REMEDIAL INVESTIGATION/FEASIBILITY STUDY

CATERPILLAR, INC.
MAPLETON, ILLINOIS

VOLUME II – APPENDIX A THROUGH I

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APPENDIX A

GEOTECHNICAL SOIL BORINGS

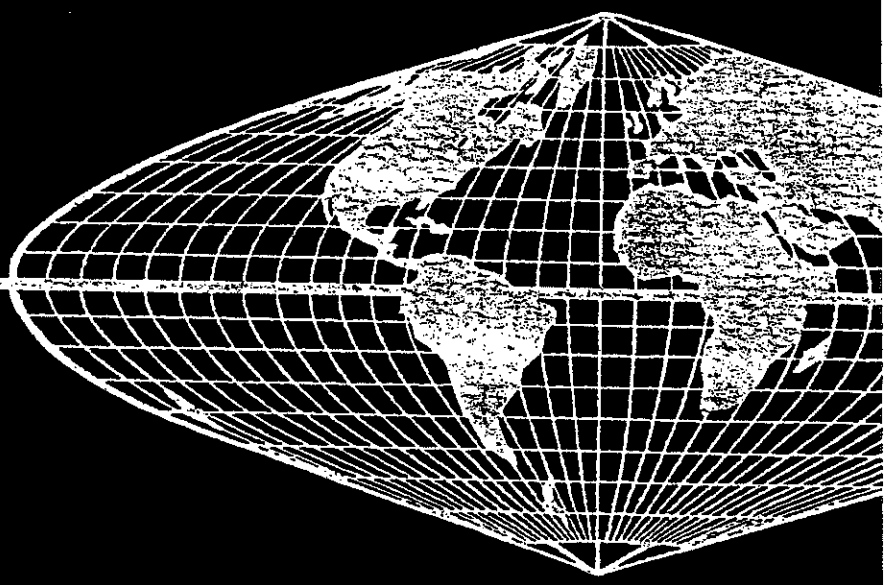
Soils and Foundation Report

NEW FOUNDRY BUILDING

CATERPILLAR TRACTOR COMPANY

Mapleton, Illinois

13307 Client - supplied information



walter e. hanson company

engineers / consultants

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Soils and Foundation Report
NEW FOUNDRY BUILDING
CATERPILLAR TRACTOR COMPANY
Mapleton, Illinois

INTRODUCTION:

This report presents our final foundation recommendations for Building A (Office Building), Building M (Pattern Shop), and Building B (Foundry Building). The recommendations are based on the building locations, column loads, and equipment placement information which we have received to date. Should any basic information be changed significantly from that given in this report, a re-evaluation of the foundation recommendations should be made.

This report does not contain any evaluation of possible borrow sources or fill placement procedures. This is because we have not received any definite information other than hydraulic fill consisting of material dredged from the Illinois River appears to be the most practical method for producing and placing 1.5 million cubic yards of fill at this site.

The 49 sheets attached to this report present the results of our laboratory classification and testing of the soil samples obtained during the boring program, as well as soil profile cross-sections, bedrock elevation tabulations, bedrock cross-sections, bedrock descriptions, and other pertinent data.

GENERAL SUBSOIL CONDITIONS:

The north, east and west portions of the site around the old borrow pit are covered with clays and silts to depths which vary from only 2 or 3 feet to as much as 12 or 13 feet. In general, this soil possesses fair to good strengths.

Below the clays and silts described above, the subsoil consists of sands, gravels and some small boulders. This type of soil is exposed all over the bottom of the old borrow pit.

It extends downward until the underlying shale is reached. This deposit of granular material varies greatly in its natural density from as loose as 2 or 3 blows to as high as 30 or 40 blows per foot as reflected by standard penetration tests.

Gray bedrock underlies the granular deposit. The rock varies from weathered brown and grayshale to sound shale and well cemented fine grained gray sandstone. The elevation at which the bedrock was encountered varied considerably across the site. In general, the bedrock was encountered at deeper elevations as the borings progressed from north to south across the site. Sheets 36 through 38 of 49 give a tabulation of the depth to bedrock at the various boring locations. Sheet 46 shows the boring locations and the elevation at which bedrock was encountered in each boring.

The quality of the bedrock varies considerably across the site. In some boring locations the shale bedrock is very weathered and was classified (by the boring foreman) as compact silt. At other locations the shale and sandstone is relatively unweathered, well cemented and hard. The quality of the bedrock generally increases with increasing depth.

The subsoil conditions in the southwest corner of the building deserve special attention. Apparently, the creek now located some 1400 feet west of the building was located at one time very near this corner of the plant. Several borings in this area found very soft compressible silts, clays and organic material.

GROUND WATER CONDITIONS:

During the period (October 10 to December 8, 1964) when the recent borings were made, the highest ground water level appeared to be about elevation 444.5. During the performance of Borings 63-92 (January 19 - February 5, 1965), the highest elevation at which ground water was encountered was approximately 449. Our first Interim Report (dated January 13, 1965) stated that because of drainage from the bluffs to the north of the site, and possibly also because of variation in the river stages, a rather wide seasonal variation of ground water at the site can be expected.

Due to the probable granular nature of the fill material to be placed at the site, it should be anticipated, at least

OPERATOR LLM & JHO

GROUND SURFAC ELEV.

GROUND WATER ELEV.

GROUND WATER DEPTH

WALTER E. HANSON & CO.

LABORATORY SOIL TEST DATA

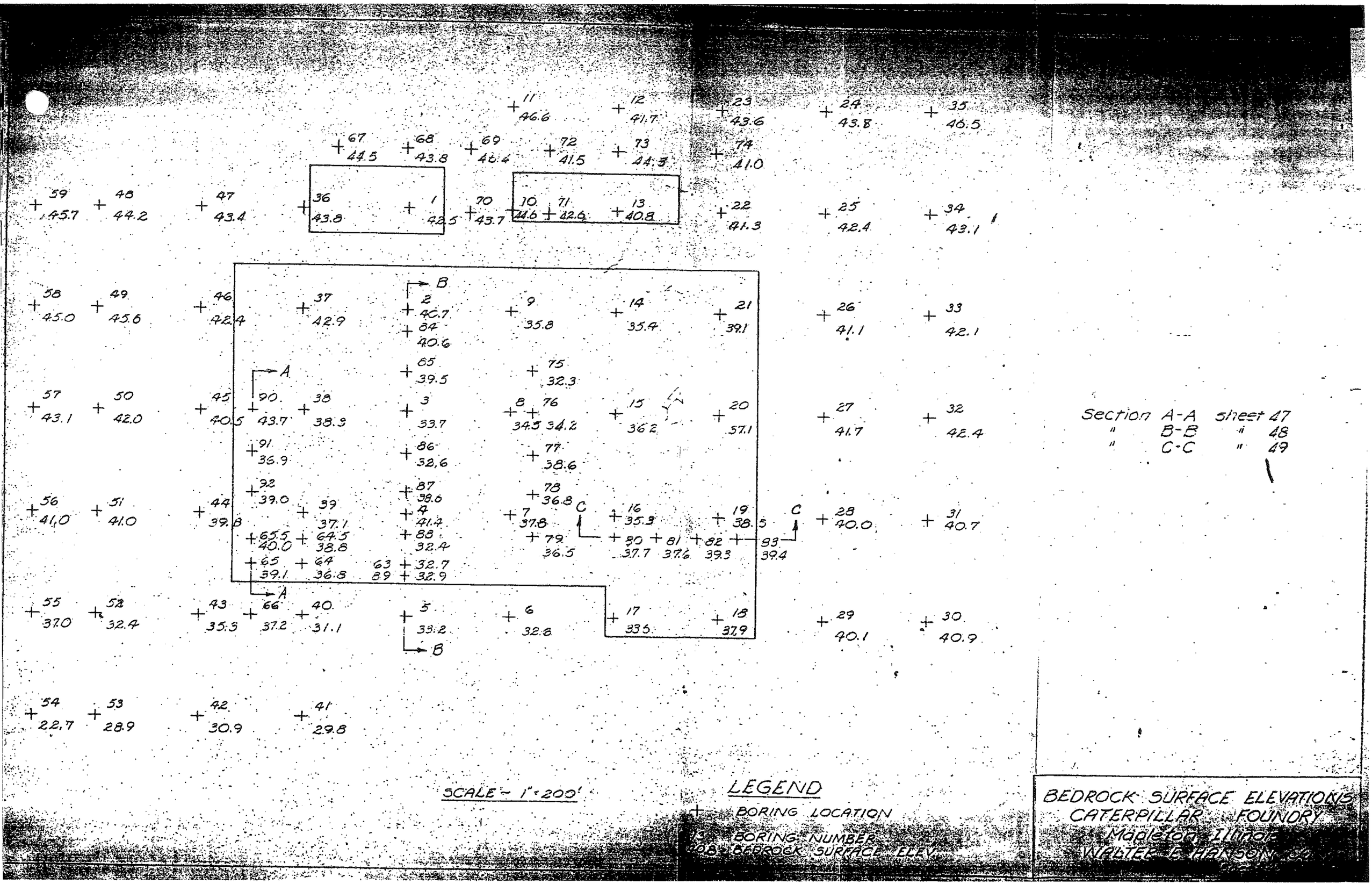
LOCATION Caterpillar Foundry
Peoria, Illinois

STRENGTH = UNCONFINED COMPR E STRENGTH IN TONS PER SQUARE FOOT.

