/03/89

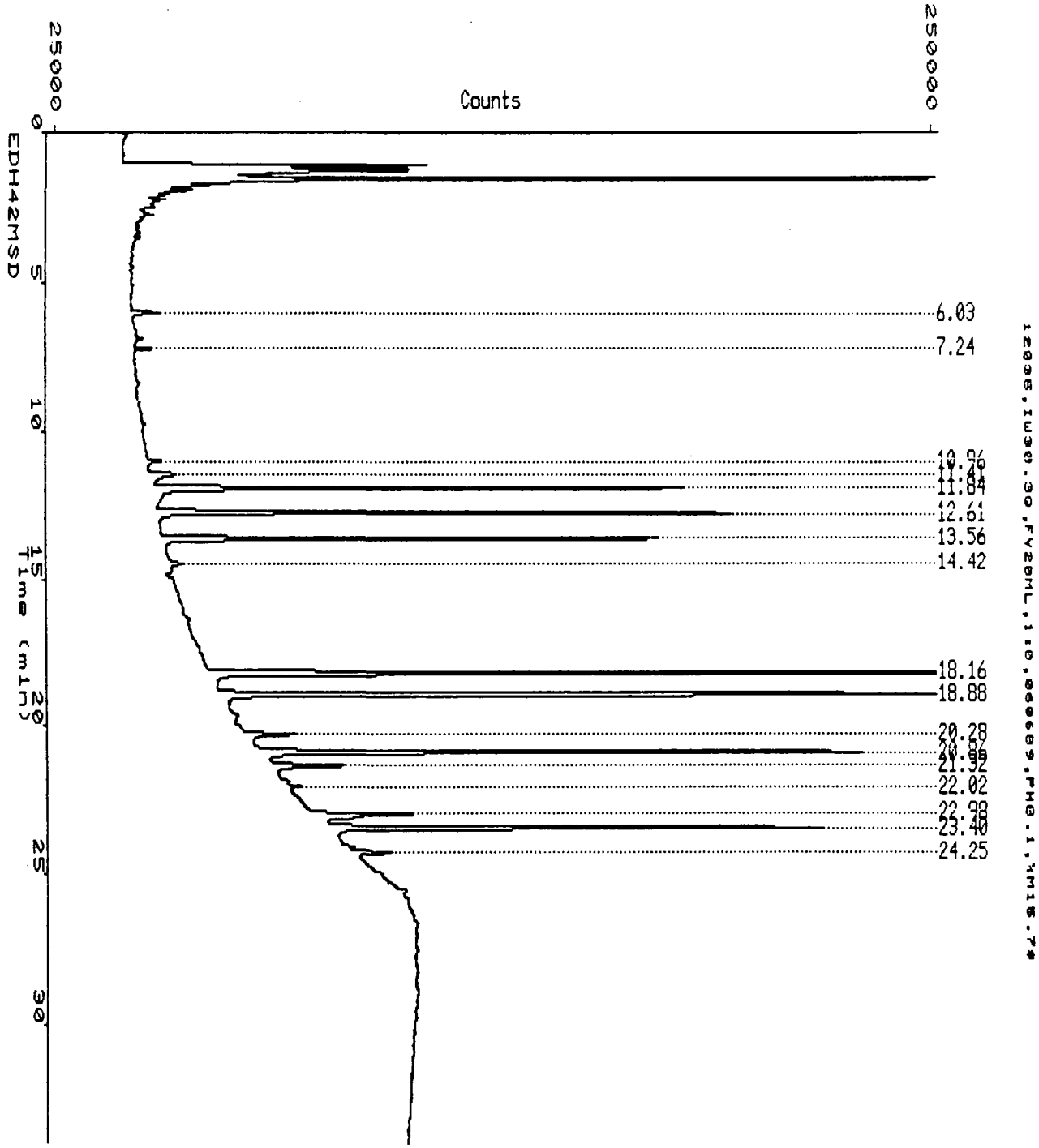
% Moisture: not dec. 16 dec._____ Date Extracted: 06/06/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/89

GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.50	U
319-85-7	beta-BHC	9.50	U
319-86-8	delta-BHC	9.50	U
58-89-9	gamma-BHC (Lindane)	46.00	
76-44-8	Heptachlor	33.00	
309-00-2	Aldrin	37.00	
1024-57-3	Heptachlor epoxide	9.50	U
959-98-8	Endosulfan I	9.50	U
60-57-1	Dieldrin	98.00	
72-55-9	4,4'-DDE	19.00	U
72-20-8	Endrin	98.00	
33213-65-9	Endosulfan II	19.00	U
72-54-8	4,4'-DDD	9.10	J
1031-07-8	Endosulfan sulfate	19.00	U
50-29-3	4,4'-DDT	80.00	
72-43-5	Methoxychlor	95.00	U
53494-70-5	Endrin ketone	4.10	J
5103-71-9	Chlordane	95.00	U
7421-93-4	Endrin Aldehyde	95.00	U
8001-35-2	Toxaphene	190.00	U
12674-11-2	Aroclor-1016	95.00	U
11104-28-2	Aroclor-1221	95.00	U
11141-16-5	Aroclor-1232	95.00	U
53469-21-9	Aroclor-1242	95.00	U
12672-29-6	Aroclor-1248	95.00	U
11097-69-1	Aroclor-1254	190.00	U
11096-82-5	Aroclor-1260	190.00	U

Data file: NAI$DIR:[DATA.CLP]F0613004
Report: 17854
Acquired: 13-JUN-1989 17:05:39
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 19:50:34.85
DATA FILE.....NAI$DIR:[DATA.CLP]F0613004.RAW;1
ANAL. DATE.....13-JUN-1989 17:05:39
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....EDH42MSD
NOTES.....12035,IW30.3G,FV20ML,1:0,060689,PH8.1,%M15.7$

Author..... FT
Instrument..... II HP5890
Column type..... DB-1701
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS,1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

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EXTERNAL STANDARD ANALYSIS

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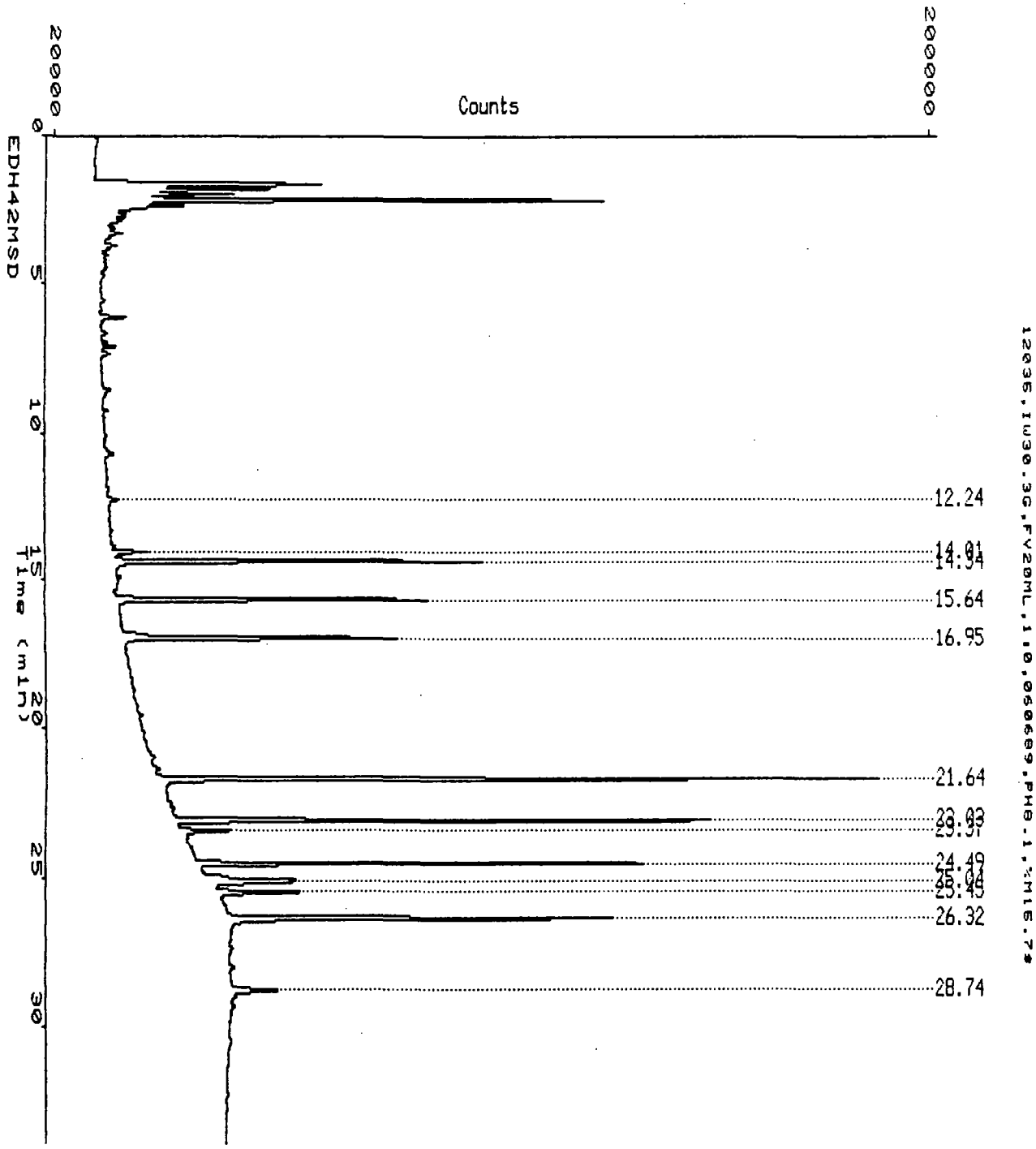
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	6.033		13446		BB
	7.244		17210		BB
	10.962		20569		BB
	11.407		76236		BV
G-BHC (Spike)	11.837	58.635	737668		VV
HEPTACHLOR (Spike)	12.608	41.781	741374		VB
ALDRIN (Spike)	13.558	46.639	634614		BB
B-BHC (not conf)	14.420	1.7542	15033		BB
DIELDRIN (Spike)	18.164	1.24E+02	1458116		BB
ENDRIN (Spike)	18.880	1.24E+02	1252548		BB
DDD	20.277	11.513	81016		BB
DDT (Spike)	20.856	1.01E+02	839673		BV
	21.315		129884		VB
	22.018		14648		BB
ENDO.SULFATE (not conf)	22.975	9.5365	85810		BB
DBC	23.401	88.054	697680		BB
ENDRIN KETONE	24.254	5.1854	56269		BB

Data file: NAI$DIR:[DATA.CLP]E0613003
Report: 17853
Acquired: 13-JUN-1989 16:26:02
Time range: 0.00-34.00



QUANT. DATE.....26-JUN-1989 19:49:14.46
DATA FILE.....NAI$DIR:[DATA.CLP]E0613003.RAW;1
ANAL. DATE.....13-JUN-1989 16:26:02
ANAL. RUN TIME.....33.995 MIN
EPA SAMPLE NAME.....EDH42MSD
NOTES.....12035.IW30.3G.FV20ML.1:0.060689.PH8.1.%M15.7%

Author..... FT
Instrument..... II HP5890
Column type..... DB-608
length..... *
diameter..... *
Stationary phase.... *
Mobile phase..... *
Detector..... *
Notes..... CLP PEST/PCB ANALYSIS.1 UL INJ.

Analysis type.....EXTERNAL STANDARD A/D range.....1 volt(s)
Report units.....NG/ML
Sample amount.....1.000
Volume injected.....1.000 Conversion factor...1.000

==========
EXTERNAL STANDARD ANALYSIS
==========
Calibration sample name: IND

Peak name	R.T.(min)	NG/ML	Peak Area	Ref Std	Bl
	12.244		8709		BB
	14.009		38922		BV
G-BHC (Spike)	14.340	60.411	356217		VB
HEPTACHLOR (Spike)	15.641	44.156	346302		BB
ALDRIN (Spike)	16.952	53.654	333457		BB
DIELDRIN (Spike)	21.642	1.32E+02	790172		BB
ENDRIN (Spike)	23.031	1.25E+02	570026		BB
DDD	23.375	15.104	56289		BB
DDT (Spike)	24.492	1.49E+02	448907		BB
ENDRIN ALDEHYDE (out Rt)	25.040	4.5336	22102		BB
ENDO.SULFATE (out Rt)	25.446	14.538	97710		BB
DBC	26.317	88.922	488793		BB
ENDRIN KETONE	28.742	9.3700	65043		BB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data Received for Review on July 10, 1989

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: MPCA

We have reviewed the data for the following case(s).

SITE NAME: BJ Carney SMO Case No. 12035

EPA Data Set No. SF 6240 No. of Samples: 8 D.U./Activity Numbers TFA/TFA 102

CRL No.

SMO Traffic No. MECS 39-46

CLP Laboratory: RMAL Hrs. Required for Review: 2

Following are our findings: The following review covers the analyses of 8 soils for RAS Inorganics (metals) & Cyanide.

ICP analyses: Antimony qualified "UJ" due to low spike recovery. Manganese qualified "J" due to high spike recovery.

GFAA analyses: Selenium qualified "UJ" due to low spike recovery.

CV & Hg analyses: All data acceptable.

Wayne Matthfel
MPCA
10/19/89

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

QC EXCEPTION SUMMARY REPORT

CASE # 10235
DATA SET # MECS 39
LAB Q.C. #
DATE: 10/19/89

SITE BJ Carney
LAB RMAL
REVIEWED BY WM MPCA

MATRIX: Soil
CONC. : Low

WATER SAMPLE SPK.
WATER SAMPLE DUP.
SOIL SAMPLE SPK. MECS 39S
SOIL SAMPLE DUP. MECS 39D

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENTS
	Holding Time	Cal Blanks	Init Calver	Contin Calver	Prep Blk AQ	Prep Blk SOL	ICS %R	LCS % AQ	LCS % SOL	Sol Dup RPD	Sol Spk. %R	AQ Dup RPD	AQ Spk. %R	Ser Dilu AQ	Ser Dilu SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
Aluminum		-27.7																						
Antimony											68.7													
Arsenic																								
Barium																								
Beryllium																								
Cadmium																								
Calcium																								
Chromium																								
Cobalt																								
Copper																								
Iron																								
Lead																								
Magnesium																								
Manganese											182.1													
Mercury																								
Nickel																								
Potassium		-208																						
Selenium											65.2													
Silver		-7.0																						
Sodium		-2090																						
Thallium																								
Tin																								
Vanadium																								
Zinc																								
Cyanide																								

Region V

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 10235

SITE BJ Carney

LABORATORY RMAL

NO. OF SAMPLES/ MATRIX 8 low soil

SDG# MECS 39

REVIEWER (IF NOT ESD) WM MPCA

SOW# 7/87

REVIEWER'S NAME Wayne Mattfeld

DPO: ACTION _____ FYI _____

COMPLETION DATE 10/19/89

DATA ASSESSMENT SUMMARY

		ICP	AA	Hg	CYANIDE
1.	HOLDING TIMES	O	O	O	O
2.	CALIBRATIONS				
3.	BLANKS				
4.	ICS				
5.	LCS				
6.	DUPLICATE ANALYSIS				
7.	MATRIX SPIKE				
8.	MSA				
9.	SERIAL DILUTION				
10.	SAMPLE VERIFICATION				
11.	OTHER QC				
12.	OVERALL ASSESSMENT				

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS: _____

AREAS OF CONCERN: _____

NOTABLE PERFORMANCE: _____

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 12035

SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER NPLD O&M OTHER _____
NON-SUPERFUND—_____ PROGRAM

SAMPLE DESCRIPTION (ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

REGION NO: V
SAMPLING COMPANY ②: MPCA
SAMPLER: (NAME) Elizabeth Cody

SHIP TO: ③
Ensecco / Rocky Mtn. Analytical
4955 Yarrow Street
Arvada, Co. 80002
(303) - 421 - 6611
ATTN: Trish Dellacroce

SAMPLING DATE: ④
BEGIN: 5/30/89 END: 6/2/89

DATE SHIPPED: 6/2/89 CARRIER: Fed Ex ⑤
AIRBILL NO: 3302879053

DATE REC'D: 6/3/89
SDG NO: ⑥ MECS 39
REC'D BY: Scott Aspen
LABORATORY CONTRACT NO. 0000092
UNIT PRICE
68-01-7476 147.00

TRANSFER TO:
DATE REC'D: ⑦
REC'D BY:
CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION	Ⓕ SAMPLE CONDITION ON RECEIPT	Ⓖ HIGH CONC. PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER — MIS LIQUID
MECS39/89YC24501	4	L	X	X							SB-1	OK			
MECS40/89YC24502	4	L	X	X							SB-2	↓			
MECS41/89YC24503	4	L	X	X							SB-2				
MECS42/89YC24504	4	L	X	X							SB-5				
MECS43/89YC24505	4	L	X	X							SB-20				
MECS44/89YC24506	4	L	X	X							SB-11				
MECS45/89YC24507	4	L	X	X							SB-12				
MECS46/89YC24509	4	L	X	X	SDG final Sample						SB-16	✓			

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO. YELLOW — LAB COPY

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MECS39

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/03/89

% Solids: 88.8

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1540			P	
7440-36-0	Antimony	5.4	U	N	P	
7440-38-2	Arsenic	1.5	B		F	
7440-39-3	Barium	26.5	B		P	
7440-41-7	Beryllium	0.23	U		P	
7440-43-9	Cadmium	0.90	U		P	
7440-70-2	Calcium	12300			P	
7440-47-3	Chromium	3.8	B		P	B
7440-48-4	Cobalt	4.1	B		P	
7440-50-8	Copper	5.8	B		P	B
7439-89-6	Iron	4900			P	
7439-92-1	Lead	2.5			F	
7439-95-4	Magnesium	3190	B		P	B
7439-96-5	Manganese	293	J	N	P	
7439-97-6	Mercury	0.1	U		CV	
7440-02-0	Nickel	8.9	B		P	
7440-09-7	Potassium	213	B		P	
7482-49-2	Selenium	0.45	U	WN	F	
7440-22-4	Silver	0.90	U		P	
7440-23-5	Sodium	333	U		P	
7440-28-0	Thallium	0.45	U		F	
7440-62-2	Vanadium	7.1	B		P	
7440-66-6	Zinc	14.2	B		P	B
	Cyanide	0.56	U		AS	

10/19/89
VM

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000003

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MECS40
SO2

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/03/89

% Solids: 92.9

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3510			P	
7440-36-0	Antimony	5.2	U	N	P	
7440-38-2	Arsenic	1.5	B		F	
7440-39-3	Barium	42.9	B		P	
7440-41-7	Beryllium	0.22	U		P	
7440-43-9	Cadmium	0.86	U		P	
7440-70-2	Calcium	3530			P	
7440-47-3	Chromium	6.5	B		P	B
7440-48-4	Cobalt	5.7	B		P	
7440-50-8	Copper	7.5	B		P	B
7439-89-6	Iron	7030			P	
7439-92-1	Lead	8.0			F	
7439-95-4	Magnesium	1650	B		P	B
7439-96-5	Manganese	404	J	N	P	
7439-97-6	Mercury	0.1	U		CV	
7440-02-0	Nickel	9.5	B		P	B
7440-09-7	Potassium	316	B		P	
7482-49-2	Selenium	0.43	U	WN	F	
7440-22-4	Silver	0.86	U		P	
7440-23-5	Sodium	319	U		P	
7440-28-0	Thallium	0.43	U		F	
7440-62-2	Vanadium	12.0	B		P	B
7440-66-6	Zinc	21.7			P	
	Cyanide	0.54	U		AS	

10/19/89
WM

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

0000004

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MECS41
SB-2

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/03/89

% Solids: 96.2

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1580			P	
7440-36-0	Antimony	5.0	U J	N	P	
7440-38-2	Arsenic	1.1	B	W	F	
7440-39-3	Barium	38.7	B		P	
7440-41-7	Beryllium	0.21	U		P	
7440-43-9	Cadmium	0.83	U		P	
7440-70-2	Calcium	26000			P	
7440-47-3	Chromium	4.3	B		P	B
7440-48-4	Cobalt	5.7	B		P	
7440-50-8	Copper	5.9	B		P	B
7439-89-6	Iron	4780			P	
7439-92-1	Lead	2.1			F	
7439-95-4	Magnesium	7450			P	
7439-96-5	Manganese	498	J	N	P	
7439-97-6	Mercury	0.1	U		CV	
7440-02-0	Nickel	10.9	B		P	B
7440-09-7	Potassium	185	B		P	
7482-49-2	Selenium	0.42	U J	WN	F	
7440-22-4	Silver	0.83	U		P	
7440-23-5	Sodium	308	U		P	
7440-28-0	Thallium	0.42	U		F	
7440-62-2	Vanadium	7.4	B		P	
7440-66-6	Zinc	13.4	B		P	B
	Cyanide	0.52	U		AS	

10/19/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MECS42
SB-5

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/03/89

% Solids: 94.5

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1980			P	
7440-36-0	Antimony	5.1	U	N	P	
7440-38-2	Arsenic	1.3	B		F	
7440-39-3	Barium	34.2	B		P	
7440-41-7	Beryllium	0.21	U		P	
7440-43-9	Cadmium	0.85	U		P	
7440-70-2	Calcium	14400			P	
7440-47-3	Chromium	6.4	B		P	B
7440-48-4	Cobalt	6.2	B		P	
7440-50-8	Copper	6.6	B		P	B
7439-89-6	Iron	14000			P	
7439-92-1	Lead	2.3			F	
7439-95-4	Magnesium	4130	B		P	B
7439-96-5	Manganese	1110	J	N	P	
7439-97-6	Mercury	0.1	U		CV	
7440-02-0	Nickel	9.4	B		P	B
7440-09-7	Potassium	196	B		P	
7482-49-2	Selenium	0.42	U	WN	F	
7440-22-4	Silver	0.85	U		P	
7440-23-5	Sodium	313	U		P	
7440-28-0	Thallium	0.42	U		F	
7440-62-2	Vanadium	14.5	B		P	B
7440-66-6	Zinc	15.3	B		P	B
	Cyanide	0.53	U		AS	

10/19/89
WN

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000006

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MECS43
SB-20

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/03/89

% Solids: 93.2

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1970			P	
7440-36-0	Antimony	5.2	UJ	N	P	
7440-38-2	Arsenic	1.2	B	W	F	
7440-39-3	Barium	29.8	B		P	
7440-41-7	Beryllium	0.21	U		P	
7440-43-9	Cadmium	0.86	U		P	
7440-70-2	Calcium	17100			P	
7440-47-3	Chromium	6.6	B		P	B
7440-48-4	Cobalt	5.6	B		P	
7440-50-8	Copper	9.0	B		P	B
7439-89-6	Iron	6840			P	
7439-92-1	Lead	2.4			F	
7439-95-4	Magnesium	5410			P	
7439-96-5	Manganese	391	J	N	P	
7439-97-6	Mercury	0.1	U		CV	
7440-02-0	Nickel	10.6	B		P	B
7440-09-7	Potassium	216	B		P	
7482-49-2	Selenium	0.43	UJ	WN	F	
7440-22-4	Silver	0.86	U		P	
7440-23-5	Sodium	318	U		P	
7440-28-0	Thallium	0.43	U		F	
7440-62-2	Vanadium	10.1	B		P	B
7440-66-6	Zinc	18.8	B		P	B
	Cyanide	0.54	U		AS	