N = BLOWS TO DRIVE SAMPLER 12" WITH 140 POUND WEIGHT FALLING 30".

W = NATURAL WATER CONTENT (% DRY WEIGHT)

BOR.	SAMP.	DEPTH	ELEV.	N	STRENGTH TEST	STRENGTH EST.	STRENGTH PEN.	W	DESCRIPTION
	Ground Surface Elev = 454.7								
A	1	2'-6"	52.2	16				10	Brown silt / some clay
	2	5'-0"	49.7	12			4.5+	19	" clayey silt
	3	7'-6"	47.2	9				15	" " " c. sand & f. gravel
	4	9'-9"	44.9	" / 9				15	Yel. brn. silt / some clay & rock frags.
	5	9'-10"	44.8	60 / 1				–	Rock. frags.
	6	13'-4"	41.4	100 / 3				7	Gra. soft shale
	7	14'-6"	40.2	100 /				7	" " "
	8	19'-1"	35.6	100 / 1				6	" " "
	Ground Surface Elev = 454.7								
A	1-1	1'-0"	53.7				1.0	20	Brn. v.f. sa. silt (tr clay) / small root holes - fissured
	1-2	1'-6"	53.2		0.74	Sp	1.5 / 0.7	17	" " " " " / " " " "
	1-3	2'-0"	52.7		0.74	Sp	1.0	17	" " " " " / " " " "
	1-4	2'-6"	52.2					–	Core
	Ground Surface Elev = 447.3								
2	1	2'-6"	44.8	13				10	Brn. silty m.-c. sand / some f. gravel & stones
	2	5'-0"	42.3	4				–	No sample
	3	6'-7"	40.7	60 / 1				–	" "
	4	8'-8"	38.6	60 / 2				7	Gra. soft shale
	Ground Surface Elev = 445.2								
3	1	2'-6"	42.7	7				10	Brn. c. sand & f. gravel (tr. silt)
	2	5'-0"	40.2	10				10	" " " & f.-m. " (" ")
	3	7'-6"	37.7	11				11	" " " & " " " (" ")
	4	10'-0"	35.2	5				9	" " " & f. " (" ")
	5	11'-9"	33.4	60 / 3			4.5+	9	Lt. gra. brn. v.f. sandy silt - cmtd.
	Ground Surface Elev = 445.2								
4	1	2'-6"	42.7	7				11	Brn. c. sand & f. gravel (tr. silt)
	2	4'-6"	40.7	60 / 6			4.5+	8	Gra. clayey silt - cmtd.
	3	7'-1"	38.1	60 / 7	9.21	Sp.	4.5+	7	" " " - "



SCALE ~ 1" = 200'

Section A-A Sheet 47
" B-B " 48
" C-C " 49

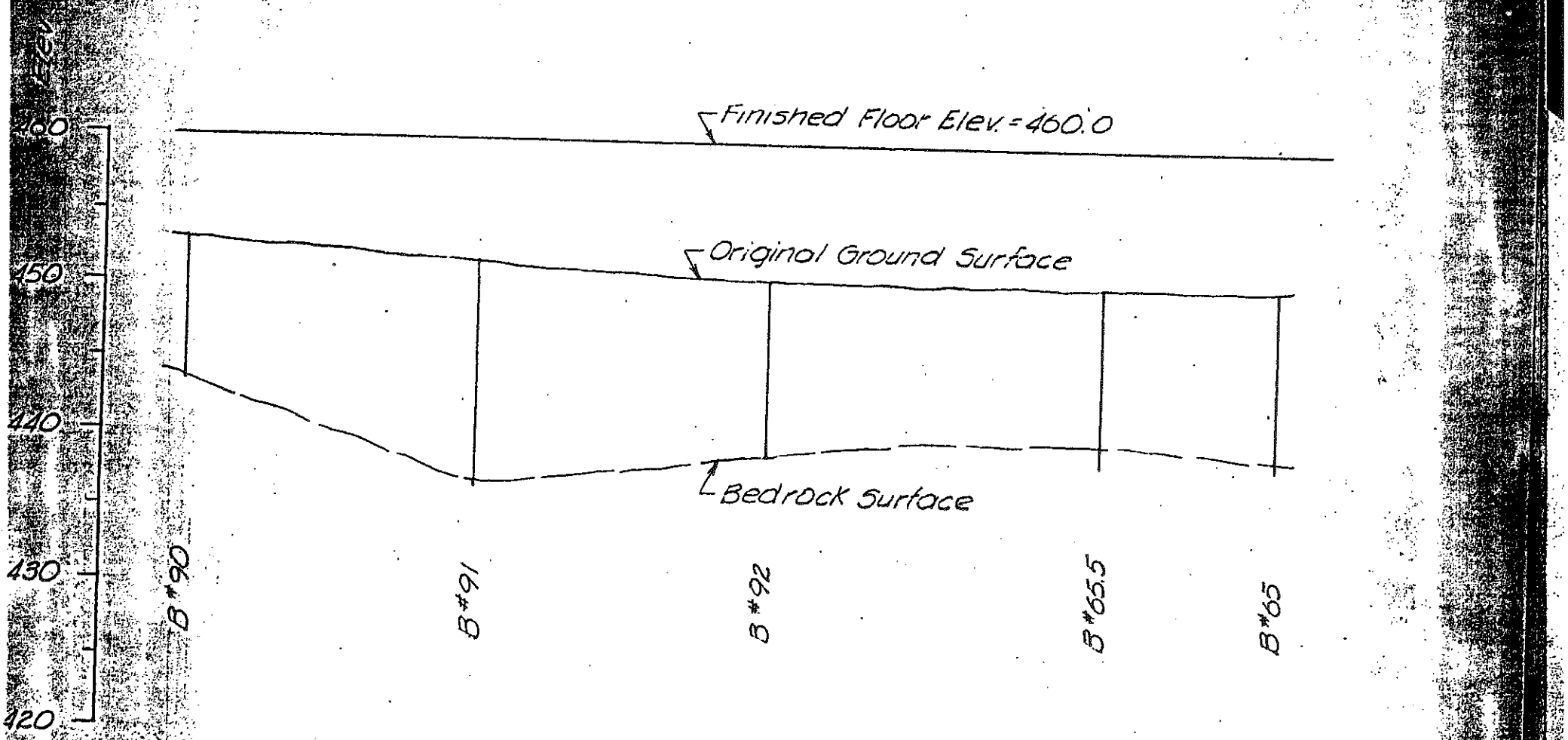
LEGEND

+ BORING LOCATION

13 BORING NUMBER

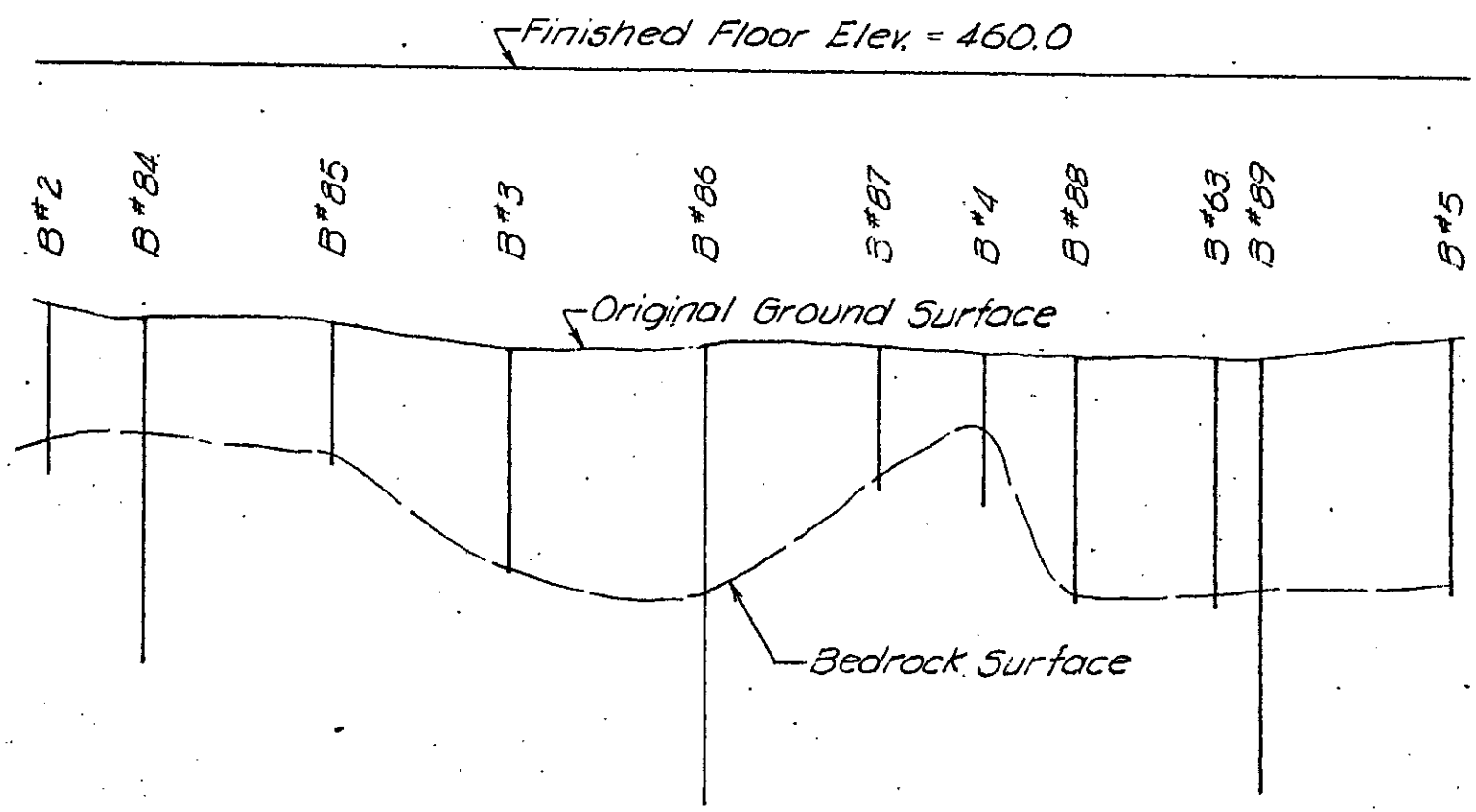
708 BEDROCK SURFACE ELEV.