10/19/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000007

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-11
MECS44

ab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

ab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

atrix (soil/water): SOIL Lab Sample ID: _____

evel (low/med): LOW Date Received: 06/03/89

Solids: 96.1

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1940			P	
7440-36-0	Antimony	5.0	U	N	P	
7440-38-2	Arsenic	0.50	B		F	
7440-39-3	Barium	14.9	B		P	
7440-41-7	Beryllium	0.21	U		P	
7440-43-9	Cadmium	0.83	U		P	
7440-70-2	Calcium	13600			P	
7440-47-3	Chromium	6.9	B		P	B
7440-48-4	Cobalt	5.1	B		P	
7440-50-8	Copper	7.1	B		P	B
7439-89-6	Iron	5810			P	
7439-92-1	Lead	1.2			F	
7439-95-4	Magnesium	2900	B		P	B
7439-96-5	Manganese	188		N	P	
7439-97-6	Mercury	0.1	U		CV	
7440-02-0	Nickel	9.9	B		P	B
7440-09-7	Potassium	189	B		P	B
7482-49-2	Selenium	0.42	U	WN	F	
7440-22-4	Silver	0.83	U		P	
7440-23-5	Sodium	308	U		P	
7440-28-0	Thallium	0.42	U		F	
7440-62-2	Vanadium	10.7	B		P	B
7440-66-6	Zinc	12.6	B		P	B
	Cyanide	0.52	U		AS	

10/12/89

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000008

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-12
MECS45

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/03/89

% Solids: 95.2

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2480			P	
7440-36-0	Antimony	5.0	U	N	P	
7440-38-2	Arsenic	0.59	B	W	F	
7440-39-3	Barium	118	B		P	B
7440-41-7	Beryllium	0.21	U		P	
7440-43-9	Cadmium	0.92	~~B~~ U		P	U
7440-70-2	Calcium	9100			P	
7440-47-3	Chromium	8.7	B		P	B
7440-48-4	Cobalt	14.5	B		P	B
7440-50-8	Copper	14.8	B		P	B
7439-89-6	Iron	8490			P	
7439-92-1	Lead	1.4			F	
7439-95-4	Magnesium	2790	B		P	B
7439-96-5	Manganese	2500	J	N	P	
7439-97-6	Mercury	0.1	U		CV	10/19/89
7440-02-0	Nickel	33.4	B		P	B
7440-09-7	Potassium	239	B		P	
7482-49-2	Selenium	0.42	U	WN	F	
7440-22-4	Silver	0.84	U		P	
7440-23-5	Sodium	311	U		P	
7440-28-0	Thallium	0.42	U		F	
7440-62-2	Vanadium	13.3	B		P	B
7440-66-6	Zinc	29.5			P	
	Cyanide	0.53	U		AS	

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

0000009

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB-16
MECS46

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 12035 SAS No.: _____ SDG No.: MECS39

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Received: 06/03/89

% Solids: 96.2

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2270			P	
7440-36-0	Antimony	5.0	U	N	P	
7440-38-2	Arsenic	0.83	B	W	F	
7440-39-3	Barium	27.4	B		P	
7440-41-7	Beryllium	0.21	U		P	
7440-43-9	Cadmium	0.83	U		P	
7440-70-2	Calcium	15100			P	
7440-47-3	Chromium	6.4	B		P	B
7440-48-4	Cobalt	5.0	B		P	
7440-50-8	Copper	7.6	B		P	B
7439-89-6	Iron	6990			P	
7439-92-1	Lead	2.2			F	
7439-95-4	Magnesium	6040			P	
7439-96-5	Manganese	349	J	N	P	
7439-97-6	Mercury	0.1	U		CV	
7440-02-0	Nickel	10.5	B		P	B
7440-09-7	Potassium	288	B		P	
7482-49-2	Selenium	0.42	U	WN	F	
7440-22-4	Silver	0.83	U		P	
7440-23-5	Sodium	308	U		P	
7440-28-0	Thallium	0.42	U		F	
7440-62-2	Vanadium	10.9	B		P	B
7440-66-6	Zinc	18.0	B		P	B
	Cyanide	0.52	U		AS	

10/19/89
WN

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

SAMPLE MANAGEMENT OFFICE

CASE NO: 12177 SAS NO (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

TYPE OF ACTIVITY: SUPERFUND—PA; NON-SUPERFUND PROGRAM

SAMPLE DESCRIPTION (ENTER IN BOX A): 1. SURFACE WATER; 2. GROUND WATER; 3. LEACHATE; 2 WASTE (SAS)

REGION NO: 5 SAMPLING COMPANY: MCCA

SAMPLER: (NAME) Ed Cody

SHIP TO: Hazelton Labs INC (Hazleton) 515 Science Drive Madison, WI 53711 (608) 233-4100 ATTN: Steven Crupi

SAMPLING DATE: BEGIN: 6/13/89 END: 6/13/89

DATE SHIPPED: 6/15/89 CARRIER: Fed EX

AIRBILL NO:

DATE RECD: 6/16/89 SDG NO: EDH72

REC'D BY:

68-01-7418 LABORATORY CONTRACT NO. 97800 UNIT PRICE

TRANSFER TO: DATE REC'D:

REC'D BY: CONTRACT NO./PRICE:

SAMPLE NUMBER (FROM LABELS)	SAMPLE DESCRIPTION	CONCENTRATION	RAS ANALYSIS: VOLATILE	RAS ANALYSIS: BASE/NEUT/ACID	RAS ANALYSIS: PESTICIDE/PCBs	SPECIAL HANDLING	STATION LOCATION		
89YC24532/EDH72	2	L	X				Trip Blk	Sam	
89YC24533/EDH73	2	L	X	X	X		Field Blk		
89YC24534/EDH74	2	L	X	X	X		Duplicate	on	custody
89YC24535/EDH75	2	L	X	X	X		mw2 - M		and
89YC24536/EDH76	2	L	X	X	X				condition
89YC24537/EDH77	2	L	X	X	X				
89YC24538/EDH78	2	L	X	X	X		mw4		
89YC24539/EDH79	2	L	X	X	X		mw6	SDG # EDH72	
								Last SDG # EDH 79	

EPA Form 2075-7 (8-87)

① Script error / LMK 6/14/89

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH72

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603357

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA054

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/21/89

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	~~BJ~~ U
67-64-1	Acetone	12	~~B~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	2	~~BJ~~ U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH72

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603357

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA054

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/21/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 67-63-0	2-PROPANOL (ACN)	6.25	5.0	J

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EPA SAMPLE NO.

EDH73

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603338

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA055

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/21/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	~~BJ~~ U
67-64-1	Acetone	9	~~BJ~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	0.7	J +
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	2	~~BJ~~ U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	0.6	J +
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH73

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603338

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA055

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ Date Analyzed: 06/21/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

EDH74

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603339

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA056

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/21/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	~~BJ~~ U
67-64-1	Acetone	8	~~BJ~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	1	~~BJ~~ U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	J +
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH74

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603339

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA056

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ Date Analyzed: 06/21/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

EDH75

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603340

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA072

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/23/89

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	0.8	~~BJ~~ U
67-64-1	Acetone	11	~~B~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	1	~~BJ~~ U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	0.4	J
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	3	J

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"J" is ok WM

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH75

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603340

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA072

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ Date Analyzed: 06/23/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

EDH76

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603343

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA067

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	~~BJ~~ U
67-64-1	Acetone	8	~~BJ~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH76

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603343

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA067

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ Date Analyzed: 06/22/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

EDH77

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603344

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA061

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	~~B~~ U
67-64-1	Acetone	6	~~B~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	1	~~B~~ U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	0.2	J
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH77

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603344

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA061

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

EDH78

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603345

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA062

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	~~BJ~~ U
67-64-1	Acetone	9	~~BJ~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	2	~~BJ~~ R
71-55-6	1,1,1-Trichloroethane	0.6	J
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	0.7	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	0.5	~~BJ~~ U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

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TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH78

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603345

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA062

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ Date Analyzed: 06/22/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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EPA SAMPLE NO.

EDH79

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA066

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	~~BJ~~ U
67-64-1	Acetone	7	~~BJ~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	3	~~BJ~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	0.6	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	0.6	J
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	3	J

WM 10/3

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH79

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA066

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ Date Analyzed: 06/22/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK05

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: VBLK05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA053

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 06/21/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	3	~~U~~ J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	1	J
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	0.2	J
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

10/3 WM

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK05

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: VBLK05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA053

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/21/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK06

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: VBLK06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA065

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	6	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	3	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK06

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: VBLK06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA065

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK07

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: VBLK07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA071

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 06/23/89

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	0.7	J
67-64-1	Acetone	3	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	1	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK07

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: VBLK07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA071

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 06/23/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ZZZZZ

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: HOLD BLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA068

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 06/22/89

Column: (pack/cap) PACK Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	~~HBJ~~ U
67-64-1	Acetone	6	~~BJ~~ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	~~U~~ R
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	0.5	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

10/3 WM

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ZZZZZ

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: HOLD BLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 906CA068

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/22/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH73

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603338

Sample wt/vol: 945 (g/mL) ML Lab File ID: 906CB107

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	0.9	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.6	U
106-46-7	1,4-Dichlorobenzene	0.7	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.8	U
95-48-7	2-Methylphenol	1	U
39638-32-9	bis(2-Chloroisopropyl)Ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	6	U
78-59-1	Isophorone	2	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic Acid	53	U
111-91-1	bis(2-Chloroethoxy)Methane	0.7	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	0.9	U
91-20-3	Naphthalene	0.5	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	0.6	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	3	U
91-58-7	2-Chloronaphthalene	0.9	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	0.9	U
208-96-8	Acenaphthylene	0.5	U
606-20-2	2,6-Dinitrotoluene	0.9	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH73

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603338

Sample wt/vol: 945 (g/mL) ML Lab File ID: 906CB107

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	1	U
83-32-9	Acenaphthene	0.6	U
51-28-5	2,4-Dinitrophenol	38	U
100-02-7	4-Nitrophenol	11	U
132-64-9	Dibenzofuran	0.5	U
121-14-2	2,4-Dinitrotoluene	0.9	U
84-66-2	Diethylphthalate	0.2	J
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	0.5	U
100-10-6	4-Nitroaniline	2	U
534-52-1	4,6-Dinitro-2-methylphenol	8	U
86-30-6	N-Nitrosodiphenylamine (1)	0.8	U
101-55-3	4-Bromophenyl-phenylether	0.9	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	0.3	U
120-12-7	Anthracene	0.4	U
84-74-2	Di-n-Butylphthalate	5	~~B~~ U
206-44-0	Fluoranthene	1	U
129-00-0	Pyrene	1	U
85-68-7	Butylbenzylphthalate	0.5	~~B~~ U
91-94-1	3,3'-Dichlorobenzidine	3	U
56-55-3	Benzo(a)anthracene	0.3	U
218-01-9	Chrysene	0.5	U
117-81-7	bis(2-Ethylhexyl)phthalate	0.5	~~B~~ U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	1	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	0.4	U
193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
53-70-3	Dibenz(a,h)Anthracene	1	U
191-24-2	Benzo(g,h,i)perylene	2	U

(1) - Cannot be separated from Diphenylamine

Wm 10/3

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH73

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603338

Sample wt/vol: 945 (g/mL) ML Lab File ID: 906CB107

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 74367-33-2	PROPANOIC ACID, 2-METHYL-, 2	14.55	3.9	J
2. 74367-34-3	PROPANOIC ACID, 2-METHYL-, 3	14.87	5.6	J
			9.5	

FORM I SV-TIC 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH74

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603339

Sample wt/vol: 980 (g/mL) ML Lab File ID: 906CB117

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) - SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	0.8	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.6	U
106-46-7	1,4-Dichlorobenzene	0.7	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.8	U
95-48-7	2-Methylphenol	1	U
39638-32-9	bis(2-Chloroisopropyl)Ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	2	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)Methane	0.7	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	0.9	U
91-20-3	Naphthalene	0.4	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	0.5	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	3	U
91-58-7	2-Chloronaphthalene	0.9	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	0.9	U
208-96-8	Acenaphthylene	0.5	U
606-20-2	2,6-Dinitrotoluene	0.9	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH74

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603339

Sample wt/vol: 980 (g/mL) ML Lab File ID: 906CB117

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	1	U
83-32-9	Acenaphthene	0.5	U
51-28-5	2,4-Dinitrophenol	36	U
100-02-7	4-Nitrophenol	11	U
132-64-9	Dibenzofuran	0.5	U
121-14-2	2,4-Dinitrotoluene	0.9	U
84-66-2	Diethylphthalate	0.2	J
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	0.5	U
100-10-6	4-Nitroaniline	2	U
534-52-1	4,6-Dinitro-2-methylphenol	8	U
86-30-6	N-Nitrosodiphenylamine (1)	0.7	U
101-55-3	4-Bromophenyl-phenylether	0.9	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	0.3	U
120-12-7	Anthracene	0.3	J
84-74-2	Di-n-Butylphthalate	6	~~B~~ U
206-44-0	Fluoranthene	1	U
129-00-0	Pyrene	1	U
85-68-7	Butylbenzylphthalate	0.7	~~B~~ U
91-94-1	3,3'-Dichlorobenzidine	3	U
56-55-3	Benzo(a)anthracene	0.3	U
218-01-9	Chrysene	0.4	U
117-81-7	bis(2-Ethylhexyl)phthalate	0.6	~~B~~ U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	1	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	0.4	U
193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
53-70-3	Dibenz(a,h)Anthracene	1	U
191-24-2	Benzo(g,h,i)perylene	1	U

(1) - Cannot be separated from Diphenylamine

Wp 10/3

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH74

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603339

Sample wt/vol: 980 (g/mL) ML Lab File ID: 906CB117

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.32	6.2	J
2. 104-76-7	1-HEXANOL, 2-ETHYL-	8.84	3.6	J
3. 74367-33-2	PROPANOIC ACID, 2-METHYL-, 2	14.52	3.4	J
4. 74367-34-3	PROPANOIC ACID, 2-METHYL-, 3	14.84	4.1	J

FORM I SV-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH75

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603340

Sample wt/vol: 900 (g/mL) ML Lab File ID: 906CB109

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	0.9	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.6	U
106-46-7	1,4-Dichlorobenzene	0.8	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.8	U
95-48-7	2-Methylphenol	1	U
39638-32-9	bis(2-Chloroisopropyl)Ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	6	U
78-59-1	Isophorone	2	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic Acid	56	U
111-91-1	bis(2-Chloroethoxy)Methane	0.8	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	7	
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	2	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	0.6	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	1	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	1	U
208-96-8	Acenaphthylene	1	
606-20-2	2,6-Dinitrotoluene	0.9	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH75

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603340

Sample wt/vol: 900 (g/mL) ML Lab File ID: 906CB109

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	2	U
83-32-9	Acenaphthene	56	
51-28-5	2,4-Dinitrophenol	39	U
100-02-7	4-Nitrophenol	12	U
132-64-9	Dibenzofuran	29	
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	34	
100-10-6	4-Nitroaniline	2	U
534-52-1	4,6-Dinitro-2-methylphenol	9	U
86-30-6	N-Nitrosodiphenylamine (1)	0.8	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	11	
85-01-8	Phenanthrene	1	
120-12-7	Anthracene	2	
84-74-2	Di-n-Butylphthalate	5	~~B~~ U
206-44-0	Fluoranthene	4	
129-00-0	Pyrene	2	
85-68-7	Butylbenzylphthalate	0.7	~~B~~ U
91-94-1	3,3'-Dichlorobenzidine	3	U
56-55-3	Benzo(a)anthracene	0.4	U
218-01-9	Chrysene	0.5	U
117-81-7	bis(2-Ethylhexyl)phthalate	0.6	~~B~~ U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	1	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	0.5	U
193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
53-70-3	Dibenz(a,h)Anthracene	1	U
191-24-2	Benzo(g,h,i)perylene	2	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH75

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603340

Sample wt/vol: 900 (g/mL) ML Lab File ID: 906CB109

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	824-22-6	1H-INDENE, 2,3-DIHYDRO-4-MET	11.10	11	J
2.	95-15-8	BENZO[B]THIOPHENE	11.85	38	J
3.	17059-48-2	1H-INDENE, 2,3-DIHYDRO-1,6-D	13.40	9.1	J
4.	16587-47-6	BENZO[B]THIOPHENE, 6-METHYL-	13.49	18	J
5.	2471-83-2	1H-INDENE, 1-ETHYLIDENE-	13.90	86	J
6.	827-54-3	NAPHTHALENE, 2-ETHENYL-	14.95	12	J
7.	939-27-5	NAPHTHALENE, 2-ETHYL-	15.22	14	J
8.	16587-40-9	BENZO[B]THIOPHENE, 2,7-DIMET	15.35	14	J
9.	573-98-8	NAPHTHALENE, 1,2-DIMETHYL-	15.57	17	J
10.	16587-42-1	BENZO[B]THIOPHENE, 7-ETHYL-	15.69	10	J
11.	569-41-5	NAPHTHALENE, 1,8-DIMETHYL-	15.87	14	J
12.	939-27-5	NAPHTHALENE, 2-ETHYL-	16.10	10	J
13.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.20	9.2	J
14.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.42	14	J
15.	2489-86-3	NAPHTHALENE, 1-(2-PROPENYL)-	18.10	11	J
16.	2489-86-3	NAPHTHALENE, 1-(2-PROPENYL)-	18.19	9.3	J
17.	933-78-8	PHENOL, 2,3,5-TRICHLORO-	18.54	25	J
18.	2523-37-7	9H-FLUORENE, 9-METHYL-	19.70	9.1	J
19.	2788-23-0	9H-CARBAZOLE, 9-NITROSO-	21.22	37	J
20.	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	22.17	9.0	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH76

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603343

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 906CB112

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	0.8	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.6	U
106-46-7	1,4-Dichlorobenzene	0.7	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.7	U
95-48-7	2-Methylphenol	1	U
39638-32-9	bis(2-Chloroisopropyl)Ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	2	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	0.7	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	0.9	U
91-20-3	Naphthalene	0.4	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	0.5	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	3	U
91-58-7	2-Chloronaphthalene	0.9	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	0.9	U
208-96-8	Acenaphthylene	0.5	U
606-20-2	2,6-Dinitrotoluene	0.9	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH76

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603343

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 906CB112

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	1	U
83-32-9	Acenaphthene	0.5	U
51-28-5	2,4-Dinitrophenol	35	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	0.5	U
121-14-2	2,4-Dinitrotoluene	0.9	U
84-66-2	Diethylphthalate	0.3	J
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	0.5	U
100-10-6	4-Nitroaniline	2	U
534-52-1	4,6-Dinitro-2-methylphenol	8	U
86-30-6	N-Nitrosodiphenylamine (1)	0.7	U
101-55-3	4-Bromophenyl-phenylether	0.9	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	0.3	U
120-12-7	Anthracene	0.3	J
84-74-2	Di-n-Butylphthalate	5	~~B~~ U
206-44-0	Fluoranthene	1	U
129-00-0	Pyrene	1	U
85-68-7	Butylbenzylphthalate	0.6	~~BJ~~ U
91-94-1	3,3'-Dichlorobenzidine	3	U
56-55-3	Benzo(a)anthracene	0.3	U
218-01-9	Chrysene	0.4	U
117-81-7	bis(2-Ethylhexyl)phthalate	0.6	~~BJ~~ U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	1	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	0.4	U
193-39-5	Indeno(1,2,3-cd)Pyrene	2	U
53-70-3	Dibenz(a,h)Anthracene	1	U
191-24-2	Benzo(g,h,i)perylene	1	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH76

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603343

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 906CB112

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) - SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 104-89-2	PIPERIDINE, 5-ETHYL-2-METHYL	6.35	4.0	J
2. 104-76-7	1-HEXANOL, 2-ETHYL-	8.85	4.8	J
3. 74367-33-2	PROPANOIC ACID, 2-METHYL-, 2	14.54	4.6	J
4. 74367-34-3	PROPANOIC ACID, 2-METHYL-, 3	14.87	5.7	J

FORM I SV-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH77

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603344

Sample wt/vol: 890 (g/mL) ML Lab File ID: 906CB113

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	0.9	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.6	U
106-46-7	1,4-Dichlorobenzene	0.8	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.8	U
95-48-7	2-Methylphenol	1	U
39638-32-9	bis(2-Chloroisopropyl)Ether	4	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	6	U
78-59-1	Isophorone	2	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic Acid	56	U
111-91-1	bis(2-Chloroethoxy)Methane	0.8	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	0.4	J
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	2	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	0.6	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	3	U
95-95-4	2,4,5-Trichlorophenol	0.9	J
91-58-7	2-Chloronaphthalene	1	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	1	U
208-96-8	Acenaphthylene	0.5	U
606-20-2	2,6-Dinitrotoluene	1	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH77

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603344

Sample wt/vol: 890 (g/mL) ML Lab File ID: 906CB113

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
99-09-2	3-Nitroaniline	2	U	
83-32-9	Acenaphthene	6		+
51-28-5	2,4-Dinitrophenol	40	U	
100-02-7	4-Nitrophenol	12	U	
132-64-9	Dibenzofuran	5		+
121-14-2	2,4-Dinitrotoluene	1	U	
84-66-2	Diethylphthalate	1	U	
7005-72-3	4-Chlorophenyl-phenylether	1	U	
86-73-7	Fluorene	5		+
100-10-6	4-Nitroaniline	2	U	
534-52-1	4,6-Dinitro-2-methylphenol	9	U	
86-30-6	N-Nitrosodiphenylamine (1)	0.8	U	
101-55-3	4-Bromophenyl-phenylether	1	U	
118-74-1	Hexachlorobenzene	1	U	
87-86-5	Pentachlorophenol	4	J	+
85-01-8	Phenanthrene	0.2	J	+
120-12-7	Anthracene	0.6		+
84-74-2	Di-n-Butylphthalate	6	~~B~~ U	
206-44-0	Fluoranthene	1	J	+
129-00-0	Pyrene	1	J	+
85-68-7	Butylbenzylphthalate	0.8	~~B~~ U	
91-94-1	3,3'-Dichlorobenzidine	3	U	
56-55-3	Benzo(a)anthracene	0.4	U	
218-01-9	Chrysene	0.5	U	
117-81-7	bis(2-Ethylhexyl)phthalate	1	~~B~~ U	
117-84-0	Di-n-octylphthalate	2	U	
205-99-2	Benzo(b)fluoranthene	1	U	
207-08-9	Benzo(k)fluoranthene	2	U	
50-32-8	Benzo(a)pyrene	0.5	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	2	U	
53-70-3	Dibenz(a,h)Anthracene	1	U	
191-24-2	Benzo(g,h,i)perylene	2	U	

(1) - Cannot be separated from Diphenylamine

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH77

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603344

Sample wt/vol: 890 (g/mL) ML Lab File ID: 906CB113

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.35	5.7	J
2. 95-15-8	BENZO[B]THIOPHENE	11.84	11	J
3. 17059-48-2	1H-INDENE, 2,3-DIHYDRO-1,6-D	13.40	4.4	J
4. 16587-47-6	BENZO[B]THIOPHENE, 6-METHYL-	13.47	7.6	J
5. 4453-90-1	1,4-METHANONAPHTHALENE, 1,4-	13.87	21	J
6. 74367-33-2	PROPANOIC ACID, 2-METHYL-, 2	14.55	4.0	J
7. 74367-34-3	PROPANOIC ACID, 2-METHYL-, 3	14.87	5.4	J
8. 19064-64-3	PYRIDAZINE, 3,6-DICHLORO-4-M	15.17	5.6	J
9. 16587-40-9	BENZO[B]THIOPHENE, 2,7-DIMET	15.34	6.4	J
10. 573-98-8	NAPHTHALENE, 1,2-DIMETHYL-	15.57	5.0	J
11. 16587-42-1	BENZO[B]THIOPHENE, 7-ETHYL-	15.69	3.4	J
12. 569-41-5	NAPHTHALENE, 1,8-DIMETHYL-	15.85	5.5	J
13. 939-27-5	NAPHTHALENE, 2-ETHYL-	16.09	3.0	J
14. 2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.42	5.4	J
15. 2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.64	3.5	J
16. 2489-86-3	NAPHTHALENE, 1-(2-PROPENYL)-	18.10	9.6	J
17. 609-19-8	PHENOL, 3,4,5-TRICHLORO-	18.52	11	J
18. 1730-37-6	9H-FLUORENE, 1-METHYL-	19.70	3.1	J
19. 86-74-8	9H-CARBAZOLE	21.17	3.4	J
20. 203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	22.15	3.4	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH78

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603345

Sample wt/vol: 800 (g/mL) ML Lab File ID: 906CB114

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) - SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	1	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.7	U
106-46-7	1,4-Dichlorobenzene	0.9	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.9	U
95-48-7	2-Methylphenol	2	U
39638-32-9	bis(2-Chloroisopropyl)Ether	4	U
106-44-5	4-Methylphenol	2	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	7	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	3	U
65-85-0	Benzoic Acid	63	U
111-91-1	bis(2-Chloroethoxy)Methane	0.9	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	0.5	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	2	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	77	
77-47-4	Hexachlorocyclopentadiene	2	U
88-06-2	2,4,6-Trichlorophenol	3	U
95-95-4	2,4,5-Trichlorophenol	3	U
91-58-7	2-Chloronaphthalene	1	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	1	U
208-96-8	Acenaphthylene	0.6	U
606-20-2	2,6-Dinitrotoluene	1	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH78

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603345

Sample wt/vol: 800 (g/mL) ML Lab File ID: 906CB114

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
99-09-2	3-Nitroaniline	2	U	
83-32-9	Acenaphthene	10		+
51-28-5	2,4-Dinitrophenol	44	U	
100-02-7	4-Nitrophenol	13	U	
132-64-9	Dibenzofuran	0.6	U	
121-14-2	2,4-Dinitrotoluene	1	U	
84-66-2	Diethylphthalate	1	U	
7005-72-3	4-Chlorophenyl-phenylether	1	U	
86-73-7	Fluorene	15		+
100-10-6	4-Nitroaniline	2	U	
534-52-1	4,6-Dinitro-2-methylphenol	10	U	
86-30-6	N-Nitrosodiphenylamine (1)	0.9	U	
101-55-3	4-Bromophenyl-phenylether	1	U	
118-74-1	Hexachlorobenzene	2	U	
87-86-5	Pentachlorophenol	49		+
85-01-8	Phenanthrene	16		+
120-12-7	Anthracene	1		+
84-74-2	Di-n-Butylphthalate	7	~~B~~ U	
206-44-0	Fluoranthene	2		+
129-00-0	Pyrene	3		+
85-68-7	Butylbenzylphthalate	0.9	~~Bd~~ U	
91-94-1	3,3'-Dichlorobenzidine	4	U	
56-55-3	Benzo(a)anthracene	0.7		+
218-01-9	Chrysene	1		+
117-81-7	bis(2-Ethylhexyl)phthalate	5	~~B~~ U	
117-84-0	Di-n-octylphthalate	2	U	
205-99-2	Benzo(b)fluoranthene	1	J	+
207-08-9	Benzo(k)fluoranthene	3	U	
50-32-8	Benzo(a)pyrene	0.5	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	2	U	
53-70-3	Dibenz(a,h)Anthracene	2	U	
191-24-2	Benzo(g,h,i)perylene	2	U	

(1) - Cannot be separated from Diphenylamine

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH78

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603345

Sample wt/vol: 800 (g/mL) ML Lab File ID: 906CB114

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	2471-83-2	1H-INDENE, 1-ETHYLIDENE-	13.90	130	J
2.	939-27-5	NAPHTHALENE, 2-ETHYL-	15.20	86	J
3.	575-41-7	NAPHTHALENE, 1,3-DIMETHYL-	15.40	160	J
4.	573-98-8	NAPHTHALENE, 1,2-DIMETHYL-	15.64	250	J
5.	573-98-8	NAPHTHALENE, 1,2-DIMETHYL-	15.90	71	J
6.	939-27-5	NAPHTHALENE, 2-ETHYL-	16.12	47	J
7.	17301-32-5	UNDECANE, 4,7-DIMETHYL-	16.75	77	J
8.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	16.85	79	J
9.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.17	44	J
10.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.24	50	J
11.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.50	100	J
12.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.67	68	J
13.	6418-41-3	TRIDECANE, 3-METHYL-	18.14	140	J
14.	55045-08-4	DODECANE, 2-METHYL-6-PROPYL-	18.79	54	J
15.	629-78-7	HEPTADECANE	19.45	79	J
16.	605-39-0	1,1'-BIPHENYL, 2,2'-DIMETHYL	19.59	37	J
17.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	20.70	60	J
18.	16587-52-3	DIBENZOTHIOPHENE, 3-METHYL-	21.42	37	J
19.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	21.87	66	J
20.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	23.00	43	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH79

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346

Sample wt/vol: 875 (g/mL) ML Lab File ID: 906CB115

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	0.9	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.6	U
106-46-7	1,4-Dichlorobenzene	0.8	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.8	U
95-48-7	2-Methylphenol	1	U
39638-32-9	bis(2-Chloroisopropyl)Ether	4	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	6	U
78-59-1	Isophorone	2	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic Acid	57	U
111-91-1	bis(2-Chloroethoxy)Methane	0.8	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	21	
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	2	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	35	
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	3	U
95-95-4	2,4,5-Trichlorophenol	3	U
91-58-7	2-Chloronaphthalene	1	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	1	U
208-96-8	Acenaphthylene	0.5	U
606-20-2	2,6-Dinitrotoluene	1	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH79

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346

Sample wt/vol: 875 (g/mL) ML Lab File ID: 906CB115

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	2	U
83-32-9	Acenaphthene	39	
51-28-5	2,4-Dinitrophenol	40	U
100-02-7	4-Nitrophenol	12	U
132-64-9	Dibenzofuran	36	
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	56	
100-10-6	4-Nitroaniline	2	U
534-52-1	4,6-Dinitro-2-methylphenol	9	U
86-30-6	N-Nitrosodiphenylamine (1)	0.8	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	17	
85-01-8	Phenanthrene	82	
120-12-7	Anthracene	23	
84-74-2	Di-n-Butylphthalate	3	~~B~~ U
206-44-0	Fluoranthene	100	E
129-00-0	Pyrene	96	E
85-68-7	Butylbenzylphthalate	1	~~B~~ U
91-94-1	3,3'-Dichlorobenzidine	3	U
56-55-3	Benzo(a)anthracene	31	
218-01-9	Chrysene	24	
117-81-7	bis(2-Ethylhexyl)phthalate	29	~~B~~ U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	34	
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	16	
193-39-5	Indeno(1,2,3-cd)Pyrene	5	
53-70-3	Dibenz(a,h)Anthracene	2	
191-24-2	Benzo(g,h,i)perylene	4	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH79

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346

Sample wt/vol: 875 (g/mL) ML Lab File ID: 906CB115

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	2471-83-2	BENZO[B]THIOPHENE	11.87	79	J
2.	1560-96-9	1H-INDENE, 1-ETHYLIDENE-	13.94	180	J
3.	124-18-5	TRIDECANE, 2-METHYL-	14.75	54	J
4.	575-41-7	DECANE	15.34	58	J
5.	573-98-8	NAPHTHALENE, 1,3-DIMETHYL-	15.44	110	J
6.	573-98-8	NAPHTHALENE, 1,2-DIMETHYL-	15.67	200	J
7.	573-98-8	NAPHTHALENE, 1,2-DIMETHYL-	15.94	63	J
8.	2027-17-0	PENTADECANE	16.82	110	J
9.	2131-41-1	NAPHTHALENE, 2-(1-METHYLETHY	16.90	63	J
10.	2131-42-2	NAPHTHALENE, 1,4,5-TRIMETHYL	17.52	140	J
11.	55030-62-1	NAPHTHALENE, 1,4,6-TRIMETHYL	17.72	100	J
12.	55045-08-4	TRIDECANE, 4,8-DIMETHYL-	18.19	130	J
13.	629-59-4	DODECANE, 2-METHYL-6-PROPYL-	18.84	56	J
14.	54105-67-8	TETRADECANE	19.50	85	J
15.	74764-11-7	DIBENZOTHIOPHENE	20.24	53	J
16.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	20.75	64	J
17.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	20.87	57	J
18.	13141-45-2	IRON, TRICARBONYL[N-(PHENYL-	21.92	87	J
19.	3079-30-9	PHENANTHRENE, 2,5-DIMETHYL-	23.57	58	J
20.		UNKNOWN	25.16	63	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH79DL

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346DL

Sample wt/vol: 875 (g/mL) ML Lab File ID: 906CB118

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 2.0

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)Ether	2	U
95-57-8	2-Chlorophenol	4	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl Alcohol	4	U
95-50-1	1,2-Dichlorobenzene	2	U
95-48-7	2-Methylphenol	3	U
39638-32-9	bis(2-Chloroisopropyl)Ether	7	U
106-44-5	4-Methylphenol	3	U
621-64-7	N-Nitroso-Di-n-Propylamine	4	U
67-72-1	Hexachloroethane	4	U
98-95-3	Nitrobenzene	12	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	6	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic Acid	110	U
111-91-1	bis(2-Chloroethoxy)Methane	2	U
120-83-2	2,4-Dichlorophenol	4	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	20	D
106-47-8	4-Chloroaniline	4	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	4	U
91-57-6	2-Methylnaphthalene	36	D
77-47-4	Hexachlorocyclopentadiene	3	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	6	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	3	U
131-11-3	Dimethyl Phthalate	2	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	2	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH79DL

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346DL

Sample wt/vol: 875 (g/mL) ML Lab File ID: 906CB118

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) - SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	3	U
83-32-9	Acenaphthene	45	D
51-28-5	2,4-Dinitrophenol	81	U
100-02-7	4-Nitrophenol	24	U
132-64-9	Dibenzofuran	42	D
121-14-2	2,4-Dinitrotoluene	2	U
84-66-2	Diethylphthalate	2	U
7005-72-3	4-Chlorophenyl-phenylether	2	U
86-73-7	Fluorene	67	D
100-10-6	4-Nitroaniline	4	U
534-52-1	4,6-Dinitro-2-methylphenol	18	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	3	U
87-86-5	Pentachlorophenol	19	D
85-01-8	Phenanthrene	89	D
120-12-7	Anthracene	25	D
84-74-2	Di-n-Butylphthalate	5	U
206-44-0	Fluoranthene	110	D
129-00-0	Pyrene	110	D
85-68-7	Butylbenzylphthalate	2	~~BDJ~~ U
91-94-1	3,3'-Dichlorobenzidine	7	U
56-55-3	Benzo(a)anthracene	32	D
218-01-9	Chrysene	26	D
117-81-7	bis(2-Ethylhexyl)phthalate	33	~~BD~~ U
117-84-0	Di-n-octylphthalate	4	U
205-99-2	Benzo(b)fluoranthene	32	D
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	16	D
193-39-5	Indeno(1,2,3-cd)Pyrene	6	D
53-70-3	Dibenz(a,h)Anthracene	2	DJ
191-24-2	Benzo(g,h,i)perylene	5	D

10/3 WW

(1) - Cannot be separated from Diphenylamine

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDH79DL

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346DL

Sample wt/vol: 875 (g/mL) ML Lab File ID: 906CB118

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 2.0

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	2471-83-2	1H-INDENE, 1-ETHYLIDENE-	13.89	150	J
2.	939-27-5	NAPHTHALENE, 2-ETHYL-	15.19	63	J
3.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	15.27	82	J
4.	575-41-7	NAPHTHALENE, 1,3-DIMETHYL-	15.39	140	J
5.	569-41-5	NAPHTHALENE, 1,8-DIMETHYL-	15.60	240	J
6.	939-27-5	NAPHTHALENE, 2-ETHYL-	16.10	64	J
7.	629-62-9	PENTADECANE	16.75	130	J
8.	2027-17-0	NAPHTHALENE, 2-(1-METHYLETHY	16.85	87	J
9.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.22	65	J
10.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.49	160	J
11.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	17.67	140	J
12.	55030-62-1	TRIDECANE, 4,8-DIMETHYL-	18.14	240	J
13.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	18.79	110	J
14.	629-78-7	HEPTADECANE	19.45	110	J
15.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	19.52	86	J
16.	132-65-0	DIBENZOTHIOPHENE	20.19	89	J
17.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	20.69	110	J
18.	54105-67-8	HEPTADECANE, 2,6-DIMETHYL-	20.82	97	J
19.	7372-88-5	DIBENZOTHIOPHENE, 4-METHYL-	21.44	65	J
20.	74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	21.87	110	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK28

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: SBLK28

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 906CB106

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)Ether	0.8	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	0.6	U
106-46-7	1,4-Dichlorobenzene	0.7	U
100-51-6	Benzyl Alcohol	2	U
95-50-1	1,2-Dichlorobenzene	0.7	U
95-48-7	2-Methylphenol	1	U
39638-32-9	bis(2-Chloroisopropyl)Ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-Di-n-Propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	2	U
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	0.7	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	0.9	U
91-20-3	Naphthalene	0.4	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	0.5	U
77-47-4	Hexachlorocyclopentadiene	1	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	3	U
91-58-7	2-Chloronaphthalene	0.9	U
88-74-4	2-Nitroaniline	2	U
131-11-3	Dimethyl Phthalate	0.9	U
208-96-8	Acenaphthylene	0.5	U
606-20-2	2,6-Dinitrotoluene	0.9	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK28

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: SBLK28

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 906CB106

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
99-09-2	3-Nitroaniline	1	U	
83-32-9	Acenaphthene	0.5	U	
51-28-5	2,4-Dinitrophenol	35	U	
100-02-7	4-Nitrophenol	10	U	
132-64-9	Dibenzofuran	0.5	U	
121-14-2	2,4-Dinitrotoluene	0.9	U	
84-66-2	Diethylphthalate	0.9	U	
7005-72-3	4-Chlorophenyl-phenylether	1	U	
86-73-7	Fluorene	0.5	U	
100-10-6	4-Nitroaniline	2	U	
534-52-1	4,6-Dinitro-2-methylphenol	8	U	
86-30-6	N-Nitrosodiphenylamine (1)	0.7	U	
101-55-3	4-Bromophenyl-phenylether	0.9	U	
118-74-1	Hexachlorobenzene	1	U	
87-86-5	Pentachlorophenol	6	U	
85-01-8	Phenanthrene	0.3	U	
120-12-7	Anthracene	0.4	U	
84-74-2	Di-n-Butylphthalate	2		+
206-44-0	Fluoranthene	1	U	
129-00-0	Pyrene	1	U	
85-68-7	Butylbenzylphthalate	0.4	J	+
91-94-1	3,3'-Dichlorobenzidine	3	U	
56-55-3	Benzo(a)anthracene	0.3	U	
218-01-9	Chrysene	0.4	U	
117-81-7	bis(2-Ethylhexyl)phthalate	0.4	J	+
117-84-0	Di-n-octylphthalate	2	U	
205-99-2	Benzo(b)fluoranthene	1	U	
207-08-9	Benzo(k)fluoranthene	2	U	
50-32-8	Benzo(a)pyrene	0.4	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	2	U	
53-70-3	Dibenz(a,h)Anthracene	1	U	
191-24-2	Benzo(g,h,i)perylene	1	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK28

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: SBLK28

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 906CB106

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 872-50-4	2-PYRROLIDINONE, 1-METHYL-	9.00	3.5	J

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH73

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603338

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH74

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603339

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH75

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603340

Sample wt/vol: 860 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.058	U
319-85-7	beta-BHC	0.058	U
319-86-8	delta-BHC	0.058	U
58-89-9	gamma-BHC (Lindane)	0.058	U
76-44-8	Heptachlor	0.058	U
309-00-2	Aldrin	0.058	U
1024-57-3	Heptachlor epoxide	0.058	U
959-98-8	Endosulfan I	0.058	U
60-57-1	Dieldrin	0.12	U
72-55-9	4,4'-DDE	0.12	U
72-20-8	Endrin	0.12	U
33213-65-9	Endosulfan II	0.12	U
72-54-8	4,4'-DDD	0.12	U
1031-07-8	Endosulfan sulfate	0.12	U
50-29-3	4,4'-DDT	0.12	U
72-43-5	Methoxychlor	0.58	U
53494-70-5	Endrin ketone	0.12	U
5103-71-9	alpha-Chlordane	0.58	U
5103-74-2	gamma-Chlordane	0.58	U
8001-35-2	Toxaphene	1.2	U
12674-11-2	Aroclor-1016	0.58	U
11104-28-2	Aroclor-1221	0.58	U
11141-16-5	Aroclor-1232	0.58	U
53469-21-9	Aroclor-1242	0.58	U
12672-29-6	Aroclor-1248	0.58	U
11097-69-1	Aroclor-1254	1.2	U
11096-82-5	Aroclor-1260	1.2	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH76

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603343

Sample wt/vol: 840 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.060	U
319-85-7	beta-BHC	0.060	U
319-86-8	delta-BHC	0.060	U
58-89-9	gamma-BHC (Lindane)	0.060	U
76-44-8	Heptachlor	0.060	U
309-00-2	Aldrin	0.060	U
1024-57-3	Heptachlor epoxide	0.060	U
959-98-8	Endosulfan I	0.060	U
60-57-1	Dieldrin	0.12	U
72-55-9	4,4'-DDE	0.12	U
72-20-8	Endrin	0.12	U
33213-65-9	Endosulfan II	0.12	U
72-54-8	4,4'-DDD	0.12	U
1031-07-8	Endosulfan sulfate	0.12	U
50-29-3	4,4'-DDT	0.12	U
72-43-5	Methoxychlor	0.60	U
53494-70-5	Endrin ketone	0.12	U
5103-71-9	alpha-Chlordane	0.60	U
5103-74-2	gamma-Chlordane	0.60	U
8001-35-2	Toxaphene	1.2	U
12674-11-2	Aroclor-1016	0.60	U
11104-28-2	Aroclor-1221	0.60	U
11141-16-5	Aroclor-1232	0.60	U
53469-21-9	Aroclor-1242	0.60	U
12672-29-6	Aroclor-1248	0.60	U
11097-69-1	Aroclor-1254	1.2	U
11096-82-5	Aroclor-1260	1.2	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH77

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603344

Sample wt/vol: 910 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.055	U
319-85-7	beta-BHC	0.055	U
319-86-8	delta-BHC	0.055	U
58-89-9	gamma-BHC (Lindane)	0.055	U
76-44-8	Heptachlor	0.055	U
309-00-2	Aldrin	0.055	U
1024-57-3	Heptachlor epoxide	0.055	U
959-98-8	Endosulfan I	0.055	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.55	U
53494-70-5	Endrin ketone	0.11	U
5103-71-9	alpha-Chlordane	0.55	U
5103-74-2	gamma-Chlordane	0.55	U
8001-35-2	Toxaphene	1.1	U
12674-11-2	Aroclor-1016	0.55	U
11104-28-2	Aroclor-1221	0.55	U
11141-16-5	Aroclor-1232	0.55	U
53469-21-9	Aroclor-1242	0.55	U
12672-29-6	Aroclor-1248	0.55	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH78

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603345

Sample wt/vol: 970 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.052	U
319-85-7	beta-BHC	0.052	U
319-86-8	delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.52	U
5103-74-2	gamma-Chlordane	0.52	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.52	U
11104-28-2	Aroclor-1221	0.52	U
11141-16-5	Aroclor-1232	0.52	U
53469-21-9	Aroclor-1242	0.52	U
12672-29-6	Aroclor-1248	0.52	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDH79

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: 90603346

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 06/16/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/22/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.55	
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 12147 SAS No.: _____ SDG No.: EDH72

Matrix: (soil/water) WATER Lab Sample ID: BLANK01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 06/19/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 06/21/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 13147 | SAS NO: 452 (IF APPLICABLE)

INORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER _____
NON-SUPERFUND—_____ PROGRAM

SAMPLE DESCRIPTION (ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

REGION NO: V
SAMPLING COMPANY ② MPCA
SAMPLER: (NAME) E. CODY

SHIP TO: ③ NANCO LABORATORIES (NANCO) RD4 ROBINSON LANE WAPPINGERS FALLS, NY 12590 (914) 221-2485
ATTN: JOHN HUTTINGER

SAMPLING DATE: ④
BEGIN: 6/13/89 END: 6/13/89

DATE SHIPPED: 6/15/89 CARRIER: FEDEX ⑤
AIRBILL NO: 3302879064 3302879075

DATE REC'D: 6-16-89 SDG NO: MEC570 ⑥
REC'D BY: LAST SAMPLE
LABORATORY CONTRACT NO. UNIT PRICE MEC576

TRANSFER TO: DATE REC'D: 08/06/89 ⑦
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION	Ⓕ SAMPLE CONDITION ON RECEIPT – intact	Ⓖ HIGH CONC. PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
89Y24R02/MEC570	2	L	X	X							Field Blk	Metals Filtered			
89Y24D01/MEC571	2	L	X	X							MW1	Metals Not Filtered			
89Y24531/MEC572	2	L	X	X							MW2	Metals Filtered			
89Y24532/MEC573	2	L	X	X							MW1	Metals Not Filtered			
89Y24533/MEC574	2	L	X	X							MW3	Metals Filtered			
89Y24534/MEC575	2	L	X	X							MW4	Metals Filtered			
89Y24535/MEC576	2	L	X	X							MW6	Metals Filtered			

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEC70

Lab Name: NANCO_LABS Contract: 68-W8-0060

Lab Code: NANCO_ Case No.: 12147 SAS No.: _____ SDG No.: MEC70_

Matrix (soil/water): WATER Lab Sample ID: MEC70_____

Level (low/med): LOW__ Date Received: 06/16/89

00003

% Solids: _____0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	54.1_	U		P_
7440-36-0	Antimony_	54.8_	U		P_
7440-38-2	Arsenic__	0.80_	U		F_
7440-39-3	Barium___	16.0_	U		P_
7440-41-7	Beryllium	0.80_	U		P_
7440-43-9	Cadmium__	2.0_	U		P_
7440-70-2	Calcium__	726_	B		P_
7440-47-3	Chromium_	8.2_	U		P_
7440-48-4	Cobalt___	7.2_	U		P_
7440-50-8	Copper___	7.9_	U		P_
7439-89-6	Iron_____	72.0_	~~B~~ U		P_
7439-92-1	Lead_____	14.9_	UJ	N*	F_
7439-95-4	Magnesium	654_	U		P_
7439-96-5	Manganese	2.1_	U		P_
7439-97-6	Mercury__	0.20_	U		CV
7440-02-0	Nickel___	6.3_	U		P_
7440-09-7	Potassium	649_	U		P_
7782-49-2	Selenium_	0.50_	U		F_
7440-22-4	Silver___	8.0_	U		P_
7440-23-5	Sodium___	536_	U		P_
7440-28-0	Thallium_	0.50_	U		F_
7440-62-2	Vanadium_	5.8_	U		P_
7440-66-6	Zinc_____	60.0_	U		P_
_____	Cyanide__	10_	U		AS