BEDROCK SURFACE ELEVATIONS
CATERPILLAR FOUNDRY
Mapleton, Illinois
WALTER E. HANSON CO.



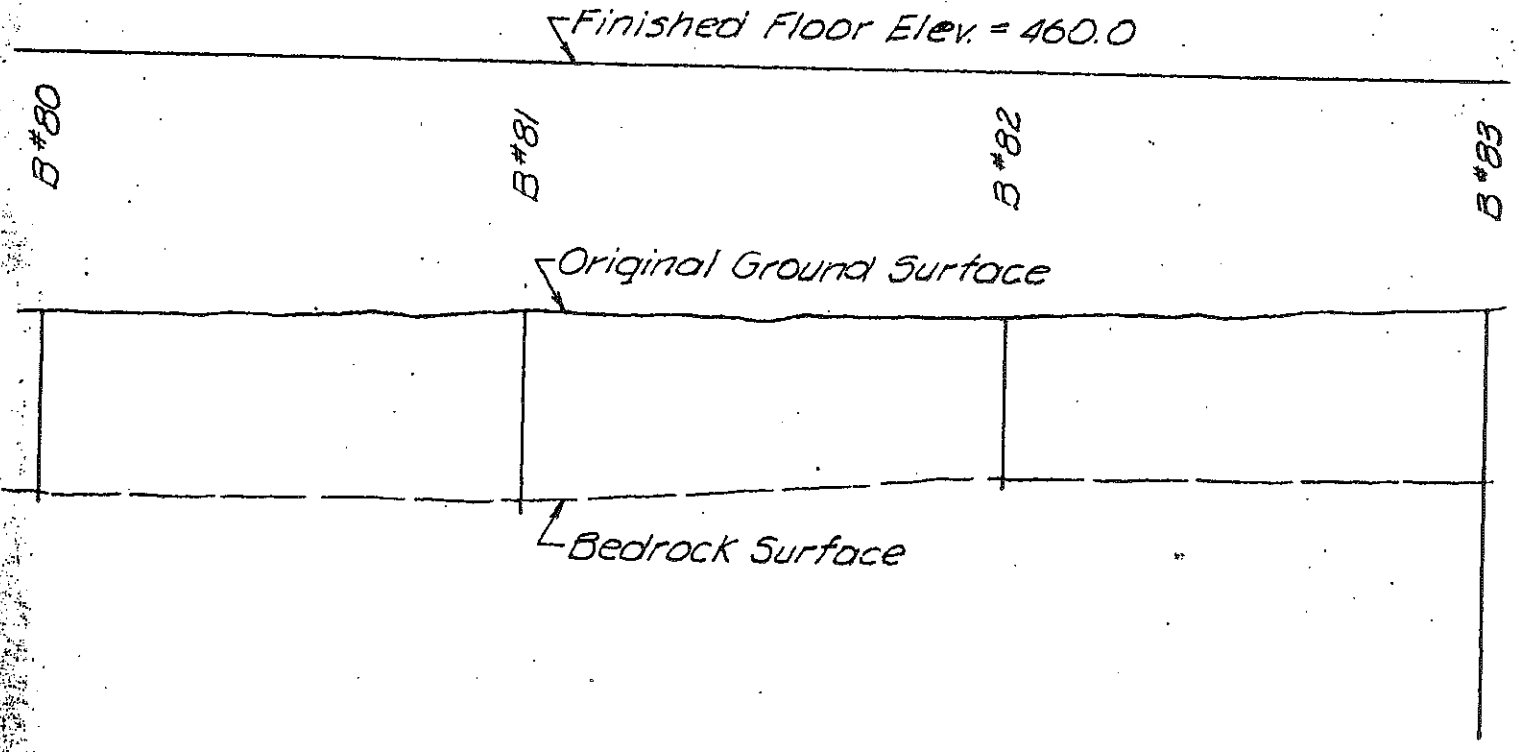
scale:
V - 1" = 10'
H - 1" = 50'

BEDROCK CROSS SECTION
CATERPILLAR FOUNDRY
Mapleton, Illinois
WALTER E. HANSON CO.



scale:
V - 1" = 10'
H - 1" = 100'

BEDROCK CROSS SECTION
CATERPILLAR FOUNDRY
Mapleton, Illinois



scale:
V - 1" = 10'
H - 1" = 40'

BEDROCK CROSS SECTION
CATERPILLAR FOUNDRY
Mapleton, Illinois

F-345-C-50 PADS 1-62

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION
RAYMOND INTERNATIONAL INC.
140 CEDAR STREET - NEW YORK 6, N. Y.

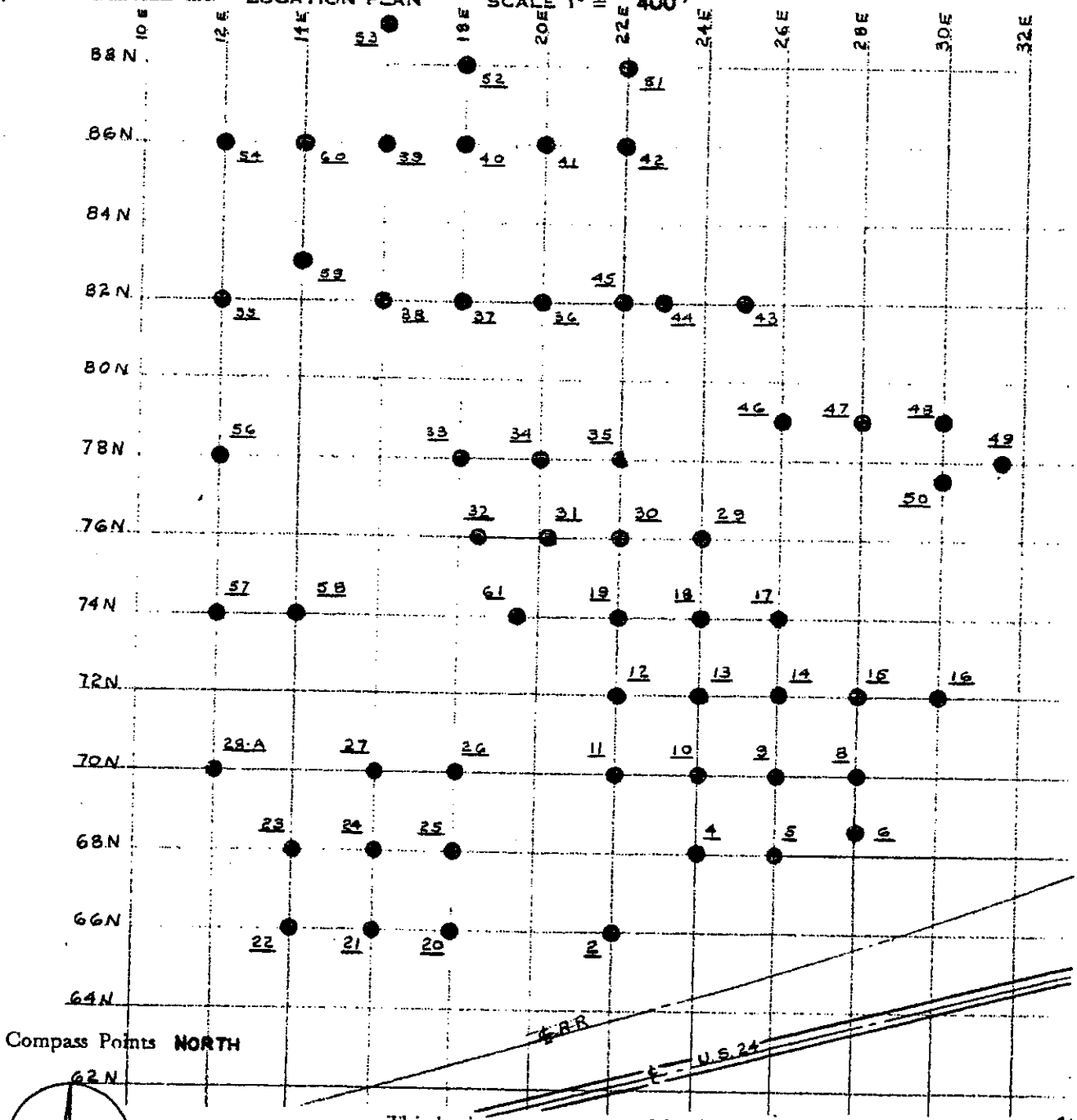
EXHIBIT W
Complete Set

To CATERPILLAR TRACTOR CO., MANUFACTURING GENERAL OFFICE Date 22 APRIL 1965 19 65

Address PLANT ENGINEERING, PEORIA, ILLINOIS ATTENTION: MR. PAUL ZUMWALT

We have completed the following borings for you at CATERPILLAR TRACTOR COMPANY, BORROW PIT AREA, MAPLETON, ILLINOIS with results shown below. In accordance with your instructions, we have sent labelled samples of the strata encountered To Address Via under date of Raymond Concrete Pile Division Raymond International Inc.