10/5/89
WM

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEC71

Lab Name: NANCO_LABS Contract: 68-W8-0060

Lab Code: NANCO_ Case No.: 12147 SAS No.: _____ SDG No.: MEC70_

Matrix (soil/water): WATER Lab Sample ID: MEC71_____

Level (low/med): LOW__ Date Received: 06/16/89

% Solids: _____0

00004

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	28600_	_		P_
7440-36-0	Antimony_	106_	_		P_
7440-38-2	Arsenic__	11.0_	_		F_
7440-39-3	Barium___	538_	_		P_
7440-41-7	Beryllium	9.0_	_		P_
7440-43-9	Cadmium__	5.0_	_		P_
7440-70-2	Calcium__	174000_	_		P_
7440-47-3	Chromium_	89.0_	_		P_
7440-48-4	Cobalt___	43.0_	B		P_
7440-50-8	Copper___	288_	_		P_
7439-89-6	Iron_____	108000_	_		P_
7439-92-1	Lead_____	175_	J	N*	F_
7439-95-4	Magnesium	48300_	_		P_
7439-96-5	Manganese	3420_	_		P_
7439-97-6	Mercury__	0.20_	U		CV
7440-02-0	Nickel___	118_	_		P_
7440-09-7	Potassium	7690_	_		P_
7782-49-2	Selenium_	6.0_	B		F_
7440-22-4	Silver___	8.0_	U		P_
7440-23-5	Sodium___	58500_	_		P_
7440-28-0	Thallium_	0.50_	U	W	F_
7440-62-2	Vanadium_	147_	_		P_
7440-66-6	Zinc_____	378_	_		P_
_____	Cyanide__	10_	U		AS

10/5/89

Color Before: DK_TAN___ Clarity Before: OPAQUE Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

PB_AND_SE_WERE_ANALYZED_AT_A_1/10_DILUTION

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEC72

Lab Name: NANCO_LABS Contract: 68-W8-0060

Lab Code: NANCO_ Case No.: 12147 SAS No.: _____ SDG No.: MEC70_

Matrix (soil/water): WATER Lab Sample ID: MEC72_____

Level (low/med): LOW__ Date Received: 06/16/89

% Solids: ____0

00005

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	55.0	~~B~~	U	P
7440-36-0	Antimony_	54.8	U		P
7440-38-2	Arsenic__	0.80	U	W	F
7440-39-3	Barium___	210			P
7440-41-7	Beryllium	0.80	U		P
7440-43-9	Cadmium__	2.0	U		P
7440-70-2	Calcium__	108000			P
7440-47-3	Chromium_	9.0	B		P
7440-48-4	Cobalt___	7.2	U		P
7440-50-8	Copper___	7.9	U		P
7439-89-6	Iron_____	1530			P
7439-92-1	Lead_____	1.4	~~B~~	UJ N*	F
7439-95-4	Magnesium	22900			P
7439-96-5	Manganese	1960			P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	6.3	U		P
7440-09-7	Potassium	4180	B		P
7782-49-2	Selenium_	0.50	U	W	F
7440-22-4	Silver___	8.0	U		P
7440-23-5	Sodium___	45100			P
7440-28-0	Thallium_	0.50	U	W	F
7440-62-2	Vanadium_	6.0	B		P
7440-66-6	Zinc_____	122			P
	Cyanide__	10	U		AS

10/5/89
WM

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEC73

Lab Name: NANCO_LABS Contract: 68-W8-0060

Lab Code: NANCO_ Case No.: 12147 SAS No.: _____ SDG No.: MEC70_

Matrix (soil/water): WATER Lab Sample ID: MEC73_____

Level (low/med): LOW__ Date Received: 06/16/89

% Solids: ____0

00006

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	31200			P
7440-36-0	Antimony_	108			P
7440-38-2	Arsenic__	22.8		S	F
7440-39-3	Barium___	579			P
7440-41-7	Beryllium	10			P
7440-43-9	Cadmium__	4.0	B		P
7440-70-2	Calcium__	204000			P
7440-47-3	Chromium_	93.0			P
7440-48-4	Cobalt___	47.0	B		P
7440-50-8	Copper___	308			P
7439-89-6	Iron_____	125000			P
7439-92-1	Lead_____	181	J	N*	F
7439-95-4	Magnesium	57000			P
7439-96-5	Manganese	3690			P
7439-97-6	Mercury__	0.44			CV
7440-02-0	Nickel___	135			P
7440-09-7	Potassium	8350			P
7782-49-2	Selenium_	7.0	B		F
7440-22-4	Silver___	8.0	U		P
7440-23-5	Sodium___	63100			P
7440-28-0	Thallium_	0.50	U	W	F
7440-62-2	Vanadium_	168			P
7440-66-6	Zinc_____	355			P
_____	Cyanide__	10	U		AS

10/5/89
Wm

Color Before: DK_TAN___ Clarity Before: OPAQUE Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:
PB_AND_SE_WERE_ANALYZED_AT_A_1:10_DILUTION.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEC74

Lab Name: NANCO_LABS Contract: 68-W8-0060

Lab Code: NANCO_ Case No.: 12147 SAS No.: _____ SDG No.: MEC70_

Matrix (soil/water): WATER Lab Sample ID: MEC74_____

Level (low/med): LOW__ Date Received: 06/16/89

% Solids: ____0

00007

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	54.1	U		P
7440-36-0	Antimony_	54.8	U		P
7440-38-2	Arsenic__	0.80	U	W	F
7440-39-3	Barium___	189	B		P
7440-41-7	Beryllium	0.80	U		P
7440-43-9	Cadmium__	2.0	U		P
7440-70-2	Calcium__	101000			P
7440-47-3	Chromium_	8.2	U		P
7440-48-4	Cobalt___	7.2	U		P
7440-50-8	Copper___	7.9	U		P
7439-89-6	Iron_____	2150			P
7439-92-1	Lead_____	3.6	~~U~~ B	WN*	F
7439-95-4	Magnesium	19400			P
7439-96-5	Manganese	1330			P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	6.3	U		P
7440-09-7	Potassium	4160	B		P
7782-49-2	Selenium_	0.50	U	W	F
7440-22-4	Silver___	8.0	U		P
7440-23-5	Sodium___	41700			P
7440-28-0	Thallium_	0.50	U	W	F
7440-62-2	Vanadium_	5.8	U		P
7440-66-6	Zinc_____	43.0	U		P
	Cyanide__	10	U		AS

10/5/89
Wm

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEC75

Lab Name: NANCO_LABS Contract: 68-W8-0060

Lab Code: NANCO_ Case No.: 12147 SAS No.: _____ SDG No.: MEC70_

Matrix (soil/water): WATER Lab Sample ID: MEC75_____

Level (low/med): LOW__ Date Received: 06/16/89

% Solids: ____0

00008

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	54.1_	U		P_
7440-36-0	Antimony_	54.8_	U		P_
7440-38-2	Arsenic__	0.80_	U	W	F_
7440-39-3	Barium___	186_	B		P_
7440-41-7	Beryllium	0.80_	U		P_
7440-43-9	Cadmium__	2.0_	U		P_
7440-70-2	Calcium__	98400_			P_
7440-47-3	Chromium_	8.2_	U		P_
7440-48-4	Cobalt___	7.2_	U		P_
7440-50-8	Copper___	7.9_	U		P_
7439-89-6	Iron____	1110_			P_
7439-92-1	Lead____	3.8_	~~B~~	UJN*	F_
7439-95-4	Magnesium	20200_			P_
7439-96-5	Manganese	696_			P_
7439-97-6	Mercury__	0.20_	U		CV
7440-02-0	Nickel___	6.3_	U		P_
7440-09-7	Potassium	4030_	B		P_
7782-49-2	Selenium_	0.50_	U	W	F_
7440-22-4	Silver___	8.0_	U		P_
7440-23-5	Sodium___	40200_			P_
7440-28-0	Thallium_	0.50_	U	W	F_
7440-62-2	Vanadium_	5.8_	U		P_
7440-66-6	Zinc____	104_			P_
_____	Cyanide__	10_	U		AS

10/5/89
WM

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEC76

Lab Name: NANCO_LABS Contract: 68-W8-0060

Lab Code: NANCO_ Case No.: 12147 SAS No.: _____ SDG No.: MEC70_

Matrix (soil/water): WATER Lab Sample ID: MEC76_____

Level (low/med): LOW__ Date Received: 06/16/89

% Solids: ____0

00009

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	54.1	U		P
7440-36-0	Antimony_	54.8	U		P
7440-38-2	Arsenic__	0.80	U	W	F
7440-39-3	Barium___	172	B		P
7440-41-7	Beryllium	0.80	U		P
7440-43-9	Cadmium__	2.0	U		P
7440-70-2	Calcium__	102000			P
7440-47-3	Chromium_	8.2	U		P
7440-48-4	Cobalt___	7.2	U		P
7440-50-8	Copper___	7.9	U		P
7439-89-6	Iron_____	1670			P
7439-92-1	Lead_____	2.5	~~B~~ U	N*	F
7439-95-4	Magnesium	21600			P
7439-96-5	Manganese	769			P
7439-97-6	Mercury__	0.20	U		CV
7440-02-0	Nickel___	6.3	U		P
7440-09-7	Potassium	4570	B		P
7782-49-2	Selenium_	0.50	U	W	F
7440-22-4	Silver___	8.0	U		P
7440-23-5	Sodium___	42500			P
7440-28-0	Thallium_	0.50	U	W	F
7440-62-2	Vanadium_	5.8	U		P
7440-66-6	Zinc_____	70.0	U		P
	Cyanide__	10	U		AS

10/5/89
WM

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

Non - Responsive

APPENDIX F

SOIL BORINGS, GEOTECHNICAL REPORT

GEOTECHNICAL ENGINEERING CORPORATION

RECEIVED
NOV 06 89
PCA, Ground Water & Solid Waste Div.

• Soil Engineering
• Soil Testing
• Site Assessments
• Monitoring Wells
• Soil Borings

REPORT OF TEST BORINGS AND MONITORING WELLS

PROJECT:

B.J. CARNEY
47TH AVENUE N. & OSSEO ROAD
MINNEAPOLIS, MINNESOTA

REPORTED TO:

MINNESOTA POLLUTION CONTROL AGENCY
520 NORTH LAFAYETTE
ST. PAUL, MINNESOTA 55101

ATTN: MR. BRAD NORDBERG

DATE: JULY 6, 1989
REVISED NOVEMBER 3, 1989

GEC JOB NO: 89-314

INTRODUCTION

During the period of May 30 through June 9, 1989, we drilled nineteen test borings (#1-4, MW5, 6-12, 14-16, and 20) and installed three monitoring wells (MW5A, MW6, and MW4) at the referenced project site. We abandoned monitoring well MW5A on June 27, 1989.

The scope of investigation (boring and well method, location, depth, etc.) was as directed by the Minnesota Pollution Control Agency (MPCA).

TEST BORINGS

Procedures

The borings were made at locations selected by the MPCA and are shown on the attached sketch.

The elevations of the ground surface at the borings were determined in reference to the top of the railroad track where the spur meets the mainline. An assumed temporary bench mark elevation of 100.0 was used there.

Elevations of the monitoring well risers were determined on October 31, 1989, in reference to a bronze disk on the southeast abutment of bridge No. 27152, carrying TH-152 over the railroad tracks. The bench mark elevation there, according to MnDOT, was 885.65. All previous elevations were converted to this bench mark.

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A field log was maintained for each soil boring. Information on field logs includes: contacts between soil layers; geologic identification (driller's opinion) of materials; notes; and other information.

Soil samples were then examined in the laboratory, and soil classification information was added to the field logs. Soil identifications and descriptions are in accordance (generally) with the ASTM Visual-Manual (D2488) system as shown on the attached sheet. (We save samples for 45 days and then discard them--unless we are requested to do otherwise.)

Typewritten logs were then prepared from field logs. Typewritten logs may not contain all information shown on field logs. (Field logs are available for inspection by our client.)

Results

Copies of the logs are enclosed. Refer to the attached logs for a description of the subsurface conditions encountered in the borings. The logs show: the depths to the contacts between the soil layers; the identification and geology of the soils; the surface elevations at the borings; water level measurements; standard penetration resistance (N column); and other information. Refer to the attached sheets (Abbreviations, Notations, and Symbols; General Terminology; Ground Water Information; Geologic Terminology) for descriptions of terminology used on the logs.

MONITORING WELLS

Logs

Logs of the monitoring wells are attached. The monitoring well/piezometer log shows the details of "as-built" construction.

Monitoring well 5A was abandoned by filling the well with neat cement grout, removing all protective posts and casing and cutting the riser 2-3 feet below the ground surface. This was done on June 27, 1989.

DECONTAMINATION

The drill rig and tools were steam cleaned before being brought to the site.

Drilling tools and down-hole equipment and materials were steam-cleaned before drilling each boring and installing each well. The soil sampler was cleaned with a sequence of: trisodium phosphate solution and clean water before each sample was taken.

POSSIBLE POLLUTANTS

We detected odors that may indicate contamination or pollution in some of the soil samples in the borings. These are indicated on the logs.

REMARKS

Subsurface soil and ground water conditions can vary from that encountered in the borings and monitoring wells at other locations, depths, and times. Refer to the attached sheet for more information regarding limitations of subsurface exploration.

CLOSURE

To protect the addressee(s), the public, and ourselves, this report (and all supporting information) is provided for the addressee(s)' own use. No representations are made to parties other than the addressee(s).

Report Prepared By:

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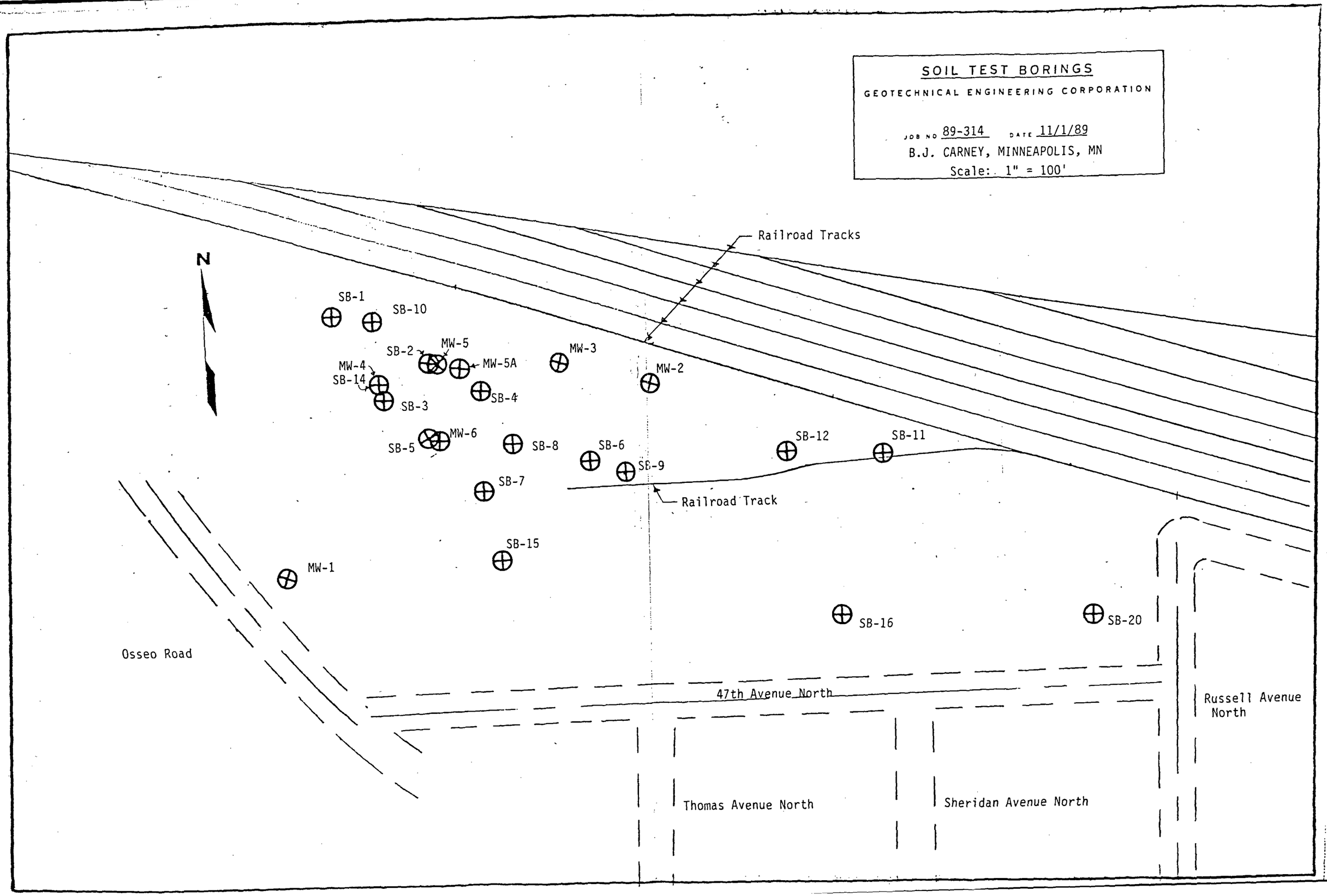
Lawrence F. Feldsien, P.E.
MN Reg. No. 9103
Monitoring Well Eng. No. 0016


SOIL TEST BORINGS
GEOTECHNICAL ENGINEERING CORPORATION
JOB NO 89-314 DATE 11/1/89
B.J. CARNEY, MINNEAPOLIS, MN
Scale: 1" = 100'
N
Railroad Tracks
SB-1
SB-10
SB-2
MW-5
MW-5A
MW-3
MW-4
SB-14
SB-3
SB-4
MW-2
SB-5
MW-6
SB-8
SB-6
SB-9
SB-12
SB-11
SB-7
Railroad Track
SB-15
MW-1
SB-16
SB-20
Osseo Road
47th Avenue North
Russell Avenue North
Thomas Avenue North
Sheridan Avenue North

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 1 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

SURFACE ELEVATION: 100.0

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	Silty sand, fine grained with a trace of gravel, slightly *		4	M	SS	17	*orange black, (SM)			
2	Silty sand, fine grained with a trace of gravel, brown, (SM)	FILL								
3		or	7	M	SS	16				
4		COARSE ALLUVIUM	5	M	SS	18				
5										
6	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)		5	M	SS	17				
7										
8	Poorly graded sand with silt, fine grained, light brown, (SP-SM)		4	M	SS	16				
9	Poorly graded sand, fine grained, brown, (SP)	ALLUVIUM	3	M	SS	15				
10										
11	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)		7	M	SS	17				
12										
13			7	M	SS	15				
14			6	M	SS	17				
15										
16	No samples taken below 15'									
17										
18										
19										
20										
21										

DEPTH	DRILLING METHOD
0-25	3-1/4 HSA

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/30	11:53	15	25-1/2	24.5		21.8
5/30	12:15	15	25-1/2	24.5		21.6

BORING COMPLETED: 5/30 12:15

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

10/88

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 1 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	
22										
23										
24		COARSE ALLUVIUM								
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35	END OF BORING		50/0	?	SS	0				
36										
37	Obstructed to HSA and SS									
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 2 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

SURFACE ELEVATION: 100.9

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
	Silty sand, fine grained with*	FILL								
1	Silty sand, fine grained, slightly organic, black, (SM)	or TOPSOIL	6	M	SS	17	*gravel, tan, (SM)			
2	Poorly graded sand with silt, fine grained with a trace of gravel, brown, (SP-SM)									
3			7	M	SS	15				
4	Silty sand, fine grained, light brown, (SM)	COARSE ALLUVIUM	10	M	SS	16				
5										
6			6	M	SS	18				
7										
8			3	M	SS	15				
9			6	M	SS	15				
10	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)									
11			8	M	SS	16				
12										
13			11	M	SS	14				
14			38	M	SS	13				
15	Poorly graded sand with silt, fine to medium grained with a trace of gravel, brown, (SP-SM)									
16			31	M	SS	13				
17										
18			10	M	SS	9				
19										
20	Poorly graded sand, fine to medium grained with a trace of gravel, grey, (SP)									
21			12	M	SS	8	odor			

DEPTH	DRILLING METHOD
0-22	3-1/4 HSA

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/31	10:00	22	20	21.6		dry

BORING COMPLETED: 5/31 10:52

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314

LOG OF BORING NO: 2 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22	END OF BORING									
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 3 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 100.3 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL	q_c
1	No samples to 5'									
2										
3										
4										
5										
6	Poorly graded sand, fine grained, light brown, (SP)		7	M	SS	17				
7										
8	Poorly graded sand with silt, fine grained, light brown, (SP-SM)									
9		COARSE ALLUVIUM								
10										
11			6	M	SS	16				
12										
13										
14										
15										
16			14	M	SS	16				
17										
18	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)		13	M	SS	14				
19			14	M	SS	13				
20										
21			12	M/W	SS	16	odor			

DEPTH	DRILLING METHOD
0-22	3-1/4 HSA

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
6/7	10:07	24	22	22.3		21.7

BORING COMPLETED: 6/7/89 11:00

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 3 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	
22		COARSE ALLUVIUM	11	W	SS	13	odor			
23										
24	END OF BORING									
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 4 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 100.0 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	Silty sand, fine grained with a trace of gravel, slightly organic, black, (SM)	FILL	31	M	SS	17				
2										
3	Silty sand, fine grained with a trace of gravel, brown, (SM)	WEATHERED SOIL/ COARSE ALLUVIUM	10	M	SS	16				
4										
5	Poorly graded sand with silt, fine grained, brown, (SP-SM)	COARSE ALLUVIUM	8	M	SS	18				
6										
7	Poorly graded sand with silt, fine grained, light brown, (SP-SM)		8	M	SS	20				
8										
9			5	M	SS	21				
10										
11			5	M	SS	20				
12										
13	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)		6	M	SS	21				
14										
15	Poorly graded sand, fine grained, grey, (SP)		6	M	SS	18				
16										
17	Poorly graded sand, fine grained with a trace of gravel, brown, (SP)		23	M	SS	17				
18										
19	Poorly graded sand, fine to medium grained with a trace of gravel, light brown, (SP)		20	M	SS	16				
20										
21			16	W	SS	18				

DEPTH	DRILLING METHOD
0-22	3-1/4 HSA

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
6/6	2:55	24	22	21.8		21.7

BORING COMPLETED: 6/6/89 4:00

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 4 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	
22										
23			4	W	SS	18				
24	END OF BORING									
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314

LOG OF BORING NO. MW 5 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1										
2										
3										
4										
5	No samples taken									
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										

DEPTH	DRILLING METHOD
0-45	4-1/4 HSA
BORING COMPLETED: 6/9/89	4:30
CC: PS CA: KS Rig:	57

WATER LEVEL MEASUREMENTS						
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314

LOG OF BORING NO: MW 5 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45	END OF BORING									
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. MW 5A (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA.

DEPTH, IN FEET	SURFACE ELEVATION: IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1										
2										
3										
4	No samples taken									
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										

DEPTH	DRILLING METHOD
0-35	4-1/4 HSA
BORING COMPLETED: 6/9/89	10:40
CC: VD	CA:BR Rig: 550

WATER LEVEL MEASUREMENTS						
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314

LOG OF BORING NO: MW 5A (p. 2 of)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22										
23										
24										
25										
26										
27	No samples taken									
28										
29										
30										
31										
32										
33										
34										
35	END OF BORING									
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 5 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 100.4 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1										
2	No samples taken to 5'									
3										
4										
5										
6	Poorly graded sand with silt, fine grained, light brown, (SP-SM)		8	M	SS	17				
7										
8	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)	COARSE ALLUVIUM								
9										
10										
11			7	M	SS	16				
12										
13										
14										
15										
16			9	M	SS	16				
17										
18	Poorly graded sand with silt, fine grained with a trace of gravel, brown, (SP-SM)		15	M	SS	14	odor			
19	Poorly graded sand, fine to medium grained with a trace of gravel, light brown, (SP)		14	M	SS	11	odor			
20										
21	Poorly graded sand, medium grained with a trace of gravel, grey, (SP)		7	M	SS	17	odor			

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-24 3-1/4 HSA							
	5/31	12:00	24	22	22.0		wet
	5/31	1:40	24	22	22.0		wet
BORING COMPLETED: 5/31/89 2:45							
CC: VD CA: BR Rig: 550							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 5 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	
22		COARSE ALLUVIUM	7	W	SS	14	odor			
23										
24	END OF BORING									
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 6 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 99.1 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1										
2	No samples to 5'									
3										
4										
5										
6	Poorly graded sand, fine grained, brown, (SP)		5	M	SS	16				
7										
8	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)	COARSE ALLUVIUM								
9										
10										
11			8	M	SS	15				
12										
13										
14	Poorly graded sand with silt, fine grained with a trace of gravel, light grey-brown, (SP-SM)									
15										
16			12	M	SS	17				
17										
18	Poorly graded sand, fine grained with a trace of gravel, light brown to brown, (SP)		14	M	SS	14				
19			28	M	SS	12				
20										
21	Poorly graded sand, fine to medium grained, grey-brown, (SP)		12	W	SS	12		slight	odor	

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
0-22 3-1/2 HSA	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
	6/6	12:00	24	22	21.9		21.0
BORING COMPLETED: 6/6/89 4:00							
CC: VD CA: BR Rig: 550							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 6 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L	
22	Same as above	COARSE ALLUVIUM	7	W	SS	10				
23										
24	END OF BORING									
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. MW 6 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1										
2										
3										
4	No samples taken									
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
0-29 4-1/4 HSA	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
	6/8	10:00		29	25.6		22.0
BORING COMPLETED: 6/8/89 10:10							
CC: VD CA: BR Rig: 550							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

0/88

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: MW 6 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22										
23										
24										
25	No samples taken									
26										
27										
28										
29	END OF BORING									
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 7 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

SURFACE ELEVATION: 99.7

DEPTH IN FEET	IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL	q_c
1, 2, 3, 4, 5	No samples to 5'									
6, 7	Poorly graded sand with silt, fine grained, brown, (SP-SM)	COARSE ALLUVIUM	8	M	SS	17				
8, 9, 10, 11, 12	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)		9	M	SS	18				
13, 14, 15, 16, 17	Poorly graded sand with silt, fine grained with a trace of gravel, light brown-grey, (SP-SM)		17	M	SS	18				
18, 19, 20, 21	Poorly graded sand, fine to medium grained with a trace of gravel, light brown, (SP)		15	M	SS	14				
			22	M	SS	13				
			11	W	SS	17				

DEPTH	DRILLING METHOD
0-22	3-1/4 HSA

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
6/5	3:27	24	22	21.7		21.3

BORING COMPLETED: 6/5/89 3:27

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 7 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL
22 –									
23 –	Sames as above	COARSE ALLUVIUM	5	W	SS	15			
24 –	END OF BORING								
25 –									
26 –									
27 –									
28 –									
29 –									
30 –									
31 –									
32 –									
33 –									
34 –									
35 –									
36 –									
37 –									
38 –									
39 –									
40 –									
41 –									
42 –									
43 –									
44 –									
45 –									
46 –									
47 –									

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 8 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 99.3 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L./P.L.	q_c
1	No samples taken to 5'									
2										
3										
4										
5										
6	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)		5	M	SS	17				
7										
8	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)									
9		COARSE ALLUVIUM	4	M	SS	17				
10										
11			6	M	SS	18				
12	Poorly graded sand, fine to medium grained with a trace of gravel, light brown, (SP)									
13										
14										
15										
16			23	M	SS	12				
17										
18			46	M	SS	10				
19										
20			25	M	SS	13				
21			7	M/W	SS	16	slight odor			

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
0-22 3-1/3 HSA	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
	6/5	4:50	24	22	21.7		21.0
BORING COMPLETED: 6/5/89 10:15							
CC: VD CA: BR Rig: 550							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

0/88

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 8 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22 –										
23 –	Same as above	COARSE ALLUVIUM	6	W	SS	12				
24 –	END OF BORING									
25 –										
26 –										
27 –										
28 –										
29 –										
30 –										
31 –										
32 –										
33 –										
34 –										
35 –										
36 –										
37 –										
38 –										
39 –										
40 –										
41 –										
42 –										
43 –										
44 –										
45 –										
46 –										
47 –										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 9 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 98.5 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken to 5'									
2										
3										
4										
5										
6	Poorly graded sand with silt, fine grained, light brown, (SP-SM)		6	M	SS	18				
7										
8										
9		COARSE ALLUVIUM	6	M	SS	17				
10										
11										
12	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)									
13			13	M	SS	17				
14										
15										
16			16	M	SS	16				
17										
18			24	M	SS	16				
19	Poorly graded sand, fine to medium grained with a trace of gravel, brown, (SP)		13	M	SS	14				
20										
21			7	W	SS	8				

DEPTH	DRILLING METHOD
0-20	3-1/4 HSA

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
6/5	10:34	22	20	19.9		wet

BORING COMPLETED: 6/5/89 11:30

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 9 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	LL/PL	
22	END OF BORING									
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 10 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 100.4 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken to 17'									
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17	Poorly graded sand, fine to medium grained with a trace of gravel, brown, (SP)	COARSE ALLUVIUM								
18			22	D	SS	12				
19			50	D	SS	5				
20										
21			22	D	SS	12				

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-22 4-1/4 HSA							
	6/8	10:19	24	22	29.0		wet
BORING COMPLETED: 6/8/89 10:35							
CC: PS CA: KS Rig: 57							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 10 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	
22		COARSE ALLUVIUM	7	W	SS	4				sample retained by client
23										
24	END OF BORING									
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 11 (p. 1 of 4)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 98.2 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken to 5'									
2										
3										
4										
5										
6	Poorly graded sand with silt, fine grained, light brown, (SP-SM)		6	M	SS	18				
7										
8	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)	COARSE ALLUVIUM								
9										
10										
11			11	M	SS	18				
12										
13	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)									
14										
15										
16			14	M	SS	16				
17										
18	Poorly graded sand, fine grained, light brown, (SP)		15	M	SS	13				
19	Poorly graded sand with silt, fine grained, light brown, (SP-SM)		24	M	SS	17				
20										
21	Poorly graded sand, fine to medium grained with a trace of gravel, light brown, (SP)		10	W	SS	16		odor		

DEPTH	DRILLING METHOD
0-50	3-1/4 HSA

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
6/1	11:00	22	20	20.2		wet

BORING COMPLETED: 6/1/89 10:45

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 11 (p. 2 of 4)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22										
23										
24		COARSE ALLUVIUM								
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 11 (p. 2 of 4)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	WB	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							MC	DEN	L.L. / P.L.	
48-										
49-										
50-		COARSE ALLUVIUM								
51-										
52-										
53-										
54-										
55-										
56-										
57-										
58-										
59-										
60-										
61-										
62-										
63-										
64-										
65-										
66-										
67-										
68-										
69-		WEATHERED BEDROCK								
70-										
71-										
72-										
73-										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 11 (p. 2 of 4)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, In FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	
74		BEDROCK								
75	END OF BORING		20/3	Y	SS	3"	Sample retained by client			
76										
77										
78										
79										
80										
81										
82										
83										
84										
85										
86										
87										
88										
89										
90										
91										
92										
93										
94										
95										
96										
97										
98										
99										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 12 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

SURFACE ELEVATION: 98.0

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken to 5'									
2										
3										
4										
5										
6	Poorly graded sand with silt, fine grained with a trace of gravel, brown, (SP-SM)		7	M	SS	17				
7										
8	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)	COARSE ALLUVIUM								
9										
10										
11			10	M	SS	16				
12										
13	Poorly graded sand with silt, fine grained with a trace of gravel, brown, (SP-SM)									
14										
15										
16			47	M	SS	7				
17										
18	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)		15	M	SS	12				
19			10	W	SS	15				
20										
21	Poorly graded sand, fine to medium grained with a trace of gravel, light brown, (SP)		6	W	SS	9				

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
0-20 3-1/4 HSA	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
	6/2	10:40	22	20	20.0		wet
BORING COMPLETED: 6/2/89 11:30							
CC: VD CA: BR Rig: 550							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 12 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22	END OF BORING									
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 14 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

SURFACE ELEVATION: 96.9

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken to 5'									
2										
3										
4										
5										
6	Poorly graded sand with silt, fine grained, light brown, (SP-SM)	COARSE ALLUVIUM	6	M	SS	17				
7										
8	Poorly graded sand, fine grained, light brown, (SP)									
9										
10										
11			6	M	SS	17				
12										
13	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)									
14			6	M	SS	18				
15										
16			21	M	SS	16				
17										
18	Poorly graded sand with silt, fine grained with a trace of gravel, brown, (SP-SM)		16	M	SS	16				
19			15	M	SS	10				
20										
21			13	M	SS	18	odor			

DEPTH	DRILLING METHOD
0-29	4-1/4 HSA

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
6/7	1:54	24	22	21.8		21.6

BORING COMPLETED: 6/7/89 1:54

CC: VD CA: BR Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 14 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	
22										
23	Poorly graded sand, fine to medium grained with a trace of gravel, grey, (SP)	COARSE ALLUVIUM	13	W	SS	17	odor			
24										
25										
26										
27										
28										
29	END OF BORING									
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 15 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	SURFACE ELEVATION: 100.1 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken to 5'									
2										
3										
4										
5										
6	Silty sand, fine grained, brown, (SM)	WEATHERED SOIL/ COARSE ALLUVIUM	7	M	SS	19				
7										
8	Poorly graded sand with silt, fine grained with a trace of gravel, light brown, (SP-SM)									
9										
10		COARSE ALLUVIUM								
11			4	M	SS	18				
12										
13										
14										
15										
16			7	M	SS	17				
17										
18	Poorly graded sand, fine grained with a trace of gravel, brown-light brown, (SP)		13	M	SS	7				
19			12	M	SS	14				
20										
21			12	W	SS	16				

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
0-22 3-1/4 HSA	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
	6/5	12:12	24	22	21.8		21.7
BORING COMPLETED: 6/5/89 2:15							
CC: VD CA: BR Rig: 550							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 15 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, in FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
22	Poorly graded sand, fine grained with a trace of gravel, brown, (SP)	COARSE ALLUVIUM								
23			12	W	SS	17				
24	END OF BORING									
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 16 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

SURFACE ELEVATION: 98.2

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken									
2										
3										
4										
5										
6	Poorly graded sand, fine grained, brown, (SP)	COARSE ALLUVIUM	6	M	SS	16				
7										
8	Poorly graded sand with silt, fine grained, light brown, (SP-SM)									
9										
10										
11			9	M	SS	19				
12										
13	Poorly graded sand, fine grained with a trace of gravel, light brown-brown, (SP)									
14										
15										
16			14	M	SS	14				
17										
18			17	M	SS	15				
19			23	M	SS	13				
20										
21			18	W	SS	7	Sample retained by client			

DEPTH : DRILLING METHOD
0-20 3-1/4 HSA
BORING COMPLETED: 6/2/89 2:30
CC: VD CA: BR Rig: 550

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
6/2	11:40	22	20	20.4		wet

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314

LOG OF BORING NO: 16 (p. 2 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
		COARSE ALLUVIUM								
22	END OF BORING									
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO. 20 (p. 1 of 2)

PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA.

DEPTH, IN FEET	SURFACE ELEVATION: 96.9 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	L.L. / P.L.	q_c
1	No samples taken to 5'									
2										
3										
4										
5										
6	Poorly graded sand with silt, fine grained, light brown, (SP-SM)	COARSE ALLUVIUM	3	M	SS	13				
7										
8	Poorly graded sand, fine grained with a trace of gravel, light brown, (SP)									
9										
10										
11			10	M	SS	13				
12										
13										
14										
15										
16			17	M	SS	14				
17										
18	Poorly graded sand, fine grained with a trace of gravel, brown, (SP)		18	M	SS	12				
19										
20			21	M	SS	11				
21	Poorly graded sand with gravel, fine to medium grained, brown, (SP)		9	W	SS	12				

DEPTH : DRILLING METHOD	WATER LEVEL MEASUREMENTS						
	DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-20 3-1/4 HSA							
"	5/31	4:25	22	20	20.2		19.7
BORING COMPLETED: 5/31/89 4:25							
CC: VD CA: BR Rig: 550							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO: 89-314 LOG OF BORING NO: 20 (p. 2 of 2)

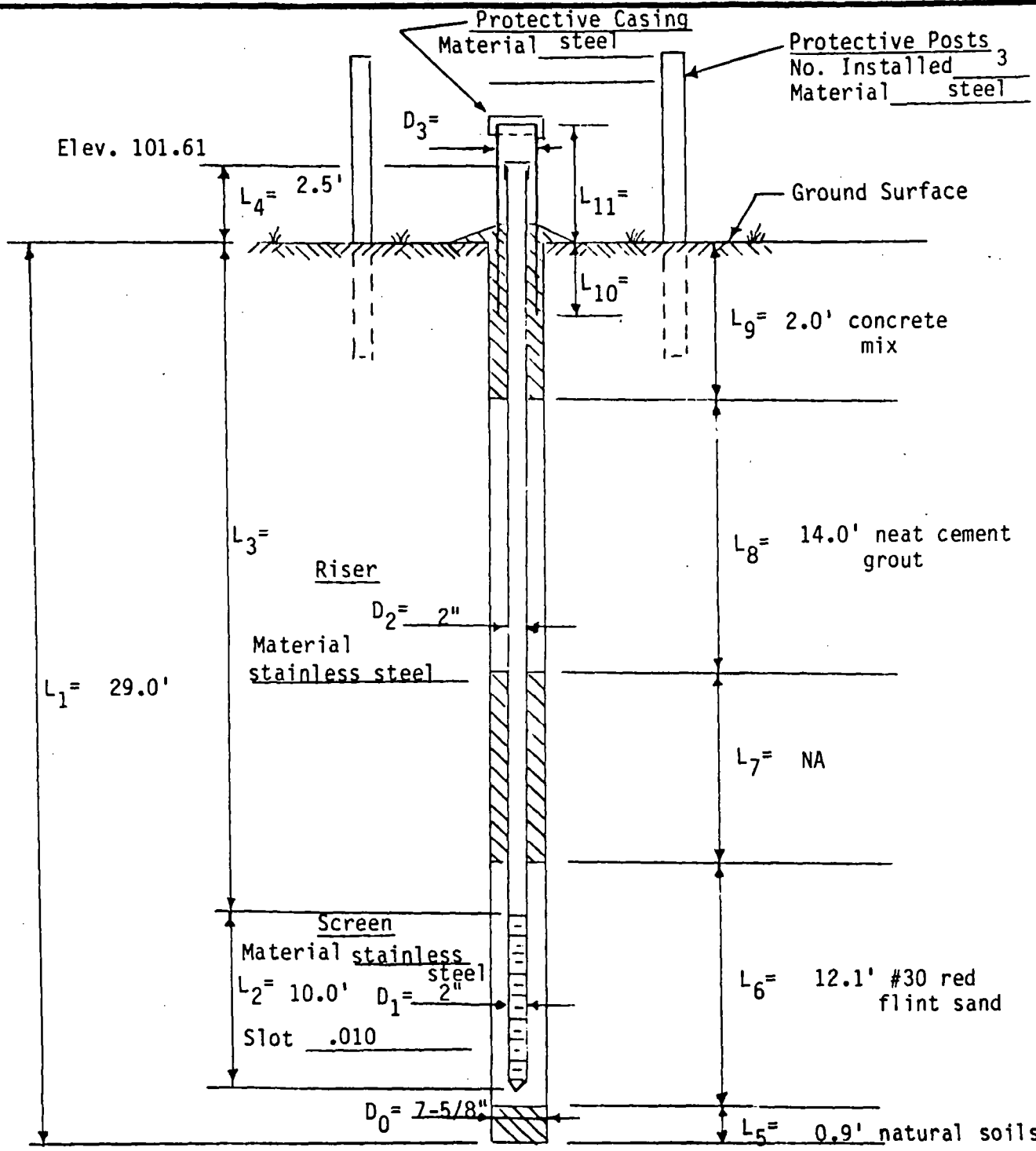
PROJECT: B.J. CARNEY, 47TH AVENUE NORTH AND OSSEO ROAD, MINNEAPOLIS, MINNESOTA,

DEPTH, IN FEET	IDENTIFICATION	GEOLOGY	N	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							WC	DEN	L.L. / P.L.	
		COARSE ALLUVIUM								
22	END OF BORING									
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
47										

MONITORING WELL/PIEZOMETER LOG

JOB NO: 89-314
DATE INSTALLED: 6-7-89
ELEVATION OF

REF. BORING NO. MW-4
INSTALLATION NO. SB-14



REMARKS

GEOTECHNICAL ENGINEERING CORPORATION

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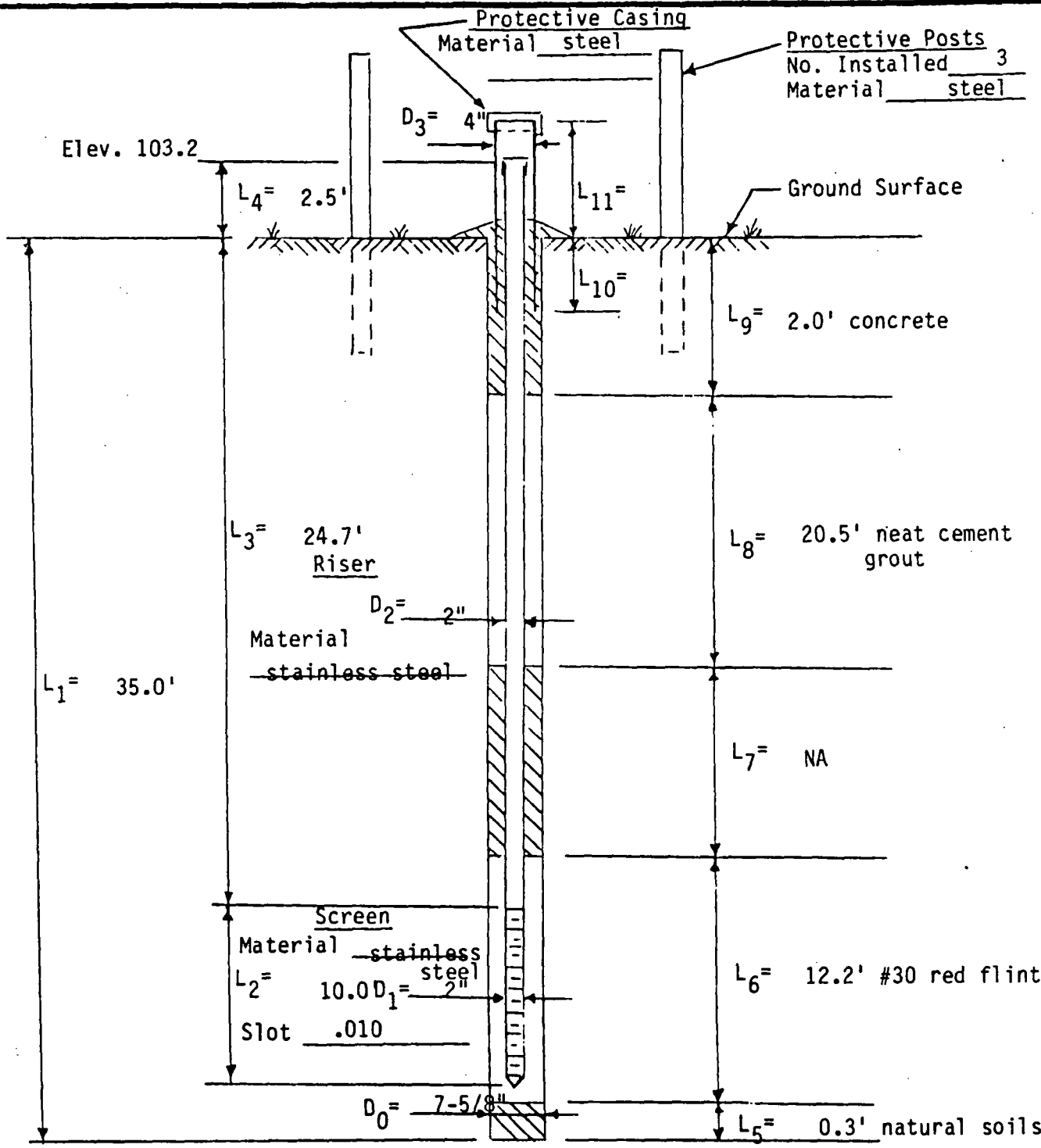
MONITORING WELL/PIEZOMETER LOG

JOB NO: 89-314
DATE INSTALLED: 6-8-89
ELEVATION OF

REF. BORING NO. MW-5A
INSTALLATION NO.



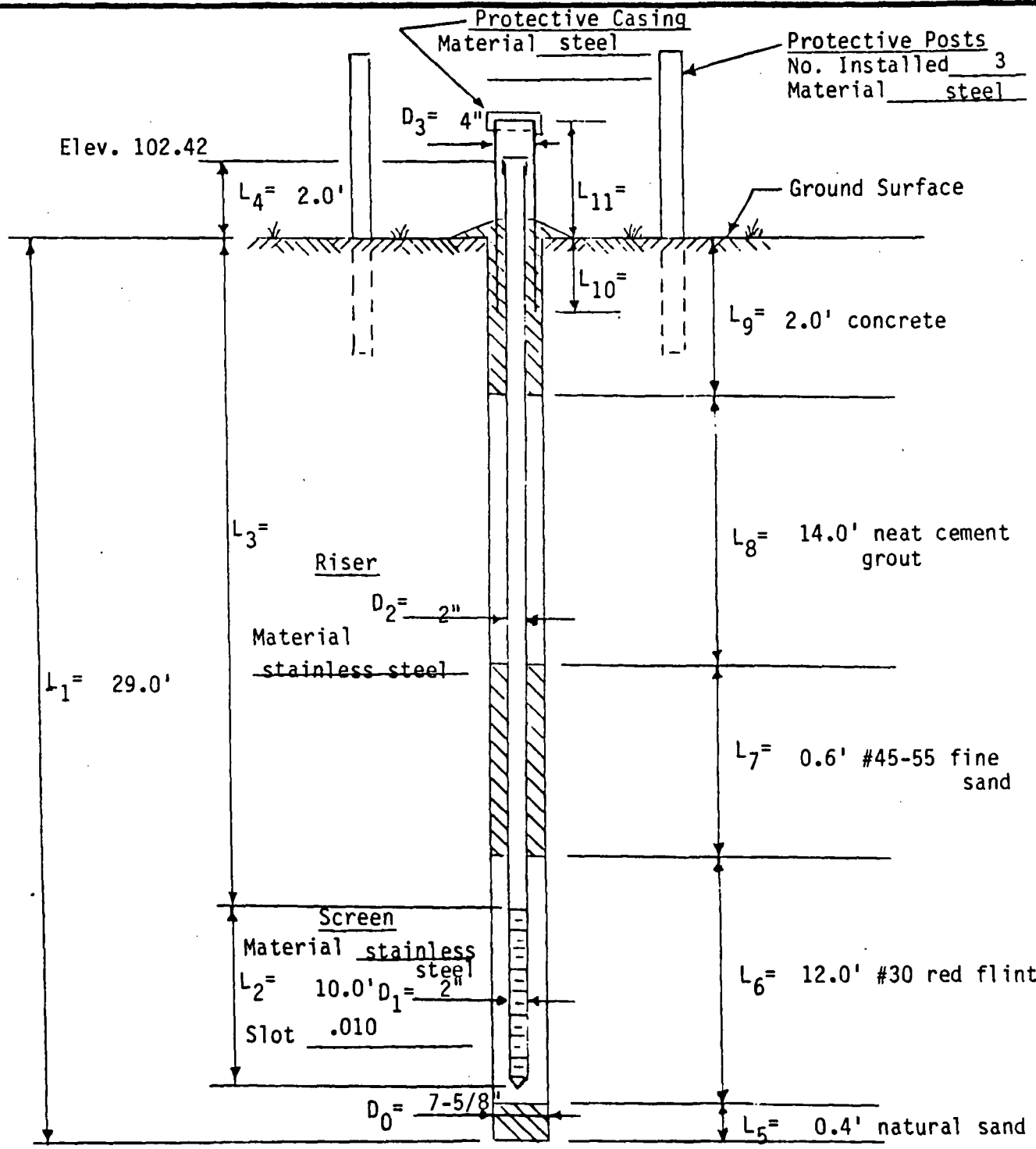
REMARKS

GEOTECHNICAL ENGINEERING CORPORATION

MONITORING WELL/PIEZOMETER LOG

JOB NO: 89-314
DATE INSTALLED: 6-8-89
ELEVATION OF

REF. BORING NO. MW-6
INSTALLATION NO. SB-5



REMARKS

GEOTECHNICAL ENGINEERING CORPORATION

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FIELD SAMPLING AND TESTING METHODS

Standard Penetration/Split-Spoon Sampling Method. In this method, a steel split-barrel sampling tube is driven into the soil with a 140-pound hammer dropped from a height of 30 inches (the hammer is dropped onto a rod attached to the sampler). The number of hammer blows required to drive the sampler tube 1 foot into the ground (after an initial set of 1/2 foot) is recorded as the standard penetration resistance (N-value) of the soil for the sampling interval. When driving is complete, the sampler is retracted and opened, and soil samples are taken from the tube. The bore hole is advanced between sampling intervals with an auger, casing, or rotary drill bit (with drilling fluid). When the ground surface is frozen, soil samples from the frozen zone are taken off the flights of the hollow-stem auger.