LOCATION PLAN SCALE 1" = 400'



This boring report prepared in the CHICAGO OFFICE of the Raymond Concrete Pile Division RAYMOND INTERNATIONAL INC.

By WMO

Job No. CB-3450-C-B

Sheet 1 of 20

TEST BORING REPORT

RAYMOND

CONCRETE PILE DIVISION

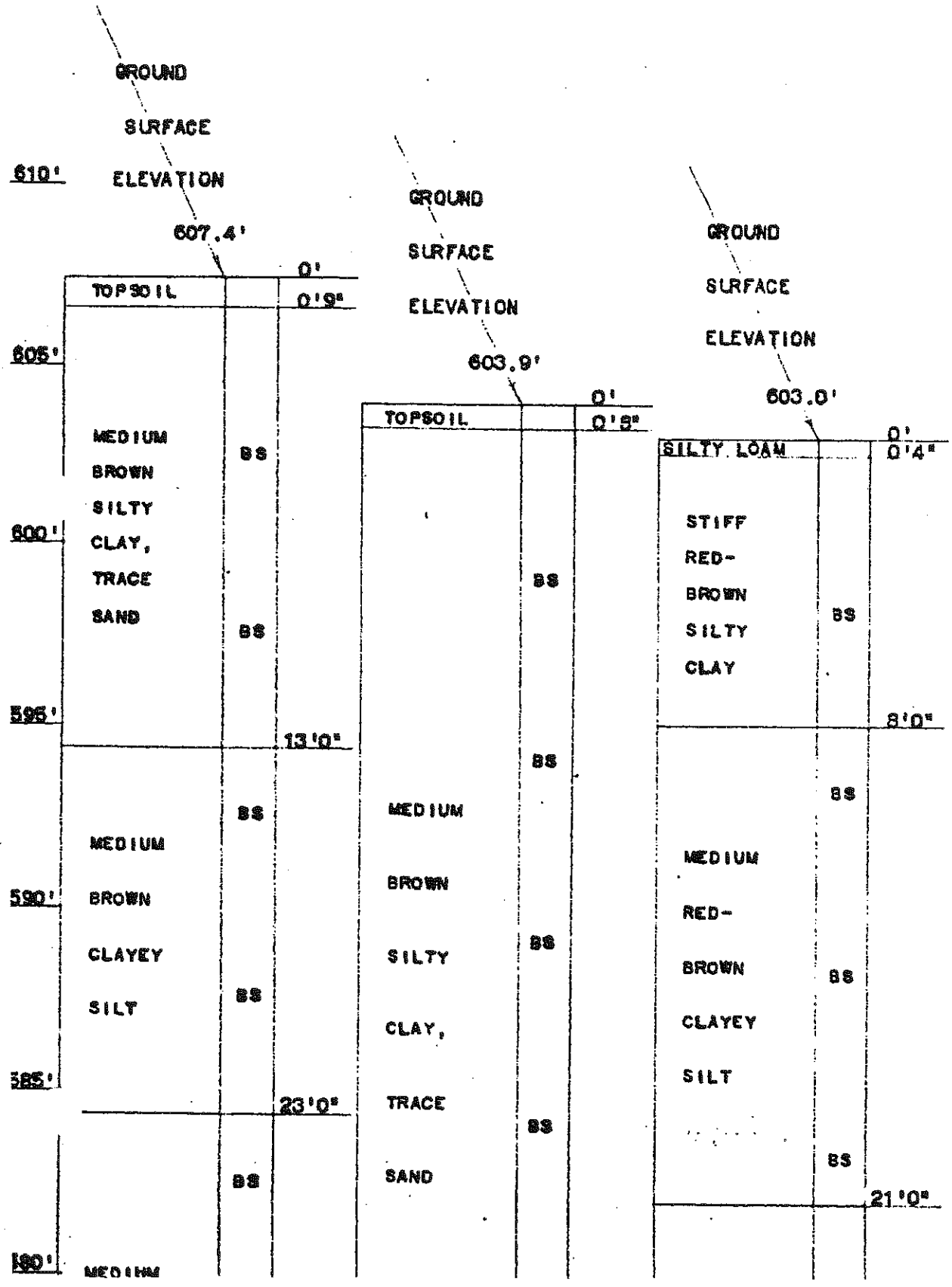
RAYMOND INTERNATIONAL INC.

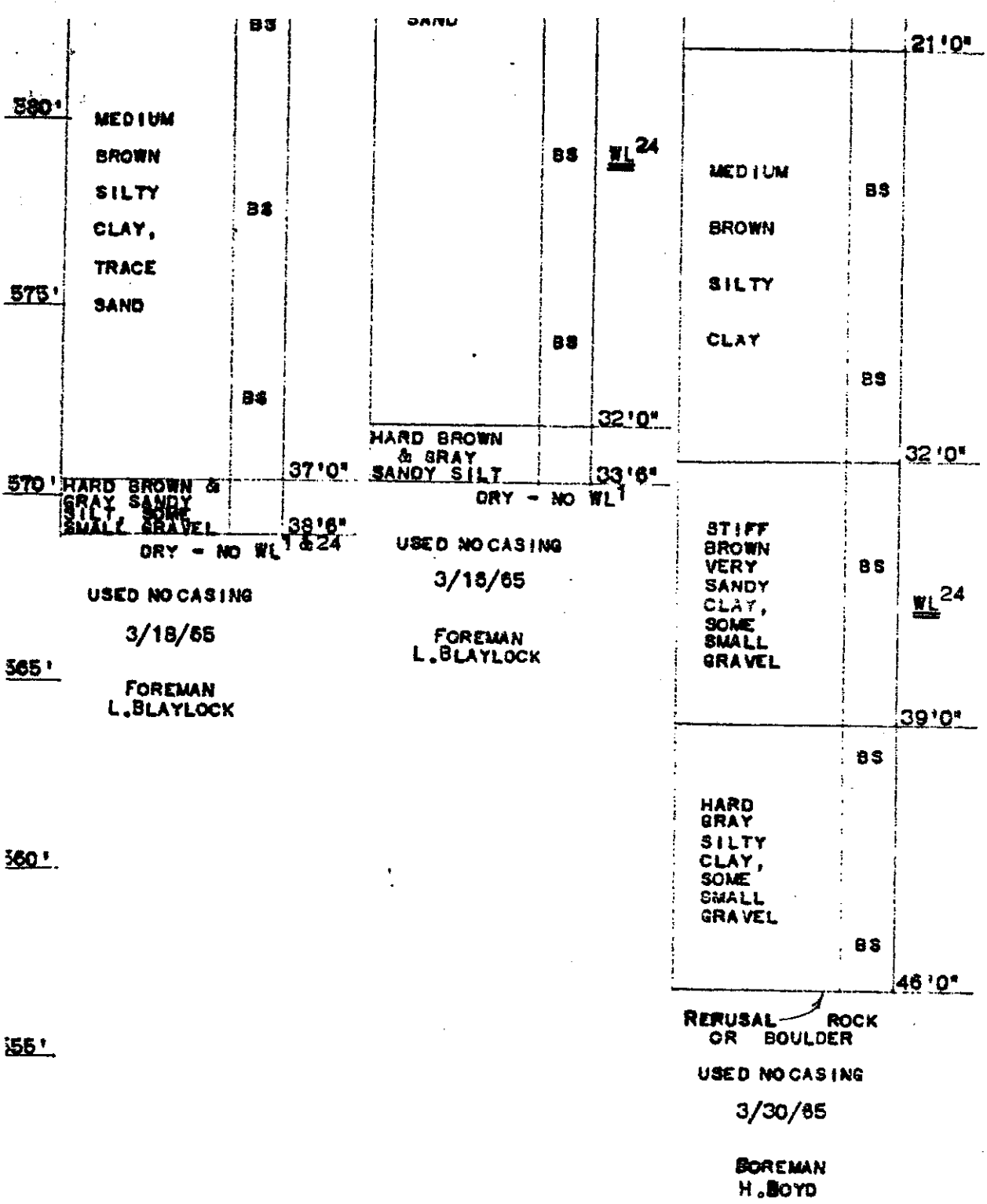
To CATERPILLAR TRACTOR COMPANY Date 6 APRIL 1965

Location of Borings CATERPILLAR TRACTOR COMPANY, BORROW PIT AREA, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1"= 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

Boring No. 51	Boring No. 52	Boring No. 53	Boring No.
88+00 N & 22+00 E	88+00 N & 18+00 E	89+00 N & 16+00 E	