Static Cone Test. This field test determines the static cone bearing pressure of the soil--that is, how much resistance the soil has to penetration by a cone-shaped point. The cone bearing pressure (q_c value) is equal to the total load applied divided by the area of the base of the cone. Two types of penetrometers are used, mechanical and manual. Mechanical cones are pushed hydraulically with the drill rig. Manual cones are pushed by hand.

Thin-Walled Tube Sampling Method. In this method, thin-walled tubes (2 or 3 inches in diameter and about 2 feet long) are pushed into the soil, then retracted. Relatively undisturbed soil samples are recovered from inside the tubes.

Coring. In this boring method, a diamond or carbide bit on a double-tubed barrel is rotated into rock to the desired depth, then retracted. Rock samples are taken from the inner tube.

Auger Borings. Auger borings are drilled by hand or with a power-driven auger.

The hand auger method consists of drilling the auger into the soil in increments of approximately 4", then retracting the auger and observing the material recovered. This allows almost continuous observation of the soil profile.

Two procedures are available in drilling power auger borings: "spinning" and "pulling."

- In the spinning procedure, the auger is drilled into the ground in increments of 5' or less. The auger is then spun rapidly. Soil "rides up" the flights of the auger to the ground surface, where samples are taken. In general, this method results in reasonably accurate identification of the soil profile above the ground water table, but it can be very misleading - particularly in sandy and gravelly soils - below the water table.

- In the pulling procedure, the auger is drilled into the ground and then withdrawn to above the ground surface. The general soil profile can be observed, and samples of materials adhering to the auger are taken. In general, this method is considered to be a little more accurate than the spinning method in soil above the ground water table, and more accurate than the spinning method in soil below the ground water table.

BORING LOGS: ABBREVIATIONS, NOTATIONS, AND SYMBOLS

This list defines some of the abbreviations, notations, and symbols used on the boring logs.

A,B,H,N:	Size of casing or core
AC:	At completion of boring
CA:	Crew assistant
CAS:	Casing
CC:	Crew chief
CONS:	One-dimensional consolidation test
COT:	Clean-out tube
D:	Sampled soil appears dry
DEN:	Dry density, pounds per cubic foot
DM:	Drilling mud or bentonite slurry
FA:	Power-driven flight auger; P-pulling procedures; S-spinning procedure
HA:	Hand auger
HSA:	Hollow-stem auger
HYD:	Hydrometer analysis
LL:	Liquid limit
M:	Sampled soil appears moist
MC:	Column used to describe moisture condition of samples and for the ground water level symbol.
N (BPF):	Standard penetration resistance (N-value) in blows per foot (see note #2 below)
PAP:	Paper plug
PL:	Plastic limit
q_p:	Pocket penetrometer strength, tons per square foot
q_c:	Static cone bearing pressure, tons per square foot
q_u:	Unconfined compressive strength, pounds per square foot
RD:	Rotary drilling with fluid and cone-type roller bit
REC:	In split-spoon and thin-walled-tube sampling, the length (in inches) of sample recovered (see note #2 below). In rock coring, the length of core recovered (expressed as per cent of the total core run).
REV:	Revert drilling fluid
SA:	Sieve analysis
SR:	Skid rig; non-rotary drill (skid-mounted)

SS:	Standard split-spoon sampler (steel; 1-3/8-inch inside diameter; 2-inch outside diameter)
TW:	Thin-walled tube (2" and 3" diameter)
VANE:	Vane shear strength, pounds per square foot; L-laboratory; F-field
wc:	Water content, as percent of dry weight
W:	Sampled soil appears wet
WASH:	Sample of material obtained by screening returning rotary drilling fluid or by taking a split-spoon sample of material which has collected inside the bore hole after "falling" through drilling fluid
WAT:	Water
WH:	Sampler advanced by static weight of drill rod and 140-pound hammer
WR:	Sampler advanced by static weight of drill rod
-200:	Percent of material finer than #200 sieve
▼ :	Water level symbol
25:	Diedrich Model 25 rotary drill (skid or truck-mounted)
55:	Central Mine Equipment Model 55 rotary drill (truck-mounted)
57:	Mobile Drill Company Model 57 rotary drill (truck-mounted)
550:	Central Mine Equipment Model 550 rotary drill (rubber tire-mounted)

NOTES:

1. The size of drilling tools and related equipment is indicated by a number or letter. Examples: 1) a hollow-stem auger with an inside diameter of 3-3/4 inches is shown as 3-3/4 HSA; 2) a B size core barrel is shown as B core.

2. In highly resistant material, the N-value (in the "N" column) may be shown as a "fraction," with an upper and a lower number separated by a slash (/) or a bar (—). The lower number is the distance the sampler is driven, in inches (below the initial 1/2 foot set) and the upper figure is the number of hammer blows to drive the sampler that distance (after the initial 1/2 foot set). Also, the length of sample recovered, as shown on the "REC" column, may be greater than the distance indicated in the N column. The disparity is because the N value is recorded below the initial 1/2 foot set, whereas length of sample recovered is for the entire sampler drive.

BORING LOGS: GROUND WATER INFORMATION

Ground water information is shown under "Water Level Measurements" at the bottom of the log and in the "MC" (moisture condition) column on the right side. Because the presence of water in the soil and the level of the ground water table can change over time, the information presented is accurate only for the date and time the observations and measurements were made.

The following information (in addition to the sampling date and time) appears under "Water Level Measurements":

- The sampled depth, which is the lowest depth of soil sampling at the time of the measurement.
- The casing depth, which is the depth to the bottom of the casing or hollow-stem auger at the time of the measurement.
- The cave-in depth, which is the depth at which the measuring tape stops in the bore hole.
- The water level, which is the point in the bore hole at which free-standing water is encountered with the measuring tape. If free-standing water was not present above the cave-in depth, the word "wet" or "dry" in this column indicates whether soil adhering to the end of the measuring tape appeared to be wet or dry at the cave-in depth.
- The drilling fluid level is similar to the water level, except that the liquid in the bore hole is drilling fluid.

The water level, drilling fluid level, and cave-in depths are measured with a weighted measuring tape.

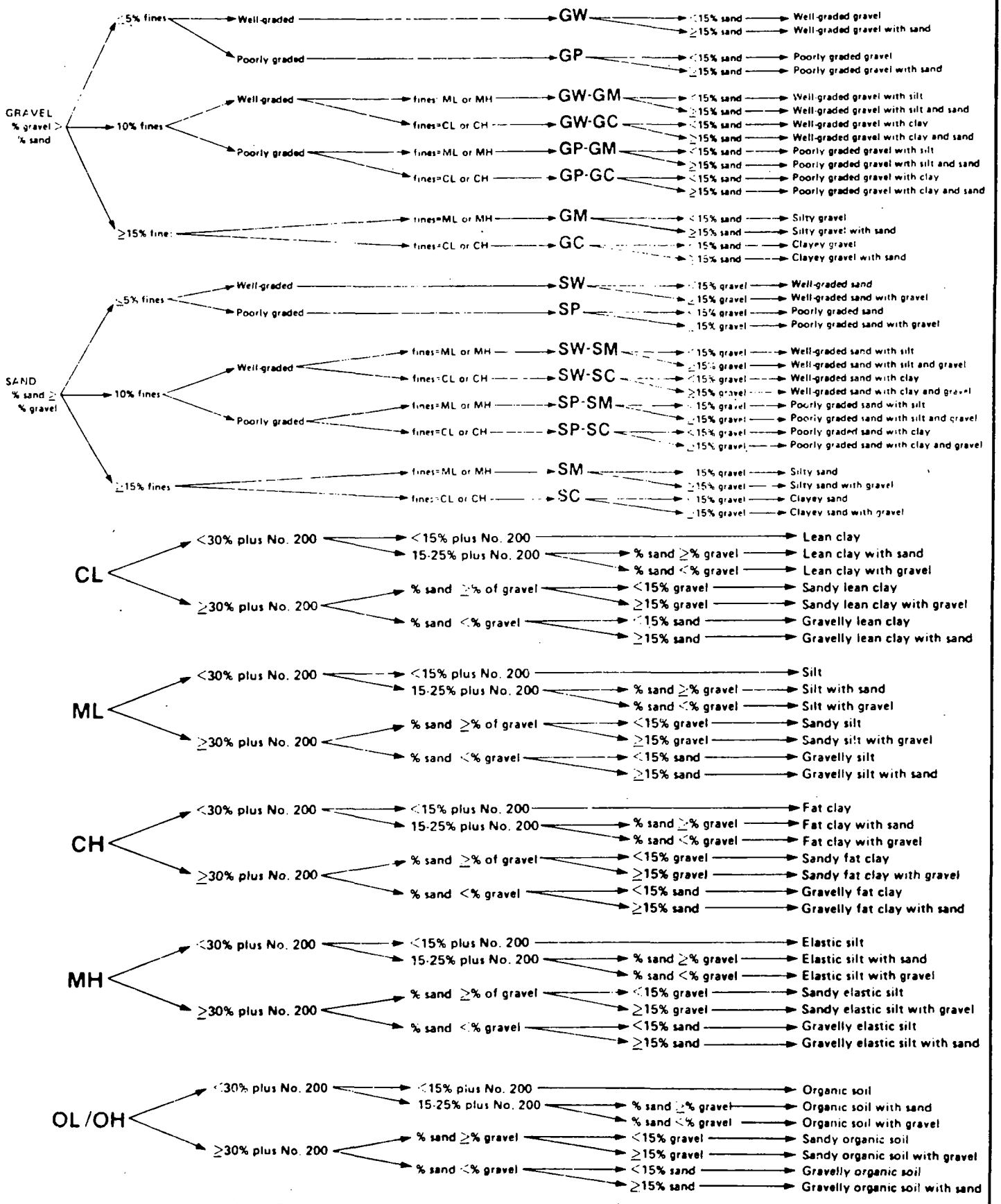
BORING LOGS: GROUND WATER INFORMATION

The "MC" column indicates the moisture condition of soil samples. A "D" in the column means that a soil sample appears dry (absence of moisture, dusty, dry to touch); "M" means moist (damp but no visible water), and "W" means wet (visible free water). (NOTE: An isolated "W" at the top of the boring, over a column of "D's" or "M's" may be an indicator of recent thawing of frozen soil in the top layer.)

The water level symbol ▼ in the "MC" column indicates the estimated position of the ground water table in the boring. A water level symbol with a downward-pointing arrow means that the water table is interpreted to be at or below the level indicated. A water level symbol with an upward-pointing arrow means that the water level is interpreted to be at or above the depth indicated. The absence of the water level symbol on a log does not necessarily mean that ground water was not encountered or that the water table or piezometric surface was not penetrated.

Overall, determining the position of the ground water table is an interpretive process that depends on such factors as water level measurements, the presence and type of drilling fluid, the condition of samples, subsurface conditions, site conditions, whether the bore hole is covered or open, and weather conditions. Because of these factors and those noted previously, the actual ground water level in the field may vary from that shown on the boring logs.

IDENTIFICATION OF SOILS
(VISUAL-MANUAL PROCEDURE)



NOTE—Percentages are based on estimating amounts of fines, sand, and gravel to the nearest 5 %.

GENERAL TERMINOLOGY NOTES FOR SOIL IDENTIFICATION AND DESCRIPTION

Grain Size

Term	Size
Boulders	>12"
Cobbles	3"-12"
Gravel	#4 sieve - 3"
Sand	#200 - #4 sieve
Fines (silt & clay)	<#200 sieve

Stratification

Term	Thickness
Layer	>1/2'
Lense	1/2" - 1/2'
Lamination	<1/2"

Fiber Content of Peat (ASTM D2607)

Term	Fiber Content (Visual Estimate)
Fibric	>67%
Hemic	33 - 67%
Sapric	<33%

Consistency and Strength of Fine Grained Soils

Term	Unconfined Compressive Strength, psf (Normal Range)	N-value, BPF
Very soft	<500	<2
Soft	500-1000	2-4
Medium stiff	1000-2000	4-8
Stiff	2000-4000	8-15
Very stiff	4000-8000	15-30
Hard	>8000	>30

Relative Density of Coarse Grained Soils

Term	N-value, BPF
Very loose	<5
Loose	5-10
Medium dense	10-30
Dense	30-50
Very dense	>50

GEOLOGIC TERMINOLOGY

The geologic description indicates the apparent depositional origin or stratigraphic name. Geologic identification is interpretive and subject to error.

General categories of geologic deposits, and descriptive information is as follows:

ALLUVIUM	COARSE ALLUVIUM:	Sandy (and gravelly). Stratified. Deposited from fast moving waters in streams and rivers. (Includes glacial outwash.)
	FINE ALLUVIUM:	Clayey and/or silty. Stratified. Deposited from slow moving waters in streams, rivers, lakes, and ponds.
BEDROCK	Wide range of characteristics: from hard, dense, consolidated rock; to soft, compressible, and unconsolidated soil-like material.	
FILL	CONTROLLED:	Compact, uniform material; inorganic; no debris.
	UNCONTROLLED:	Loose or variable density. Mixture of soil types. Often contains debris and organic material.
TILL	Normally contains a wide range of grain sizes, from boulders through clay. Usually non-stratified. Deposited directly from glaciers.	
LOESS	Silty. Non-stratified. Upper layer. Deposited from wind.	
SLOPE WASH	Organic and/or inorganic material washed from slopes and redeposited.	
SWAMP DEPOSITS	Peat, muck, and marl, and organic soil. Formed through accumulation of organic material under water.	
TOPSOIL	Contains both inorganic and organic material. Upper, black layer of soil. Formed by weathering of inorganic soil and accumulation of organic material.	
TUMBLEROCK	Dominantly gravel, boulders and rock slabs. Deposited from gravity flow down hills or cliffs.	
WEATHERED BEDROCK	Bedrock which has been substantially weathered through disintegration or decomposition. Texture and composition grades into bedrock.	
WEATHERED SOIL	Texture, composition, and position is intermediate between topsoil and non-weathered soil.	

LIMITATIONS OF SUBSURFACE EXPLORATION

Subsurface exploration programs can not reveal totally what is in the subsurface. Conditions between borings and between samples and at other times may differ from those described on boring logs. Depending on the sampling method and frequency, every soil layer may not be observed, and some materials or layers which are present in the ground may not be noted on boring logs.

The intent of the "Identification" and "Geology" columns is to portray the soil profile or stratigraphy. It is based on our interpretation and opinion of available data.

Unless actually observed in a sample, contacts between soil layers are estimated based on the spacing of samples and the action of drill tools. Thus, most contacts shown on logs are approximate, with the possible upper and lower limits defined by the position of the overlying and underlying soil samples.

The extent and detail of information about subsurface conditions is directly related to the scope of exploration. It should be understood, therefore, that additional information can be obtained by means of additional exploration.

Cobbles, boulders, and other large objects generally cannot be recovered from test borings, and they may be present in the ground even if they are not noted on the boring logs. Other than as indicated by standard penetration resistance values, static cone bearing pressure values, or by borings being obstructed, drilling and sampling methods do not permit us to form specific opinions about the presence of cobbles, boulders and other large objects, and none are stated on boring logs. In general, cobbles, boulders, and large objects commonly are in deposits such as coarse alluvium, fill, till, tumblerock, and weathered bedrock.

Typewritten logs are prepared based on field logs. A field log may contain information which is not indicated on the typewritten log. (Field logs are available to our client for inspection.)

APPENDIX G

MPCA SOIL BORING LOGS

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 5/30/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-1

Sheet: 1 of 2

Weather Conditions: Temp: 54° Wind: 10 mph Precipitation: on & off

Clouds: Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger) and Mud Rotor.

Borehole Depth: 35.5 feet

Diameter: 3¼ inch

Sample Intervals: 0-2, 2-3½, 5-7, 7-8½, 8½-10, 10-12, 12-13½, 13½-15.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-1

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
Composite	No	2-2-2-3	0-2	Silty to fine grained sand grading into a medium grained sand at 1-2 feet.
SØ1	No	3-3-4	2-3½	Silty to fine grained sand, buff to tan.
	No	2-3-2	3½-5	Silty to fine grained sand, buff to tan.
	No	2-3-2-4	5-7	Silty to fine grained sand, buff to tan.
	No	2-2-2	7-8½	Fine to medium grained sand grading into a coarser gravel at 8 feet.
	No	2-1-2	8½-10	Medium grained sand.
	No	3-4-3-4	10-12	Mixture of fine to medium grained sand.
	No	4-4-3	12-13½	Mixture of fine to medium grained sand.
	No	2-3-3	13½-15	Fine to medium grained sand.
			15-35.5	Continued to drill with mud rotor to 35.5 feet at which time the hole became obstructed.

Boring Depth: 35.5 Water Level While Drilling: 21.8

Water Level After Drilling: 21.6 Cavein Depth: 24.5

Comments: Hole was grouted up with neat cement at 12:00 noon.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 5/31/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 2 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-2

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: slight Precipitation: partial

Clouds: Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 22 feet

Diameter: 3¼ inch

Sample Intervals: 0-10 feet and 10-22 feet.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-2

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	2-2-3-4	0-2	Fine to medium sand intermixed with black organic soil.
	No	3-3-4	2-3½	Fine grained sand, well sorted, buff to tan.
SØ2	No	3-5-5	3½-5	Fine to medium grained sand, buff to tan.
Composite	No	2-3-3-4	5-7	Fine grained sand, well sorted, well rounded, buff to tan.
	No	2-1-2	7-8½	Fine grained sand, well sorted, well rounded, buff to tan.
	No	2-3-3	8½-10	Fine grained sand, well sorted, well rounded, buff to tan.
	No	2-4-4-7	10-12	fine to medium grained sand, buff to tan, layer of black sediment between 10-11½ feet.
	No	3-6-5	12-13½	Fine to medium grained sand with intermixing stones ½" to 1" diameter.
SØ3	No	3-4-30	13½-15	Fine to medium grained sand with intermixing stones ½" to 1" diameter.
Composite	No	8-24-7-8	15-17	Medium to coarse grained sandy gravel, with small stones 1" to 2" in diameter throughout.
	No	4-6	17-18	Very coarse gravel and sand with banding of black organic sediments (possibly creosote).
	Yes (slight reading)	3-6-6-7	20-22	Severe Creosote, fuel oil odor.

Boring Depth: 22 feet

Water Level While Drilling: Dry

Water Level After Drilling: Dry

Cavein Depth: 21.6

Comments: Creosote odor was pretty strong at the 20-22 foot level.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/07/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-3

Sheet: 1 of 2

Weather Conditions: Temp: 72° Wind: 10 mph Precipitation: None

Clouds: Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 0-14 Composite.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-3

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	6" of crushed rock. 1 foot of black organic soil overlying fine to silty grained sand.
	No	3-3-4-3	5-7	Silty to fine grained sand, buff to tan. Well sorted, well rounded.
Composite	No	2-3-3-5	10-12	Fine to medium grained sand, well rounded, buff to tan.
S19	No	3-4-10-21	15-17	Medium grained sands well rounded with intermixing stones 3/4" to 1" diameter, slight odor.
	No	8-6-7	17-18½	Medium to coarse grained sand. Black banding occurring, small pebbles and stones, very odorous.
	No	4-6-8	18½-20	Medium to coarse grained sand. Black banding occurring, small pebbles and stones, very odorous.
	No	7-7-5-5	20-22	Medium to coarse grained sand. Black banding occurring, small pebbles and stones, very odorous. Very greasy texture, black banding (deposits, creosote odor very strong).
	Yes 0-5	3-3-8-10	22-24	Coarse to medium grained gravel, extremely greasy, very odorous, like fuel oil and creosote.

Boring Depth: 24 feet Water Level While Drilling: 21.7

Water Level After Drilling: 21.6 Cavein Depth: 22.3

Comments: Extremely odorous, smelled like fuel oil and creosote.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/06/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 3 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-4

Sheet: 1 of 2

Weather Conditions: Temp: 80° Wind: 5 mph Precipitation: None

Clouds: None

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 0-8 ft., 8-16 ft., 16-24 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-4

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	17-16-15-10	0-2	1 foot of crushed rock (road fill), followed by 1 foot of black organic soil.
S16	No	4-5-5-4	2-4	6" of organic soil overlying 1½ feet of fine silty grained, well sorted, well rounded sand.
	No	5-4-4-4	4-6	Silty fine grained, well sorted, well rounded sand.
	No	4-4-4-4	6-8	Silty fine grained, well sorted, well rounded sand.
	No	3-2-3-4	8-10	Silty fine grained, well sorted, well rounded sand.
S17	No	3-2-3-5	10-12	Silty fine grained, well sorted, well rounded sand.
	No	4-3-3-4	12-14	Intermixing, fine to medium grained sand with bunches of small pebbles with black organic deposits.
	No	2-2-4-8	14-16	Intermixing, fine to medium grained sand with bunches of small pebbles with black organic deposits. (Slight odor - fuel oil.)
	No	10-11-12-15	16-18	Medium grained sand with small stones 3/4" to 1" diameter (slight creosote odor).
S18	No	10-10-10-8	18-20	Medium grained sand with small stones 3/4" to 1" diameter (slight creosote odor).
	No	7-8-8-9	20-22	Medium to coarse grained sand with small pebbles and stones throughout (odorous).
	No	3-2-2-2	22-24	Medium to coarse grained sand with small pebbles and stones throughout (odorous) with black organic deposits (very odorous, wet).

Boring Depth: 24 feet

Water Level While Drilling:

Water Level After Drilling: 21.6

Cavein Depth: 21.8

Comments: Finished hole at 2:55 p.m.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 5/31/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-5

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: slight Precipitation: None

Clouds: Slightly Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 5-7 ft., 10-12 ft., 15-17 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-1

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
Composite	No	2-2-2-3	0-2	Silty to fine grained sand grading into a medium grained sand at 1-2 feet.
SØ1	No	3-3-4	2-3½	Silty to fine grained sand, buff to tan.
	No	2-3-2	3½-5	Silty to fine grained sand, buff to tan.
	No	2-3-2-4	5-7	Silty to fine grained sand, buff to tan.
	No	2-2-2	7-8½	Fine to medium grained sand grading into a coarser gravel at 8 feet.
	No	2-1-2	8½-10	Medium grained sand.
	No	3-4-3-4	10-12	Mixture of fine to medium grained sand.
	No	4-4-3	12-13½	Mixture of fine to medium grained sand.
	No	2-3-3	13½-15	Fine to medium grained sand.
			15-35.5	Continued to drill with mud rotor to 35.5 feet at which time the hole became obstructed.

Boring Depth: 35.5

Water Level While Drilling: 21.8

Water Level After Drilling: 21.6

Cavein Depth: 24.5

Comments: Hole was grouted up with neat cement at 12:00 noon.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 5/31/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 2 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-2

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: slight Precipitation: partial

Clouds: Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 22 feet

Diameter: 3¼ inch

Sample Intervals: 0-10 feet and 10-22 feet.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-2

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	2-2-3-4	0-2	Fine to medium sand intermixed with black organic soil.
	No	3-3-4	2-3½	Fine grained sand, well sorted, buff to tan.
SØ2	No	3-5-5	3½-5	Fine to medium grained sand, buff to tan.
Composite	No	2-3-3-4	5-7	Fine grained sand, well sorted, well rounded, buff to tan.
	No	2-1-2	7-8½	Fine grained sand, well sorted, well rounded, buff to tan.
	No	2-3-3	8½-10	Fine grained sand, well sorted, well rounded, buff to tan.
	No	2-4-4-7	10-12	fine to medium grained sand, buff to tan, layer of black sediment between 10-11½ feet.
	No	3-6-5	12-13½	Fine to medium grained sand with intermixing stones ½" to 1" diameter.
SØ3	No	3-4-30	13½-15	Fine to medium grained sand with intermixing stones ½" to 1" diameter.
Composite	No	8-24-7-8	15-17	Medium to coarse grained sandy gravel, with small stones 1" to 2" in diameter throughout.
	No	4-6	17-18	Very coarse gravel and sand with banding of black organic sediments (possibly creosote).
	Yes (slight reading)	3-6-6-7	20-22	Severe Creosote, fuel oil odor.

Boring Depth: 22 feet

Water Level While Drilling: Dry

Water Level After Drilling: Dry

Cavein Depth: 21.6

Comments: Creosote odor was pretty strong at the 20-22 foot level.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/07/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-3

Sheet: 1 of 2

Weather Conditions: Temp: 72° Wind: 10 mph Precipitation: None

Clouds: Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 0-14 Composite.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-3

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	6" of crushed rock. 1 foot of black organic soil overlying fine to silty grained sand.
	No	3-3-4-3	5-7	Silty to fine grained sand, buff to tan. Well sorted, well rounded.
Composite	No	2-3-3-5	10-12	Fine to medium grained sand, well rounded, buff to tan.
S19	No	3-4-10-21	15-17	Medium grained sands well rounded with intermixing stones 3/4" to 1" diameter, slight odor.
	No	8-6-7	17-18½	Medium to coarse grained sand. Black banding occurring, small pebbles and stones, very odorous.
	No	4-6-8	18½-20	Medium to coarse grained sand. Black banding occurring, small pebbles and stones, very odorous.
	No	7-7-5-5	20-22	Medium to coarse grained sand. Black banding occurring, small pebbles and stones, very odorous. Very greasy texture, black banding (deposits, creosote odor very strong).
	Yes 0-5	3-3-8-10	22-24	Coarse to medium grained gravel, extremely greasy, very odorous, like fuel oil and creosote.

Boring Depth: 24 feet Water Level While Drilling: 21.7

Water Level After Drilling: 21.6 Cavein Depth: 22.3

Comments: Extremely odorous, smelled like fuel oil and creosote.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/06/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 3 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-4

Sheet: 1 of 2

Weather Conditions: Temp: 80° Wind: 5 mph Precipitation: None

Clouds: None

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 0-8 ft., 8-16 ft., 16-24 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-4

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	17-16-15-10	0-2	1 foot of crushed rock (road fill), followed by 1 foot of black organic soil.
S16	No	4-5-5-4	2-4	6" of organic soil overlying 1½ feet of fine silty grained, well sorted, well rounded sand.
	No	5-4-4-4	4-6	Silty fine grained, well sorted, well rounded sand.
	No	4-4-4-4	6-8	Silty fine grained, well sorted, well rounded sand.
	No	3-2-3-4	8-10	Silty fine grained, well sorted, well rounded sand.
S17	No	3-2-3-5	10-12	Silty fine grained, well sorted, well rounded sand.
	No	4-3-3-4	12-14	Intermixing, fine to medium grained sand with bunches of small pebbles with black organic deposits.
	No	2-2-4-8	14-16	Intermixing, fine to medium grained sand with bunches of small pebbles with black organic deposits. (Slight odor - fuel oil.)
	No	10-11-12-15	16-18	Medium grained sand with small stones 3/4" to 1" diameter (slight creosote odor).
S18	No	10-10-10-8	18-20	Medium grained sand with small stones 3/4" to 1" diameter (slight creosote odor).
	No	7-8-8-9	20-22	Medium to coarse grained sand with small pebbles and stones throughout (odorous).
	No	3-2-2-2	22-24	Medium to coarse grained sand with small pebbles and stones throughout (odorous) with black organic deposits (very odorous, wet).

Boring Depth: 24 feet Water Level While Drilling:

Water Level After Drilling: 21.6 Cavein Depth: 21.8

Comments: Finished hole at 2:55 p.m.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 5/31/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-5

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: slight Precipitation: None

Clouds: Slightly Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 5-7 ft., 10-12 ft., 15-17 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-5

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	0-3 feet consisted of fill, 3 to 5 feet fine grained sand, buff to tan.
	No	3-4-4-5	5-7	Fine grained sand, well sorted, well rounded, buff to tan.
SØ4	No	Cuttings	7-10	Silty to fine grained sands.
Composite	No	2-4-3-4	10-12	Fine to medium grained sand, well sorted, well rounded, iron banding, with small stones present throughout.
	No	Cuttings	12-15	Fine to medium grained sand, grading into a coarse grained sand and gravel, small stones present.
	No	3-4-5-8	15-17	Fine to medium grained sand, grading into a coarse grained sand and gravel, small stones present.
	No	6-9-6	17-18½	Medium to coarse grained sand with intermixing stones, cresosote and fuel oil odor present.
	No	4-7-7	18½-20	Very coarse pebbly sand. Very severe creosote and fuel oil odor.
	No	7-7-8-8	20-22	Very coarse grained sand intermixing stones ½" to 1" diameter, very odorous.
	No	8-6-6-5	22-24	Very coarse grained sand intermixing stones ½" to 1" diameter, very very odorous and greasy looking.

Boring Depth: 24 feet Water Level While Drilling: Wet

Water Level After Drilling: Wet Cavein Depth: 22.0

Comments: Extremely odorous boring, especially at the deeper sampling points.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/06/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-6

Sheet: 1 of 2

Weather Conditions: Temp: 80° Wind: slight Precipitation: None

Clouds: Clear

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: Composite 5-22 feet.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-6

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	2 feet of black top soil overlying 3 feet of fine to silty grained, greasy sand.
	2.0-4.0	2-2-3-3	5-7	Medium to fine grained sand, well sorted, well rounded, slight odor, greasy texture.
	No	2-3-5-6	10-12	Fine to medium grained sand with small pebbles throughout.
S15	No	Cuttings	12-15	Fine to medium grained sand with small pebbles throughout.
Composite	No	3-4-8-6	15-17	Fine to medium grained sand grading into a coarser grained sand at 16½ feet (fuel oil odor).
	No	4-6-8	17-18½	Fine to medium grained sand grading into a coarser grained sand at 18½ feet. Greasy texture with slight creosote and fuel oil odor.
	No	5-14-14	18½-20	Medium to coarse grained sands with small stones throughout, odorous and greasy.
	2.5-3.0	6-7-5-5	20-22	Medium to coarse grained sands with small stones throughout, odorous and greasy. Very strong odor and wet.
	2.5-5.0	Cuttings	22-24	Medium to coarse grained sand with intermixing stones, ½" to 1" diameter, strong odor.

Boring Depth: 24 feet

Water Level While Drilling:

Water Level After Drilling: 21.

Cavein Depth: 21.9

Comments: Finished drilling at 12:00. Soils were very odorous and appeared to be extremely greasy.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/05/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-7

Sheet: 1 of 2

Weather Conditions: Temp: 80° Wind: 15 mph Precipitation: None

Clouds: Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 5-24 feet composite.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-7

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	2 feet of top soil consisting of black organic matter; overlying 3 feet of silty fine sand.
S12	No	3-4-4-2	5-7	Silty to fine grained sand, well sorted, well rounded, greasy appearance.
	No	Cuttings	7-10	Fine silty sand.
Composite Sample	No	2-4-5-3	10-12	1 foot of silty to fine grained sand grading into a fine to medium grained sand.
	No	Cuttings	12-15	Medium grained sand, well sorted.
	No	2-6-11-7	15-17	Fine to medium grained sand grading into a coarse sandy gravel.
	No	4-7-8	17-18½	Fine to medium grained sand grading into a coarse sandy gravel.
	No	3-11-11	18½-20	Very coarse grained sand (gravel), fuel oil odor or creosote odor.
very	No	6-7-4-4	20-22	Coarse grained sands with intermixing pebbles, greasy texture, slight odor.
	No	2-2-3-5	22-24	Coarse grained sands with intermixing pebbles, very greasy texture, slight odor.

Boring Depth: 24 feet Water Level While Drilling:

Water Level After Drilling: 21.3 Cavein Depth: 21.7

Comments: OVA stopped working so we had to rely on the HNU.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/05/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 2 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-8

Sheet: 1 of 2

Weather Conditions: Temp: 80° Wind: 15 mph Precipitation: Light sprinkle

Clouds: Overcast

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: 5-12 feet, 15-24 feet.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-8

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	2 feet of road fill overlying 3 feet of fine silty sand.
S13 Composite	No	2-3-2-3	5-7	Fine grained sands, well sorted, well rounded, buff to tan.
	No	1-2-2-2	8-10	Fine grained sands, well sorted, well rounded, buff to tan.
	No	2-3-3-4	10-12	Fine grained sands, well sorted, well rounded, buff to tan with black organic banding present.
	No	Cuttings	12-15	Fine sands grading into a medium to coarse grained sand.
	No	7-10-13-13	15-17	Very coarse sands with iron bands present throughout, greasy texture with pebbles.
S14 Composite	No	7-10-35	17-18½	Very coarse sands with iron bands present throughout, greasy texture with pebbles. Odor present.
	No	8-13-12	18½-20	Coarse to medium grained sands with small pebbles and stones throughout. Odorous.
	No	2-3-4-5	20-22	Very wet, medium to coarse grained sands, odorous.
	No	3-3-3-4	22-24	Coarse grained sands, very wet, no odor, dark yellow deposits (?)

Boring Depth: 24 feet

Water Level While Drilling:

Water Level After Drilling: 21.0

Cavein Depth: 21.7

Comments: HNU didn't appear to be working so we sampled ambient air with the OVA only.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/05/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 2 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-9

Sheet: 1 of 2

Weather Conditions: Temp: 74° Wind: 10 mph Precipitation: None

Clouds: Clear

Soil Boring Description

Drilling Equipment Used: CME 550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 22 feet

Diameter: 3¼ inch

Sample Intervals: 5-14 feet and 15-22 feet.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-9

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	2 feet of road fill overlying fine grained sand.
SØ9 Composite	No	3-3-3-3	5-7	Very fine grained sands, well sorted, well rounded, buff to tan.
	No	2-3-3-2	8-10	Very fine grained sands, well sorted, well rounded, buff to tan.
	No	4-5-8-8	12-14	Medium to coarse grained sands intermixing with pebbles and small stones ½" diameter.
S1Ø Composite	No	4-6-10-20	15-17	Medium to coarse grained sands intermixing with pebbles and small stones ½" diameter.
	No	9-12-12	17-18½	Very coarse sand with intermixing pebbles. Iron banding throughout.
	No	6-7-6	18½-20	Very coarse sand with intermixing pebbles. Iron banding throughout.
	No	3-3-4-5	20-22	Coarse grained sand to gravel. Very wet.

Boring Depth: 22 feet

Water Level While Drilling: Wet

Water Level After Drilling: N/A

Cavein Depth: 19.9

Comments:

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/08/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-10

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: 10 mph Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: B-57 Mobile Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 4¼ inch

Sample Intervals: 17-24 feet composite.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-10

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Cuttings	0-5	2 feet top soil overlying 3 feet of fine silty sand.
	No	Cuttings	5-10	Fine silty sand.
	No	Cuttings	10-15	Fine silty sand grading into a medium to coarse grained sand at 14 feet.
S10 Composite	No	15-11-11	17-18½	Very coarse grained sands grading into gravel, slightly greasy in texture.
	No	11-21-29	18½-20	Gravel, large stones, 2" in diameter plus broken larger stones.
	No	12-13-9-8	20-22	Gravel, large stones, 2" in diameter plus broken larger stones.
	No	8-3-4-4	22-24	Gravel, large stones, 2" in diameter plus broken larger stones, slight fuel oil odor.

Boring Depth: 24 feet Water Level While Drilling: Wet

Water Level After Drilling: Wet Cavein Depth: 9 feet

Comments: SB-10 was going to be used as MW-5. However, because of encountering large rocks, a field decision was made to move MW-5 to the northeast and only use SB-10 for one composite sample.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/01/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-11

Sheet: 1 of 2

Weather Conditions: Temp: 63° Wind: No

Precipitation: No

Clouds: Slightly overcast.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 68 feet

Diameter: 3¼ inch

Sample Intervals: 5-7 ft., 10-12 ft., 15-17 ft., 17-18½ ft., 18½-20 ft., 20-22 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-11

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
		Auger Cuttings	0-5	2½ feet of black top soil, 2½ feet of fine silty sand.
SØ6 Composite	No	2-3-3-4	5-7	Fine grained sands, well sorted, well rounded, buff to tan.
	No	Cuttings	7-10	Fine silty sand.
	No	2-5-6-7	10-12	1 foot of fine sand grading into a medium grained sand.
	No	Auger Cuttings	12-15	1 foot of medium sands, grading into a fine silty sand.
	No	9-7-7-9	15-17	Fine to medium grained sand mixture.
	No	4-6-9	17-18½	Fine grained sands, well rounded, buff to tan.
	No	6-11-13-17	18½-20	Fine grained sands, well rounded, buff to tan.
	No	5-6-4-5	20-22	One foot of fine grained sand overlying one foot of coarse grained sands (water).
	No	Auger Cuttings	22-50	Fine to medium grained sand with intermixing stones and pebbles at 45-50 feet.
	No	Mud Rotor	50-68	Very coarse grained sands, hit St. Peter sandstone at 68 feet; fine grained well rounded sands.
	No	Mud Rotor	68-75	Continued to drill to 75 feet at which time we took a split spoon sample.

Boring Depth: 75 feet Water Level While Drilling: 21

Water Level After Drilling: Cavein Depth: 20.2

Comments: Mud rotor was used from 50 to 75 feet. A split spoon sample was obtained from 73 to 75 foot levels.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/02/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-12

Sheet: 1 of 2

Weather Conditions: Temp: 78° Wind: 5 mph Precipitation: None

Clouds: Slight.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 22 feet

Diameter: 3¼ inch

Sample Intervals: Composite 5-22 feet.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-12

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
SØ7	No	3-4-3-4	5-7	Poor sorted dark brown, fine to medium grained sand, grading into a coarser sand.
	No	3-4-6-5	10-12	Fine to medium grained, well sorted sand, one foot grading into a coarser sand with intermixing pebbles.
	No	9-21-26-30	15-17	Very coarse sands, poorly sorted, with small pebbles at the bottom.
	No	11-7-8	17-18.5	Continuation of the pebbles for 1 foot, grading into a medium grained sand with 4" of pebbles.
	No	5-5-5	18.5-20	Medium to fine grained sand, buff to tan, with intermixing pebbles at the bottom.
	No	2-4-2-3	20-22	Very coarse grained sands, poorly sorted at the bottom.

Boring Depth: 22 feet Water Level While Drilling: Wet

Water Level After Drilling: Cavein Depth: 22.0

Comments: Finished drilling at 10:30.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/07/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 2 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-14 (MW-4)

Sheet: 1 of 2

Weather Conditions: Temp: 73° Wind: 15 mph Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 29 feet

Diameter: 4¼ inch

Sample Intervals: 5-15 feet and 15-24 feet.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-14 (MW-4)

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Auger Cuttings	0-5	2 feet of fill, 3 feet of fine silty sand.
	No	3-3-3-3	5-7	Fine grained sands, well sorted, buff to tan.
S2Ø Composite	No	2-2-4-4	10-12	Fine sands grading into a medium grained, well sorted sand, slight odor.
	0-4	3-3-3-3	13-15	Fine to medium grained sands, greasy texture, black banding between 14' and 15', slight odor.
	0-4	4-7-14-12	15-17	15 to 16 feet medium sands, grading into a coarse grained sand, intermixing stones, slight odor.
	0-4	9-8-8	17-18½	Very coarse (gravel), odorous with black to yellow bands (deposits).
S21 Composite	0-3	5-6-9	18½-20	Very coarse (gravel) with black to yellow bands (deposits). More odorous and greasy texture.
	0-4	7-6-76	20-22	Very coarse gravel, very wet and greasy, very odorous (fuel oil and creosote smell).
	0-4	6-6-5-5	22-24	Very coarse gravel, very wet and greasy, very odorous (fuel oil and creosote smell).
	No	Auger Cuttings	24-29	Auger Cuttings the same.

Boring Depth: 29 feet Water Level While Drilling:

Water Level After Drilling: 21.6 Cavein Depth: 21.8 feet

Comments: Installed well (MW-4) after samples were obtained and auger completed hole to to 29.0 feet.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/05/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 2 Composites

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-15

Sheet: 1 of 2

Weather Conditions: Temp: 80° Wind: Slight Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 24 feet

Diameter: 3¼ inch

Sample Intervals: Composite 5-7 ft., 10-12 ft., and 15-24 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-15

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Auger Cuttings	0-5	Fine to medium grained sands.
	No	3-3-4-5	5-7	Fine to medium grained sands.
	No	Cuttings	7-10	Fine to medium grained sands . At 9½' to 10' coarse grained sand, wet in appearance.
S11 Composite	No	2-2-2-2	10-12	Medium grained sands, well rounded, well sorted, buff to tan.
	No	Cuttings	12-15	Medium grained sands with intermixing pebbles at 14 to 15 feet.
	No	3-4-3-8	15-17	1 foot of medium sands with small pebbles grading into fine grained sands with black banding.
	No	5-7-6	17-18½	6" of fine grained sands grading into a medium grained sand.
	No	7-5-7	18½-20	Medium and coarse grained sand with small pebbles and stones throughout.
	No	4-5-6-8	20-22	Coarse grained sands grading back into a medium grained sand, buff to tan.
	No	4-5-8-8	22-24	Medium to coarse grained sands, wet.

Boring Depth: 24 feet Water Level While Drilling:

Water Level After Drilling: 21.7 Cavein Depth: 21.8 feet

Comments: Finished grouting the hole at 13:45.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/02/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-16

Sheet: 1 of 2

Weather Conditions: Temp: 75° Wind: 10 mph Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 22 feet

Diameter: 3¼ inch

Sample Intervals: 5-7 ft., 10-12 ft., 15-17 ft., 17-18½ ft., 18½-20 ft., 20-22 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: SB-16

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Auger Cuttings	0-5	3 feet of road fill, 2 feet of fine to medium grained sands, buff to tan.
	No	4-3-3-3	5-7	Well sorted, well rounded fine sands grading into 1 foot of poorly sorted coarse sand.
SØ8 Composite	No	Auger Cuttings	7-10	Silty, fine grained sands.
	No	4-4-5-9	10-12	Fine grained sands, well sorted, well rounded, buff to tan with black banding.
	No	Auger Cuttings	12-15	Fine grained sands grading into a medium grained sand, buff to tan.
	No	4-6-8-7	15-17	Medium grained sands with intermixing pebbles and small quartz stones.
	No	4-7-10	17-18½	Medium sands to 17½ feet, grading into a coarser grained sand with intermixing pebbles.
	No	9-11-12	18½-20	Very coarse gravel, small to medium stones throughout.
	No	8-9-9-12	20-22	Very coarse gravel, small to medium stones throughout.

Boring Depth: 22 feet

Water Level While Drilling: None

Water Level After Drilling: 20.5

Cavein Depth: 20.4 feet

Comments: Finished drilling at 11:40.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/02/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: SB-20

Sheet: 1 of 2

Weather Conditions: Temp: 60° Wind: 5 mph Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 22 feet

Diameter: 3¼ inch

Sample Intervals: 5-7 ft., 10-12 ft., 15-17 ft., 17-18½ ft., 20-22 ft.

Sampling Methods: 1 3/8" internal diameter stainless steel split spoon barrel.

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney Boring Number: SB-20

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
	No	Auger Cuttings	0-5	2½ feet of black fill overlying 2½ feet of silty to fine grained iron red sand.
	No	2-1-2-2	5-7	Very fine grained sand, well sorted, well rounded, buff to tan.
	No	Auger Cuttings	7-10	Very fine grained sand, well sorted, well rounded, buff to tan.
SØ5 Composite	No	2-4-6-7	10-12	Medium to slightly coarse grained sands with intermixing pebbles and small stones.
	No	Auger Cuttings	12-15	Medium to slightly coarse grained sands with intermixing pebbles and small stones.
	OVA 6 ppm	9-8-8	15-17	Medium to coarse grained sands with 1" to 2" diameter stones throughout.
	4 ppm	6-9-9	17-18½	Coarse sands and gravel with small stones throughout.
	2.5 ppm	4-12-9	18½-20	Coarse sands and gravel with small stones throughout.
	No	5-4-5-10	20-22	Coarse sands and gravel with small stones throughout (moth ball odor).

Boring Depth: 22 feet Water Level While Drilling: 19.7

Water Level After Drilling: 19.7 Cavein Depth:

Comments: All samples taken smelled like moth balls. Started hole at 15:37, finished hole at 16:30. Finished grouting with neat cement at 17:10. (It is possible that napthalene is present because of the moth ball odor.)

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/08/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: 1 Composite

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: MW-5

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: 5 mph Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: B-57 Mobile Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 55 feet

Diameter: 4¼ inch

Sample Intervals: N/A

Sampling Methods: N/A

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: MW-5

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
None Taken			0-55	Once the hollow stem auger was drilled to 55 feet, fine grained, St. Peter sandstone blew up the auger wedging the rod and auger. While trying to retract the auger and rod, a main cable on the rig snapped. The decision was made to continue with the rope and hammer. After 1½ hours of trying this method, the hammer also broke. The hammer from the CME 550 Rig was then utilized by the B-57 rig but this hammer also broke. The decision was made to leave this hole until MW-4 and MW-6 were completed. At about 16:30, the CME-550 successfully retracted all but 15 feet of the auger and the cutting head. The hole was grouted up and the decision was made to redrill a new monitoring well northeast of the problem area and at a shallower depth.