BS = BOTTOM OF BAG SAMPLE

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows [illegible]

Total Footage 118'0"

Foreman AS NOTED

Job No. CS-3450-C-6

Classification by FOREMAN

140 CEDAR STREET NEW YORK 6, N.Y.

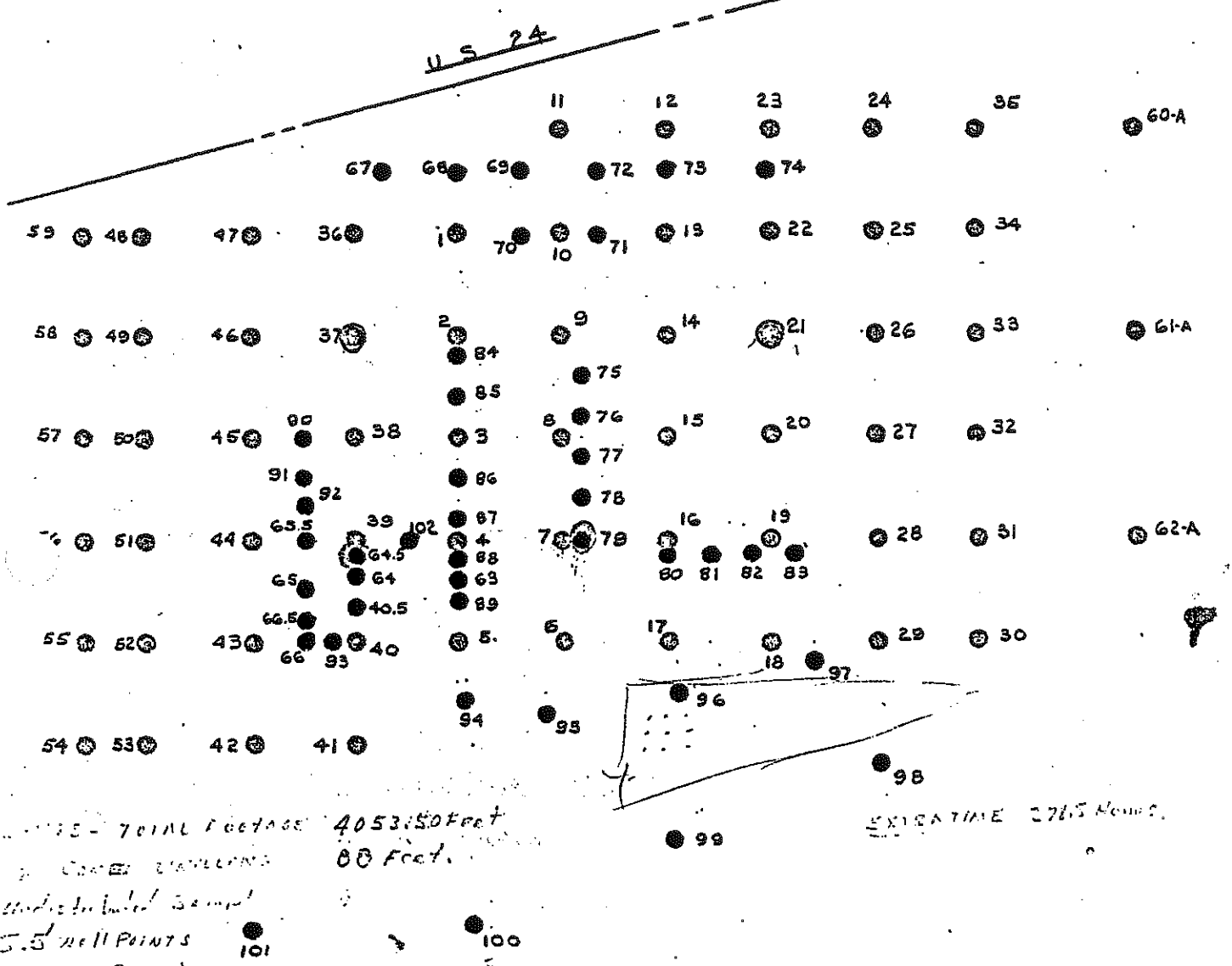
DEPT.	ATTEN.

CATERPILLAR TRACTOR CO., MANUFACTURING GENERAL OFFICE Date 1 MAY 1965

Address PLANT ENGINEERING, PEORIA, ILLINOIS ATTENTION: MR. PAUL ZUMWALT

We have completed the following borings for you at CATERPILLAR TRACTOR COMPANY, ADDITIONAL BORINGS FOR FOUNDRY EXPLORATION, MAPLETON, ILLINOIS with results shown below. In accordance with your instructions, we have sent labelled samples of the strata encountered To _____ Address _____ Via _____ under date of _____ Raymond Concrete Pile Division

Raymond International Inc. LOCATION PLAN SCALE 1" = 400'



EXTRA TIME 276.5 Hours.

TOTAL FOOTAGE 4053.50 Feet

88 Feet.

55.5 well Points

13 well Points

○	ORIGINAL BORINGS COMPLETED 12/29/64 RAYMOND JOB NUMBER CB-3450-C
●	BORINGS COVERED ON THIS REPORT

Compass Points NORTH

This boring report prepared in the CHICAGO OFFICE of the Raymond Concrete Pile Division

RAYMOND INTERNATIONAL INC.

By WMO

Job No. CB-3450-C(A)

Sheet 1 of 20

[illegible] indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings [illegible] of the soil strata, variations of rainfall, site [illegible] base levels.

[illegible] indicate number of blows required to drive

Total Footage 4810.5

Foreman HERSCHEL BOYD

Classification [illegible]

Sheet 2

To CATERPILLAR TRACTOR COMPANY Date DECEMBER 29, 1964

Address AFO, GENERAL OFFICE PLANT ENGINEERING, PEORIA, ILLINOIS

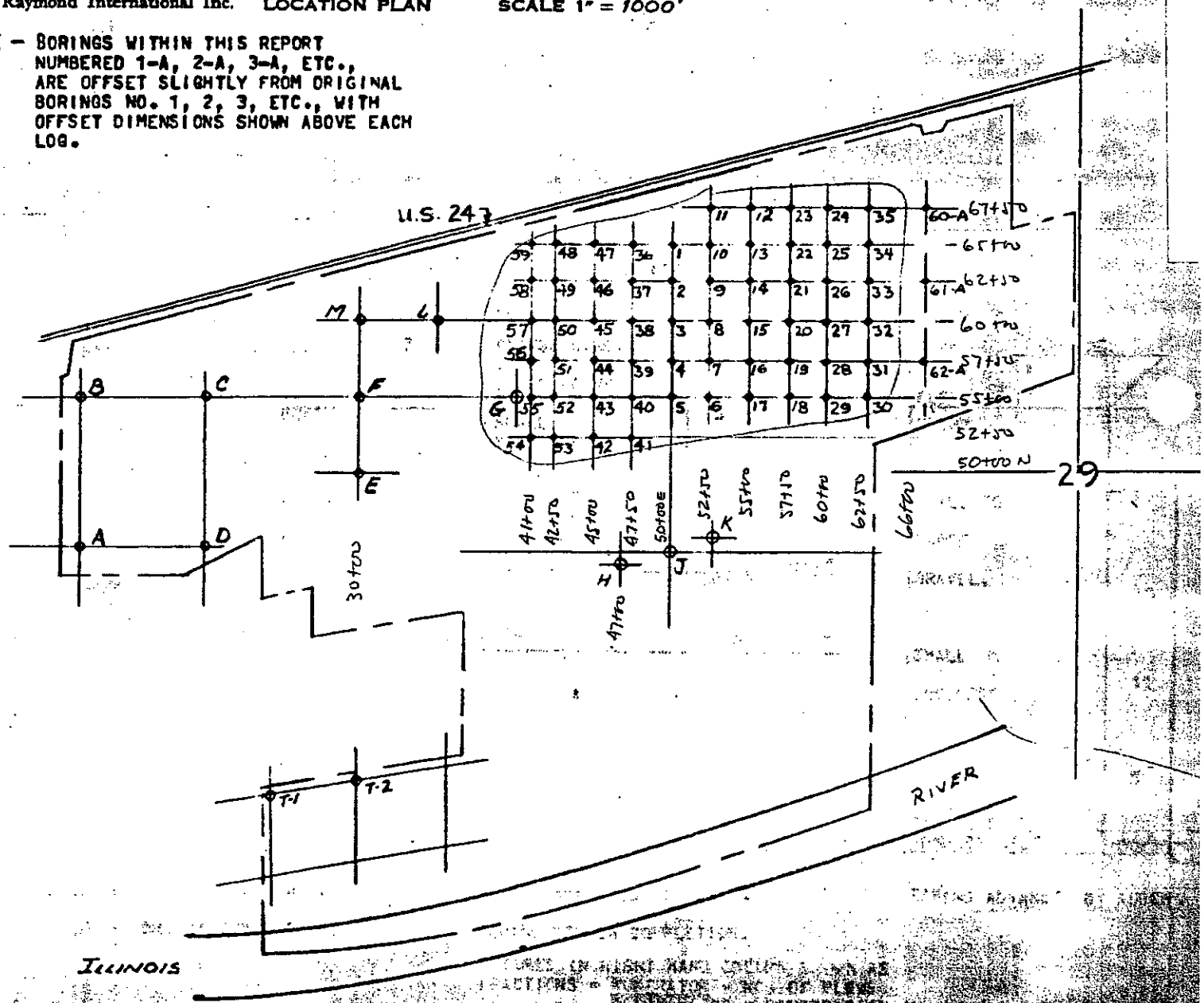
We have completed the following borings for you at NAPELTON, ILLINOIS

with results shown below. In accordance with your instructions, we have sent labelled samples of the strata encountered To YOUR LAB Address

Via under date of Raymond Concrete Pile Divi

Raymond International Inc. LOCATION PLAN SCALE 1" = 1000'

NOTE – BORINGS WITHIN THIS REPORT NUMBERED 1-A, 2-A, 3-A, ETC., ARE OFFSET SLIGHTLY FROM ORIGINAL BORINGS NO. 1, 2, 3, ETC., WITH OFFSET DIMENSIONS SHOWN ABOVE EACH LOG.