Boring Depth: 55 feet

Water Level While Drilling:

Water Level After Drilling:

Cavein Depth:

Comments:

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/08/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: None

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: MW-5a

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: 10 mph Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 34.7 feet

Diameter: 4¼ inch

Sample Intervals: N/A

Sampling Methods: N/A

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling. The split spoon was washed in a TSP solution followed by a rinse in deionized water prior to collecting each new sample.

Site Name: B.J. Carney

Boring Number: MW-5a

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
None Collected			0-34.7	Monitoring Well MW-5a was installed as a result of problems with what was to be MW-5. The hole was drilled very easily and the rise and screen put into place exceptionally fast. No problems occurred.

Boring Depth: 34.7 feet

Water Level While Drilling:

Water Level After Drilling: 22.0

Cavein Depth:

Comments: Water levels and developing will be conducted by Precision Environmental on June 13, 1989.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: B.J. Carney

EPA ID Number: MND981195167

Aid/Cost Code: 830356

Date of Boring: 6/08/89

Location: 47th Ave. and Osseo Road

Number of Samples Obtained: None

Owner: Soo Line Railroad

Sampler: Bradley D. Nordberg

Boring Unique Number: MW-6

Sheet: 1 of 2

Weather Conditions: Temp: 50° Wind: 10 mph Precipitation: None

Clouds: Overcast.

Soil Boring Description

Drilling Equipment Used: CME-550 Truck Mounted Drill Rig

Drilling Method: Rotor (Hollow Stem Auger).

Borehole Depth: 29 feet

Diameter: 4¼ inch

Sample Intervals: N/A

Sampling Methods: N/A

Decontamination Procedures: The drill rig and all down hole tools were steam cleaned prior to drilling.

Site Name: B.J. Carney

Boring Number: MW-6

Sample Data

SAMPLE NUMBER	OVA	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
			0-29	Soils were collected from SB-5 which was located 3 feet west of the well. Well construction can be seen in the Geotechnical report. The well was installed without any problems.

Boring Depth: 29 feet

Water Level While Drilling:

Water Level After Drilling: 23.0

Cavein Depth:

Comments: Precision Environmental will develop the well and do water level reading on June 13, 1989.

APPENDIX H

WELL DEVELOPMENT REPORT

Report of Ground Water Monitoring

At

J.B. Carney - Osseo Road & 47th
Minneapolis, Minnesota

June 13, 1989

PRECISION ENVIRONMENTAL

Field Monitoring and Testing Services

8251 Main Street N.E.
Minneapolis, Minnesota 55432-1849
(612) 780-9787

Report of Ground Water Monitoring

At

J.B. Carney - Osseo Road & 47th
Minneapolis, Minnesota

June 13, 1989

Job No. 89-314-1

Prepared for:

Steve Bennett
Geotechnical Engineering
1925 Oakcrest Avenue
Roseville, Mn 55113

Prepared by:

Precision Environmental
8251 Main Street Northeast
Minneapolis, Minnesota 55432
(612) 780-9787

Printed June 28, 1989

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1.00 Introduction

The following report is a summary of ground water monitoring well development and stabilization procedures conducted by Precision Environmental as requested by:

Steve Bennett
Geotechnical Engineering
1925 Oakcrest Avenue
Roseville, MN 55113

Monitoring and sampling procedures described in this report were performed at six ground water monitoring wells located in the area of:

Osseo Road and 47th
(J.B. Carney)
Minneapolis, Minnesota
Job No. 89-314-1

These monitoring wells are identified as follows:

MW-01	MW-04
MW-02	MW-05
MW-03	MW-06

This location will be referred to as the project site for the remainder of the report. Services provided by Precision Environmental were conducted in accordance with the work plan outlined during a telephone conversation with Mr. Bennett on June 8, 1989.

2.00 Summary

Monitoring at the project site was conducted on June 13, 1989. MW-05 was not thoroughly developed or stabilized due to poor recovery rates. Bradley Nordberg of the Minnesota Pollution Control Agency (MPCA) was present on site during the monitoring and collected samples from the monitoring wells. Precision Environmental assisted with the sampling. Samples remained in the possession of the MPCA at all times.

Monitoring data is summarized in Table 1-2. This data is summarized from ground water monitoring data sheets completed in the field. Copies of these forms are included in Appendix A.

3.00 Summary of Monitoring Procedures

Monitoring and sampling results are summarized as follows:

Table 1	Monitoring Well Development Data
Table 2	Monitoring Well Stabilization Data

Table 1
Monitoring Well Development Data
J.B. Carney - Minneapolis, Minnesota
Precision Environmental June 13, 1989

Development Data	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06
Date	6/13/89	6/13/89	6/13/89	6/13/89	6/13/89	6/13/89
Chronology	1	2	3	4	5	6
Casing Lock, Y or N	Y	Y	Y	Y	Y	Y
Key Number	A433	A433	A433	2106	2106	2106
Casing Diameter, in.	2.00	2.00	2.00	2.00	2.00	2.00
Casing Stick-up ft.	2.35	1.63	1.73	2.12	2.31	1.92
Static Depth, ft.	24.80	22.24	23.33	23.98	24.67	23.90
Casing Length, ft.	31.73	28.28	28.74	30.54	28.25	30.54
Column Length, ft.	6.93	6.04	5.41	6.56	3.58	6.64
Column Volume, gal.	1.13	0.99	0.88	1.07	0.58	1.08
Development Volume, gal.	57	39	33	20	-	24
Method	1.8" Sub.	1.8" Sub.	1.8" Sub.	1.8" Sub.	-	1.8" Sub.
Start Time, hrs.	9:55	12:16	13:40	14:43	-	16:04
Stop Time, hrs.	10:23	12:39	14:08	14:53	-	16:20
Pumping Duration, hrs. : min.	0:28	0:23	0:28	0:10	-	0:16
Development Rate, gpm	2.04	1.70	1.18	2.00	-	1.50
Casing Volumes Purged	50.40	39.56	37.38	18.68	-	22.15
Field Work By	JWM	JWM	JWM	JWM	JWM	JWM

1.8" Sub. = 1.8" Submersible Pump

Table 2
Monitoring Well Stabilization Data
J.B. Carney - Minneapolis, Minnesota
Precision Environmental June 13, 1989

Stabilization Data	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06
Stabilization Date	6/13/89	6/13/89	6/13/89	6/13/89	6/13/89	6/13/89
Chronology	1	2	3	4	5	6
Casing Lock, Y or N	Y	Y	Y	Y	Y	Y
Key Number	A433	A433	A433	2106	2106	2106
Casing Diameter, in.	2.00	2.00	2.00	2.00	2.00	2.00
Casing Height, ft.	2.35	1.63	1.73	2.12	2.31	1.92
Static Depth, ft.	24.80	22.24	23.33	23.98	24.67	23.90
Casing Stick-up ft.	31.73	28.28	28.74	30.54	28.25	30.54
Column Length, ft.	6.93	6.04	5.41	6.56	3.58	6.64
Column Volume, gal.	1.13	0.99	0.88	1.07	0.58	1.08
Stabilized, Y or N	Y	Y	Y	Y	N	Y
Casing Volumes Required	3.00	3.00	3.00	3.00	-	3.00
Volume Interval, gal.	1.50	1.00	1.00	1.50	-	1.50
Method	1.8" Sub.	1.8" Sub.	1.8" Sub.	1.8" Sub.	-	1.8" Sub.
Start Time, hrs.	10:24	12:40	14:10	14:55	-	16:21
Stop Time, hrs.	10:28	12:44	14:15	14:59	-	16:25
Duration, hrs. : min.	0:04	0:04	0:05	0:04	-	0:04
Volume Purged, gal.	5.0	4.0	4.0	5.0	-	5.0
Casing Volumes Purged	4.42	4.06	4.53	4.67	-	4.61
Purge Rate, gpm	1.25	1.00	0.80	1.25	-	1.25
R-1 Temperature, °C	11.5	12.0	12.0	13.0	-	14.0
R-2 Temperature, °C	11.5	12.0	12.0	13.0	-	14.0
R-3 Temperature, °C	11.5	12.0	12.0	13.0	-	14.0
Maximum Deviation, °C	<0.1	<0.1	<0.1	<0.1	-	<0.1
R-1 Conductivity, umhos/cm	600	610	590	550	-	600
R-2 Conductivity, umhos/cm	600	610	590	550	-	600
R-3 Conductivity, umhos/cm	600	610	590	550	-	600
Maximum Deviation, percent	<0.01	<0.01	<0.01	<0.01	-	<0.01
R-1 pH, st'd units	7.7	7.6	6.9	7.0	-	7.0
R-2 pH, st'd units	7.7	7.6	6.9	7.0	-	7.0
R-3 pH, st'd units	7.7	7.6	6.9	7.0	-	7.0
Maximum Deviation, st'd units	<0.1	<0.1	<0.1	<0.1	-	<0.1
Pumped Dry, Y or N	N	N	N	N	Y	N
Recovery Rate, gpm	NA	NA	NA	NA	<.01	NA
Field Work By	JWM	JWM	JWM	JWM	JWM	JWM

1.8" Sub. = 1.8" Submersible Pump

Appendix A

Field Data Forms

PRECISION ENVIRONMENTAL	GROUND WATER MONITORING DATA SHEET	Page 1 of 1

Client:	Geotechnical Engineering	Project Title:	GW Mont - J.B. Carney
Address:	1925 Oakcrest Avenue	Project Number:	C153-GW11
City, State Zip:	Roseville, MN 55113	Contact:	Steve Bennett/636-7744

General Data	
Location I.D.	MW-01
Date:	6-13-89
Chron.:	1
Casing Lock:	(Y) N
Key No.:	A433
Casing Dia., in.:	2
Casing Stick-up, ft.:	2.35
Static Depth, ft.:	24.80
Casing Length, ft.:	31.73
Column Length, ft.:	6.93
Column Vol., gal.:	1.13
Development/Purge Data	NA
Result:	CLEAR
Vol. Purged, gal.:	57.0
Method:	1.8 SUB
Start Time, hrs.:	955
Stop Time, hrs.:	1023
Duration, min.:	28.0
Rate, gpm:	2.04
Casing Vol. Purged:	50.40
Stabilization Data	NA
Stabilized	(Y) N
Casing Vols. Required:	3.0
Vol. Interval, gal:	1.5
Method:	1.8 SUB
Start Time, hrs.:	1024
Stop Time, hrs.	1028
Duration, min.:	4.0
Vol. Purged, gal:	5.0
Casing Vol. Purged:	4.42
Purge Rate, gpm:	1.25
Form Completed by:	JWM

Stabilization Test

Calibration Check					4 (7) (10)	
Vol. No.	Time	Vol, gal.	Temp, °C	SC, umhos	pH, units	Other
1	1025	1.5	11.5	600	7.75	✓
2	1026	3.0	11.5	600	7.75	✓
3	1027	4.5	11.5	600	7.75	✓
4						
5						
6						
7						
8						
9						
10						
Maximum Result			11.5	600	7.7	
Minimum Result			11.5	600	7.7	
Difference			<0.1	<0.1 %	<0.1	

Recovery Rate Data (NA)	Weather Data
Recovery Rate, gpm:	Ambient Temp., °C: 17.0
Purge Method:	Percent Overcast: 60°
Initial Static Depth, ft.:	Precipitation: NONE
Final Static Depth, ft.:	Wind Dir., Est. MPH: N 0-5
Test Time, min.:	Sampling Data
Recovery, ft.:	Samples Collected (Y) N
Recovery, gal.:	SCDS Attached Y (N)

Comments:

Date Completed: 6-13-89

Present On-site: ES/BN/JWM

PRECISION ENVIRONMENTAL	GROUND WATER MONITORING DATA SHEET	Page 1 of 1

Client: Geotechnical Engineering	Project Title: GW Mont - J.B. Carney
Address: 1925 Oakcrest Avenue	Project Number: C153-GW11
City, State Zip: Roseville, MN 55113	Contact: Steve Bennett/636-7744

General Data

Location I.D. MW-02
Date: 6-13-89
Chron.: 2
Casing Lock: (Y) N
Key No.: A433
Casing Dia., in.: 2"
Casing Stick-up, ft.: 1.63
Static Depth, ft.: 22.24
Casing Length, ft.: 28.28
Column Length, ft.: 6.04
Column Vol., gal.: .99

Development/Purge Data NA

Result: CLEAR
Vol. Purged, gal.: 39
Method: 1.8 SUB
Start Time, hrs.: 1314
Stop Time, hrs.: 1339
Duration, min.: 23.0
Rate, gpm: 1.70
Casing Vol. Purged: 39.39

Stabilization Data NA

Stabilized (Y) N
Casing Vols. Required: 3
Vol. Interval, gal: 1.0
Method: 1.8 SUB
Start Time, hrs.: 1340
Stop Time, hrs. 1344
Duration, min.: 4.0
Vol. Purged, gal: 4.0
Casing Vol. Purged: 4.04
Purge Rate, gpm: 1.0
Form Completed by: JWM

Stabilization Test

Calibration Check					4 (7) (10)	
Vol. No.	Time	Vol, gal.	Temp, °C	SC, umhos	pH, units	Other
1	1341	1.0	12.0	610	7.6	
2	1342	2.0	12.0	610	7.6	
3	1343	3.0	12.0	610	7.6	
4						
5						
6						
7						
8						
9						
10						
Maximum Result			12.0	610	7.6	
Minimum Result			12.0	610	7.6	
Difference			<0.1	<0.1 %	<0.1	

Recovery Rate Data (NA)

Recovery Rate, gpm:
Purge Method:
Initial Static Depth, ft.:
Final Static Depth, ft.:
Test Time, min.:
Recovery, ft.:
Recovery, gal.:

Weather Data

Ambient Temp., °C: 17.0
Percent Overcast: 100%
Precipitation: NONE
Wind Dir., Est. MPH: N 0-5

Sampling Data

Samples Collected (Y) N
SCDS Attached Y (N)

Comments:

Date Completed: 6-13-89
Present On-site: EC/BN/JWM

PRECISION ENVIRONMENTAL	GROUND WATER MONITORING DATA SHEET	Page 1 of 1

Client: Geotechnical Engineering	Project Title: GW Mont - J.B. Carney
Address: 1925 Oakcrest Avenue	Project Number: C153-GW11
City, State Zip: Roseville, MN 55113	Contact: Steve Bennett/636-7744

General Data	
Location I.D.	MW-03
Date:	6-13-89
Chron.:	3
Casing Lock:	(Y) N
Key No.:	A433
Casing Dia., in.:	2"
Casing Stick-up, ft.:	1.73
Static Depth, ft.:	23.33
Casing Length, ft.:	28.74
Column Length, ft.:	5.41
Column Vol., gal.:	.88
Development/Purge Data	NA
Result:	CLEAR
Vol. Purged, gal.:	33.0
Method:	1.8 SUB
Start Time, hrs.:	1340
Stop Time, hrs.:	1408
Duration, min.:	28.0
Rate, gpm:	1.18
Casing Vol. Purged:	37.50
Stabilization Data	NA
Stabilized	(Y) N
Casing Vols. Required:	3
Vol. Interval, gal:	1.0
Method:	1.8 SUB
Start Time, hrs.:	1410
Stop Time, hrs.	1415
Duration, min.:	5.0
Vol. Purged, gal:	4.0
Casing Vol. Purged:	4.55
Purge Rate, gpm:	.80
Form Completed by:	JWM

Stabilization Test

Calibration Check						
Vol. No.	Time	Vol, gal.	Temp, °C	SC, umhos	pH, units (4) (7) (10)	Other
1	1412	1.0	12.0	590	6.9	✓
2	1414	2.0	12.0	590	6.9	✓
3	1415	3.0	12.0	590	6.9	✓
4						
5						
6						
7						
8						
9						
10						
Maximum Result			12.0	590	6.9	
Minimum Result			12.0	590	6.9	
Difference			<0.1	<0.1%	<0.1	

Recovery Rate Data (NA)	Weather Data
Recovery Rate, gpm:	Ambient Temp., °C: 17.0
Purge Method:	Percent Overcast: 100%
Initial Static Depth, ft.:	Precipitation: NONE
Final Static Depth, ft.:	Wind Dir., Est. MPH: N-05
Test Time, min.:	Sampling Data
Recovery, ft.:	Samples Collected (Y) N
Recovery, gal.:	SCDS Attached Y (N)

Comments:

Date Completed: 6-13-89

Present On-site: EC/BN/JWM

PRECISION ENVIRONMENTAL

GROUND WATER MONITORING DATA SHEET

Client: Geotechnical Engineering	Project Title: GW Mont - J.B. Carney
Address: 1925 Oakcrest Avenue	Project Number: C153-GW11
City, State Zip: Roseville, MN 55113	Contact: Steve Bennett/636-7744

General Data

Location I.D. MW-04
Date: 6-13-89
Chron.: 4
Casing Lock: (Y) N
Key No.: 2106
Casing Dia., in.: 2"
Casing Stick-up, ft.: 2.12
Static Depth, ft.: 23.98
Casing Length, ft.: 30.54
Column Length, ft.: 6.56
Column Vol., gal.: 1.07

Development/Purge Data NA

Result: CLEAR
Vol. Purged, gal.: 20.0
Method: 1.8 SUB
Start Time, hrs.: 1443
Stop Time, hrs.: 1453
Duration, min.: 10.0
Rate, gpm: 2.0
Casing Vol. Purged: 18.69

Stabilization Data NA

Stabilized (Y) N
Casing Vols. Required: 3.0
Vol. Interval, gal: 1.5
Method: 1.8 SUB
Start Time, hrs.: 1455
Stop Time, hrs. 1459
Duration, min.: 4.0
Vol. Purged, gal: 5.0
Casing Vol. Purged: 4.27
Purge Rate, gpm: 1.25
Form Completed by: JWM

Stabilization Test

Calibration Check (7) (10)

Vol. No.	Time	Vol, gal.	Temp, °C	SC, umhos	pH, units	Other
1	1456	1.5	13.0	550	7.0	✓
2	1457	3.0	13.0	550	7.0	✓
3	1458	4.5	13.0	550	7.0	✓
4						
5						
6						
7						
8						
9						
10						
Maximum Result						
Minimum Result						
Difference				%		

Recovery Rate Data NA

Recovery Rate, gpm:
Purge Method:
Initial Static Depth, ft.:
Final Static Depth, ft.:
Test Time, min.:
Recovery, ft.:
Recovery, gal.:

Weather Data

Ambient Temp., °C: 17.0
Percent Overcast: 100%
Precipitation: NONE
Wind Dir., Est. MPH: N 0-5

Sampling Data

Samples Collected (Y) N
SCDS Attached Y (N)

Comments:

Date Completed: 6-13-89
Present On-site: E.C/B.N/JWM

RECISION NVIRONMENTAL	GROUND WATER MONITORING DATA SHEET	Page 1 of 1

ent: Geotechnical Engineering	Project Title: GW Mont - J.B. Carney
dress: 1925 Oakcrest Avenue	Project Number: C153-GW11
y, State Zip: Roseville, MN 55113	Contact: Steve Bennett/636-7744

General Data	
cation I.D.	MW-05
te:	6-13-89
ron.:	5
sing Lock:	(Y) N
y No.:	2106
sing Dia., in.:	2"
sing Stick-up, ft.:	2.31
atic Depth, ft.:	24.67
sing Length, ft.:	28.25
lumn Length, ft.:	3.58
lumn Vol., gal.:	.58
Development/Purge Data	NA
esult:	DRY.
ol. Purged, gal.:	.58
ethod:	1.8 SUB
art Time, hrs.:	1515
top Time, hrs.:	1516
uration, min.:	1.0
ate, gpm:	
asing Vol. Purged:	1.0
Stabilization Data	NA
tabilized Y N	
asing Vols. Required:	
ol. Interval, gal:	
ethod:	
tart Time, hrs.:	
top Time, hrs.	
uration, min.:	
ol. Purged, gal:	
asing Vol. Purged:	
Purge Rate, gpm:	
rm Completed by:	JWM

Stabilization Test						
Calibration Check					4 7 10	
Vol. No.	Time	Vol, gal.	Temp, °C	SC, umhos	pH, units	Other
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Maximum Result						
Minimum Result						
Difference				%		

Recovery Rate Data NA	Weather Data
Recovery Rate, gpm: < .01	Ambient Temp., °C: ~~100%~~ 17.0
Purge Method: 1.8 SUB	Percent Overcast: 100%
Initial Static Depth, ft.: 28.19	Precipitation: NONE
Final Static Depth, ft.: 28.18	Wind Dir., Est. MPH: N-0-5
Test Time, min.: 15 MIN	Sampling Data
Recovery, ft.: .01	Samples Collected Y N
Recovery, gal.: < .01	SCDS Attached Y N

Comments: PUMPED DRY LESS THAN 1 GAL PURGED
STATIC AFTER PUMPING = 28.20
STATIC AT 1522 = 28.19
FINAL - TOTAL = 28.23

TEMP - 12.0
pH - 11.03
SC - 648

Date Completed: 6-13-89 | Present On-site: E.C/B.N/JWM

PRECISION ENVIRONMENTAL	GROUND WATER MONITORING DATA SHEET	Page 1 of 1

Client: Geotechnical Engineering	Project Title: GW Mont - J.B. Carney
Address: 1925 Oakcrest	Project Number: C153-GW11
City, State Zip: Roseville, MN 55113	Contact: Steve Bennett/636-7744

General Data	
Location I.D.	MW-06
Date:	6-13-89
Chron.:	6
Casing Lock:	(Y) N
Key No.:	2106
Casing Dia., in.:	2
Casing Stick-up, ft.:	1.92
Static Depth, ft.:	23.90
Casing Length, ft.:	30.54
Column Length, ft.:	6.64
Column Vol., gal.:	1.08
Development/Purge Data	NA
Result:	CLEAR
Vol. Purged, gal.:	24.0
Method:	1.8 Sub
Start Time, hrs.:	1604
Stop Time, hrs.:	1620
Duration, min.:	16.0
Rate, gpm:	1.5
Casing Vol. Purged:	22.22
Stabilization Data	(NA)
Stabilized	(Y) N
Casing Vols. Required:	3.0
Vol. Interval, gal:	1.5
Method:	1.8 Sub
Start Time, hrs.:	1621
Stop Time, hrs.	1625
Duration, min.:	4.0
Vol. Purged, gal:	5.0
Casing Vol. Purged:	4.63
Purge Rate, gpm:	1.25
Form Completed by:	JWW

Stabilization Test

Calibration Check					4 7 10	
Vol. No.	Time	Vol, gal.	Temp, °C	SC, umhos	pH, units	Other
1	1622	1.5	14.0	600	7.0	
2	1623	3.0	14.0	600	7.0	
3	1624	4.5	14.0	600	7.0	
4						
5						
6						
7						
8						
9						
10						
Maximum Result			14.0	600	7.0	
Minimum Result			14.0	600	7.0	
Difference			<0.1	<0.1 %	<0.1	

Recovery Rate Data (NA)	Weather Data
Recovery Rate, gpm:	Ambient Temp., °C: 17°
Purge Method:	Percent Overcast: 100%
Initial Static Depth, ft.:	Precipitation: NONE
Final Static Depth, ft.:	Wind Dir., Est. MPH: N - 0-5
Test Time, min.:	Sampling Data
Recovery, ft.:	Samples Collected (Y) N
Recovery, gal.:	SCDS Attached Y (N)

Comments:

Date Completed: 6-13-89

Present On-site: ES/BN/JWW