This boring report prepared in the

By

ST. LOUIS, MO. OFFICE

Job No

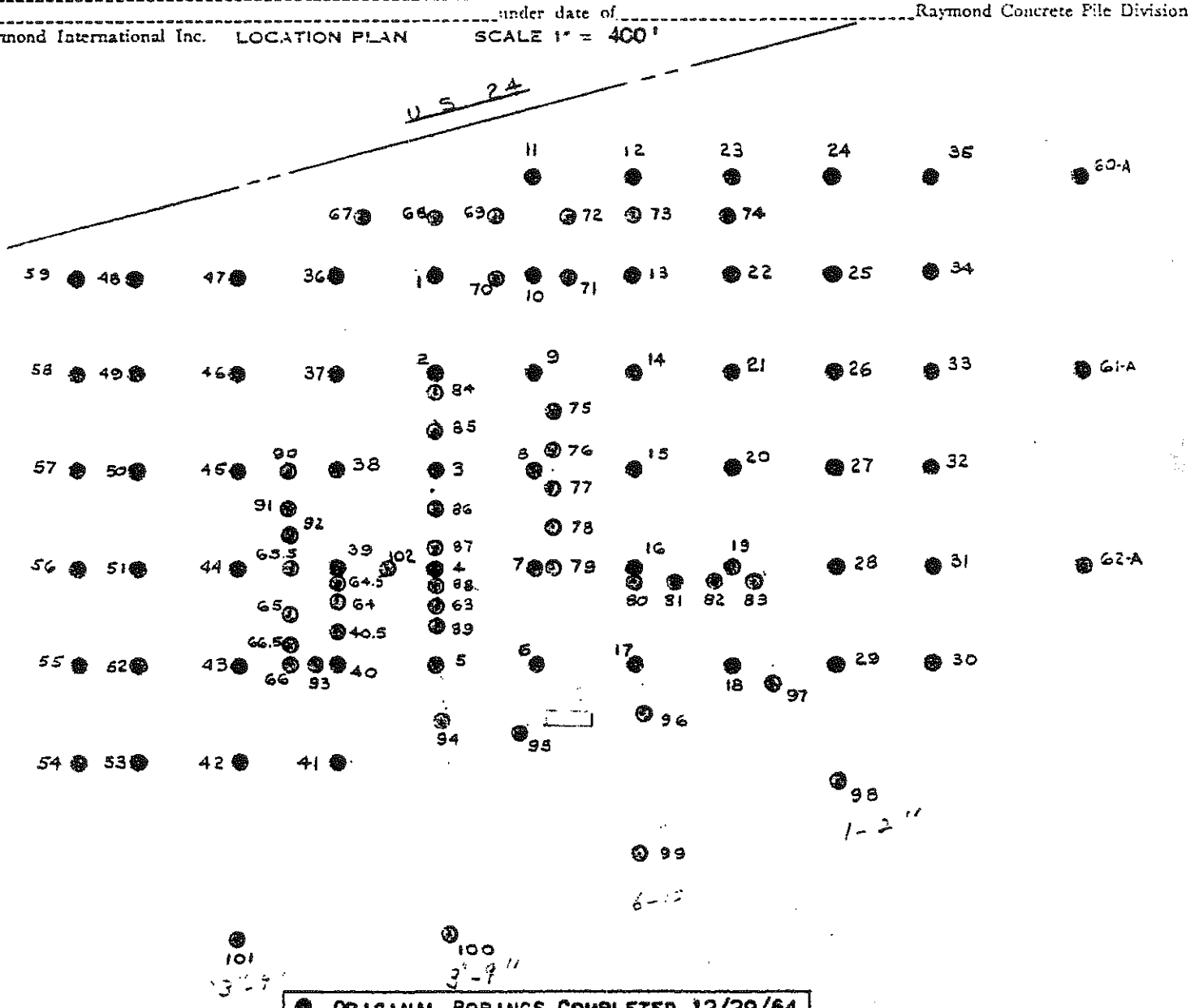
F-348-C-50 PADS 1-62

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION
RAYMOND INTERNATIONAL INC.
140 CEDAR STREET - NEW YORK 6, N. Y.

To CATERPILLAR TRACTOR CO., MANUFACTURING GENERAL OFFICE Date 1 MAY 19 65

Address PLANT ENGINEERING, PEORIA, ILLINOIS ATTENTION: MR. PAUL ZUMWALT

We have completed the following borings for you at CATERPILLAR TRACTOR COMPANY, ADDITIONAL BORINGS FOR FOUNDRY EXPLORATION, MAPLETON, ILLINOIS
with results shown below. In accordance with your instructions, we have sent labelled samples of the strata encountered
To _____ Address _____
Via _____ under date of _____ Raymond Concrete Pile Division
Raymond International Inc. LOCATION PLAN SCALE 1" = 400'



● ORIGINAL BORINGS COMPLETED 12/29/64 RAYMOND JOB NUMBER CB-3450-C
⊙ BORINGS COVERED ON THIS REPORT

Compass Points
NORTH

This boring report prepared in the CHICAGO OFFICE of the Raymond Concrete Pile Division
RAYMOND INTERNATIONAL INC.

By WMO
Job No CB-3450-C(A)
Sheet 1 of 20

844-2—100 Pads—10-58

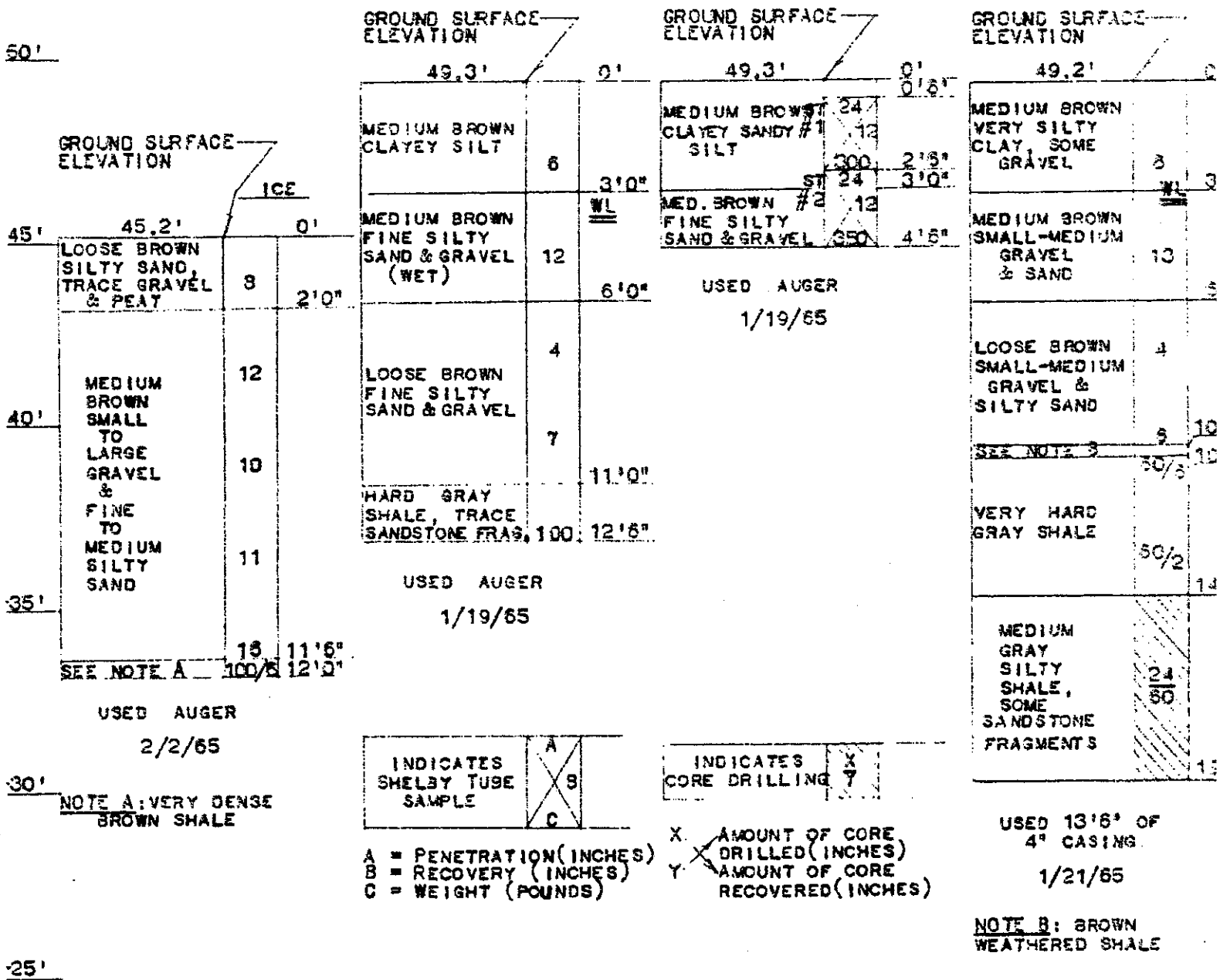
TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC

To CATERPILLAR TRACTOR COMPANY Date 6 FEBRUARY 1965 195 Job No. CB-3450

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.



Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 48'0"

Foreman HERSCHEL BOYD

Classification by FOREMAN

Sheet 2 of 13

344-3c-100 Pads—10-56

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

CATERPILLAR TRACTOR COMPANY Date 6 FEBRUARY 1965 195 Job No. 63-3450-C(A)

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 65

GROUND SURFACE — ELEVATION 50.3'

50'	MEDIUM RED-BROWN CLAYEY SANDY SILT, SOME GRAVEL	6	0'
			3'6" WL
45'	MEDIUM BROWN SILTY SAND & GRAVEL	14	
		12	8'0"
	LOOSE BROWN SILTY SAND & GRAVEL	4	
40'			11'3"
	SEE NOTE C		11'6"
	SEE NOTE D	60/4	12'0"

USED AUGER
1/19/65

35'

NOTE C: VERY HARD BROWN SHALE

NOTE D: VERY HARD GRAY SHALE, TRACE SANDSTONE

No. 65-A

THIS BORING OFF-SET 1'0" NORTH OF B-65

GROUND SURFACE — ELEVATION 50.3'

			0'
	MED. BROWN CLAYEY SANDY SILT, SOME GRAVEL	ST #1 24 / 6	0'5"
		300	2'6"
	MEDIUM BROWN SILTY SAND & GRAVEL	ST #2 24 / 8	3'6"
		300	4'6"

USED AUGER
1/19/65

No. 65.5

GROUND SURFACE — ELEVATION 50.5'

	BROWN SILTY LOAM		1'0"
	MEDIUM BROWN SILTY CLAY, SOME GRAVEL	7	2'0" WL
	MEDIUM BROWN FINE SILTY SAND & GRAVEL (WET)	13	6'0"
	LOOSE BROWN FINE SILTY SAND & GRAVEL (WET)	7	9'6"
	SEE NOTE E	35	10'6"
	VERY HARD GRAY SHALE	60/6	12'0"

USED AUGER
1/19/65

NOTE E: HARD BROWN & GRAY SHALE, TRACE SANDSTONE

INDICATES SHELBY TUBE SAMPLE (A / B / C)

A = PENETRATION (INCHES)
B = RECOVERY (INCHES)
C = WEIGHT (POUNDS)

No. 65.5-A

THIS BORING OFF-SET 1'0" NORTH OF B-65.5

GROUND SURFACE — ELEVATION 50.5'

			0'
	BROWN SILTY LOAM		1'0"
	MED. BROWN SILTY CLAY, SOME GRAVEL	ST #1 24 / 12	
		350	3'0"

USED AUGER
1/19/65

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 31'6"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 3 of 13

344-S—100 Pads—10-64

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

To CATERPILLAR TRACTOR COMPANY Date 6 FEBRUARY 1965 195 Job No CB-3450

Location of Borings CATERPILLAR TRACTOR Co., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 66

GROUND SURFACE ELEVATION 48.7' 0'

MEDIUM DARK BROWN CLAYEY SILT, TRACE ORGANIC MAT'L	7	WL 3'0"
STIFF RED-BROWN SANDY SILTY CLAY, SOME GRAVEL	8	6'0"
LOOSE BROWN FINE SILTY SAND GRAVEL (WET)	3	
	4	
SEE NOTE F	60/6	11'6" 12'0"

USED AUGER

1/19/65

NOTE F: VERY HARD BROWN & GRAY SHALE, TRACE SANDSTONE

No. 66-A

THIS BORING OFF-SET 1'0" NORTH OF B-66

GROUND SURFACE ELEVATION 48.7' 0'

MEDIUM DARK BROWN CLAYEY SILT	ST #1	24 15	0'5"
		350	2'6"
STIFF RED-BROWN SANDY SILTY CLAY, SOME GRAVEL	ST #2	24 8	3'0"
		400	4'6"
		LOST ST	6'0"

USED AUGER

1/19/65

No. 67

GROUND SURFACE ELEVATION 55.0' 0'

STIFF BROWN CLAYEY SILT, SOME GRAVEL	8	
	10	6'0"
MEDIUM BROWN MIXTURE CLAY, SILT & SAND, TRACE GRAVEL	6	WL 3'0"
LOOSE BROWN SILTY SAND & GRAVEL (WET)	5	9'9"
SEE NOTE G		10'6"
SEE NOTE H	60/6	12'0"

USED AUGER

1/20/65

NOTE G: VERY HARD BROWN SHALE

NOTE H: VERY HARD GRAY SHALE, SOME SANDSTONE FRAGMENTS

No. 67-A

THIS BORING OFF-SET 1'0" NORTH OF B-67

GROUND SURFACE ELEVATION 55.0' 0'

			1'
STIFF BROWN CLAYEY SILT, SOME GRAVEL	ST #1	24 12	
		500	3'
	ST #2	24 11	
		400	5'
MIXTURE OF SILT, CLAY & SAND	ST #3	24 13	6'
		400	7'

USED AUGER

1/20/65

INDICATES SHELBY TUBE SAMPLE (A / B / C)

A = PENETRATION (INCHES)
B = RECOVERY (INCHES)
C = WEIGHT (POUNDS)

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 37'6"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 14 of 13

344-3—100 Pads—10-56

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

CATERPILLAR TRACTOR COMPANY Date 6 FEBRUARY 1965 195 Job No 63-3450-C(A)

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 68

GROUND SURFACE ELEVATION 55.3' / 0'

5'	STIFF DARK BROWN CLAYEY SILT	13	3'0"
	VERY STIFF BROWN CLAYEY SILT, TRACE GRAVEL	20	6'0"
0'	LOOSE BROWN MIXTURE SAND, SILT & CLAY	4	WL 8'0"
	LOOSE BROWN SILTY SAND & GRAVEL	4	11'6"
5'	SEE NOTE 1	80/6	12'0"

USED AUGER

1/20/65

0'

NOTE 1: VERY HARD BROWN & GRAY SHALE, SOME SANDSTONE FRAGMENTS

No. 68-A

THIS BORING OFF-SET 1'0" EAST OF B-68

GROUND SURFACE ELEVATION 55.3' / 0'

	STIFF TO VERY STIFF BROWN CLAYEY SILT		6'0"
	LOOSE BROWN MIXTURE SAND, SILT & CLAY	ST #1 24/10 400	8'0"

USED AUGER

1/20/65

No. 69

GROUND SURFACE ELEVATION 54.2' / 0'

	STIFF DARK BROWN CLAYEY SILT, TRACE GRAVEL	12	2'6"
	STIFF BROWN SANDY CLAYEY SILT, SOME GRAVEL	9	WL 5'0"
	SOFT BROWN VERY SANDY SILTY CLAY, SOME GRAVEL	3	7'9"
	VERY HARD BROWN & GRAY SHALE	60/3	9'0"

USED AUGER

1/20/65

No. 69-A

THIS BORING OFF-SET 1'0" NORTH OF B-69

GROUND SURFACE ELEVATION 54.2' / 0'

	STIFF DARK BROWN SILTY CLAY		2'
	STIFF BROWN SANDY CLAYEY SILT, SOME GRAVEL	ST #1 24/8 500; ST #2 24/8 400	4' 6'

USED AUGER

1/20/65

INDICATES SHELBY TUBE SAMPLE (A / B / C)

A = PENETRATION (INCHES)
B = RECOVERY (INCHES)
C = WEIGHT (POUNDS)

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 35'0"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 5 of 13

144-5—100 Pads—10-64

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

To CATERPILLAR TRACTOR COMPANY Date 8 FEBRUARY 1965 195 Job No 63-0450-

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 70

GROUND SURFACE — ELEVATION 54.1'

DARK BROWN SILT		0' – 1'0"
STIFF BROWN SILTY CLAY, TRACE GRAVEL	10	1'0" – 5'0"
	14	
MEDIUM BROWN MIXTURE CLAY, SAND & GRAVEL	8	5'0" – 8'0"
	WL 8	
LOOSE BROWN SILTY SAND & GRAVEL	2	8'0" – 10'3"
VERY HARD GRAY SHALE, TRACE SANDSTONE FRAGMENTS	89/5"	10'3" – 12'0"

USED AUGER
1/21/65

No. 70-A

THIS BORING OFF-SET 1'0" NORTH OF B-70

GROUND SURFACE — ELEVATION 54.1'

DARK BROWN SILT		0' – 1'0"
STIFF BROWN SILTY CLAY, TRACE GRAVEL	ST #1 24 / 9	1'0" – 3'0"
	600	
	ST #2 24 / 12	3'0" – 5'0"
	650	
	ST #3 24 / 7	5'0" – 6'0"
MEDIUM BROWN MIXTURE CLAY, SAND & GRAVEL	300	6'0" – 7'0"
	ST #4 16 / 16	
	900	7'0" – 8'4"

USED AUGER
1/21/65

No. 71

GROUND SURFACE — ELEVATION 54.0'

STIFF BROWN CLAYEY SILT		0' – 2'0"
VERY STIFF BROWN SILTY CLAY, TRACE GRAVEL	10	2'0" – 5'5"
	16	
LOOSE BROWN MIXTURE CLAY, SAND & GRAVEL	2	5'5" – 8'0"
	WL 8'0"	
LOOSE BROWN SMALL-MEDIUM GRAVEL, SOME SAND & CLAY (WET)	2	8'0" – 11'3"
SEE NOTE J	65/4"	11'3" – 12'0"

USED AUGER
1/21/65

NOTE J: VERY HARD BROWN & GRAY SHALE

No. 71-A

THIS BORING OFF-SET 1'0" NORTH OF B-71

GROUND SURFACE — ELEVATION 54.0'

STIFF BROWN CLAYEY SILT		0' – 2'
VERY STIFF BROWN SILTY CLAY		2' – 5'5"
	ST #1 24 / 9	
LOOSE BROWN MIXTURE CLAY, SAND & GRAVEL	ST #2 24 / 0	5'5" – 8'0"

USED AUGER
1/21/65

INDICATES SHELBY TUBE SAMPLE — A / B / C

A = PENETRATION (INCHES)
B = RECOVERY (INCHES)
C = WEIGHT (POUNDS)

Classifications are made by visual inspection.

Water levels WL. Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 41'4"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 6 of 13

844-2—1/0 Pads—10-64

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

CATERPILLAR TRACTOR COMPANY Date 6 FEBRUARY 1965 195 Job No 68-3450-C(A)

...ation of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 72

GROUND SURFACE ELEVATION 54.0'

		0'
STIFF DARK BROWN CLAYEY SILT	11	3'0"
STIFF BROWN SILTY CLAY, TRACE GRAVEL	13	
	WL	6'0"
LOOSE BROWN MIXTURE SAND, CLAY, SILT & GRAVEL (WET)	5	8'0"
LOOSE BROWN FINE SILTY SAND & SMALL GRAVEL (WET)	1	
	5	12'6"
SEE NOTE K		13'0"
VERY HARD GRAY SHALE	60/1	14'1"

USED AUGER
1/20/65

NOTE K: VERY HARD BROWN SHALE

No. 73

GROUND SURFACE ELEVATION 54.3'

		0'
STIFF DARK BROWN CLAYEY SILT, TRACE GRAVEL	13	3'0"
STIFF BROWN SILTY CLAY	8	6'0"
MEDIUM BROWN MIXTURE SAND, CLAY, SILT & GRAVEL BLACK COAL	6	WL 8'0" 8'6"
MEDIUM BROWN SILTY SAND & GRAVEL	10	10'0"
VERY HARD BROWN SHALE	60/3	11'9"

USED AUGER
1/20/65

No. 74

GROUND SURFACE ELEVATION 54.0'

		0'
STIFF DARK BROWN CLAYEY SANDY SILT	10	2'6"
VERY STIFF BROWN SILTY CLAY, SOME GRAVEL	15	5'6"
SEE NOTE L	3	WL 7'6"
LOOSE BROWN SMALL-MEDIUM GRAVEL WITH FINE SILTY SAND (WET)	3	
	4	13'0"
VERY HARD GRAY SHALE	60/2	14'2"

USED AUGER
1/20/65

NOTE L: LOOSE BROWN MIXTURE GRAVEL, SAND & SILT, TRACE CLAY (DRY)

No. 74-A

THIS BORING OFF-SET 1'0" NORTH OF B-74

GROUND SURFACE ELEVATION 54.0'

		0'
STIFF DARK BROWN CLAYEY SILT		2'6"
VERY STIFF BROWN CLAYEY SILT, SOME GRAVEL		5'6"
LOOSE BROWN MIXTURE GRAVEL, LOST SAND & SILT, ST TRACE CLAY		7'6"

USED AUGER
1/20/65

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 47'6"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 7 of 13

344-S—100 Pads—10-64

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

To CATERPILLAR TRACTOR COMPANY Date 20 FEBRUARY 1965 Job No. 63-0450

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 75

GROUND SURFACE ELEVATION 47.8'

		WL	
STIFF BROWN VERY SANDY SILT, SOME GRAVEL	11		3'0"
LOOSE BROWN SMALL TO MEDIUM GRAVEL & SAND	5		
	5		
	8		11'0"
MEDIUM BROWN SMALL-LARGE GRAVEL, SOME SILTY SAND	15		
	24		
SEE NOTE M	60/3"		15'5" 16'0" LOST
HARD GRAY SHALE, SOME SANDSTONE	52/60		
			21'0"
HARD GRAY SHALE, SOME HARD SANDSTONE	48/60		
			26'0"

USED 16'0" OF 3" CASING

1/28 & 2/5/65

NOTE M: BROWN & GRAY SHALE

No. 76

GROUND SURFACE ELEVATION 47.7'

		WL	
DENSE BROWN SANDY SILT, SOME GRAVEL & SANDSTONE	30		3'0"
LOOSE BROWN SMALL TO MEDIUM GRAVEL,	4		
	8		
	7		
SOME SAND	10		13'6"
DENSE GRAVEL, SOME SAND	60/3"		14'5"

REFUSAL ROCK OR BOULDER

USED AUGER

1/28/65

No. 77

GROUND SURFACE ELEVATION 47.8'

		WL	
BROWN SILT, SOME GRAVEL			1'0"
LOOSE BROWN SMALL-LARGE GRAVEL, SOME SAND	9		3'6"
LOOSE BLACK PEATY SILT, SOME GRAVEL	6		5'6"
LOOSE BLACK DECAYED WOOD & SILT	7		7'6"
MEDIUM BROWN SAND & GRAVEL			9'0"
SEE NOTE N	60		9'6"

USED AUGER

1/29/65

NOTE N: VERY DENSE GRAY SILT, SOME SANDSTONE

No. 73

GROUND SURFACE ELEVATION 47.3'

		WL	
BROWN SANDY SILT, SOME GRAVEL		WL	1
LOOSE BROWN FINE TO MEDIUM SILTY SAND, & GRAVEL	3		
	3		5
MEDIUM BROWN FINE TO MEDIUM SILTY SAND & GRAVEL	15		
	14		10
SEE NOTE O	60/1"		

USED AUGER

1/29/65

NOTE O: VERY DENSE BROWN & GRAY SILTY SHALE

INDICATES CORE DRILLING	X / Y

X = AMOUNT OF CORE RECOVERED
Y = AMOUNT OF CORE DRILLED (INCHES)

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 60'11"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 8 of 20

344-3—100 Pads—10-56

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

CATERPILLAR TRACTOR COMPANY Date 20 FEBRUARY 1965 195 Job No. 28-3450-2(A)

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

+50'

No. 79

GROUND SURFACE ELEVATION 46.5'

MEDIUM BROWN SILTY FINE SAND & GRAVEL	12	0'	WL
	10		
	14	8'0"	
VERY DENSE BROWN SILT, SOME GRAVEL & SANDSTONE	80	10'0"	
BROWN SHALE	100/2	10'8"	
SOFT GRAY SHALE, SOME LAYERS OF LIGHT GRAY LIMECEMENTED SHALE (HARD)	24/60	11'9"	
MEDIUM TO HARD GRAY LIMECEMENTED SHALE	60/60	15'9"	
		21'9"	

+45'

+40'

+35

+30'

+25'

+20'

USED 11'0" OF NX CASING

1/29 & 2/5/65

FOREMAN BOYD & HOMANN

No. 80

GROUND SURFACE ELEVATION 46.7'

LOOSE BROWN FINE TO MEDIUM SAND & GRAVEL	10	0'	WL
	6	6'0"	
LOOSE BROWN FINE TO COARSE SAND	8	9'0"	
BROWN SHALE	60/4	9'6"	

USED AUGER

2/1/65

No. 81

GROUND SURFACE ELEVATION 47.1'

VERY STIFF BROWN SANDY SILT, SOME GRAVEL & SANDSTONE	25	0'	WL
		3'0"	
LOOSE BROWN FINE TO COARSE SAND, TRACE GRAVEL	3		
	3		
SEE NOTE P	60/3	9'6" 10'0"	

USED AUGER

2/1/65

NOTE P: VERY DENSE BROWN SILT

No. 82

GROUND SURFACE ELEVATION 47.3'

MEDIUM BROWN MIXTURE OF SILT, CLAY & GRAVEL	15	0'	WL
	9	4'	
LOOSE BROWN FINE TO COARSE SAND, SOME GRAVEL	8		
SEE NOTE P	60/6	8' 8'	

USED AUGER

2/1/65

INDICATES CORE DRILLING X/Y

X = AMOUNT OF CORE RECOVERED
Y = DEPTH OF CORE DRILLED (INCHES)

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 49'9"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 9 of 20

344-3—100 Pads—10-64

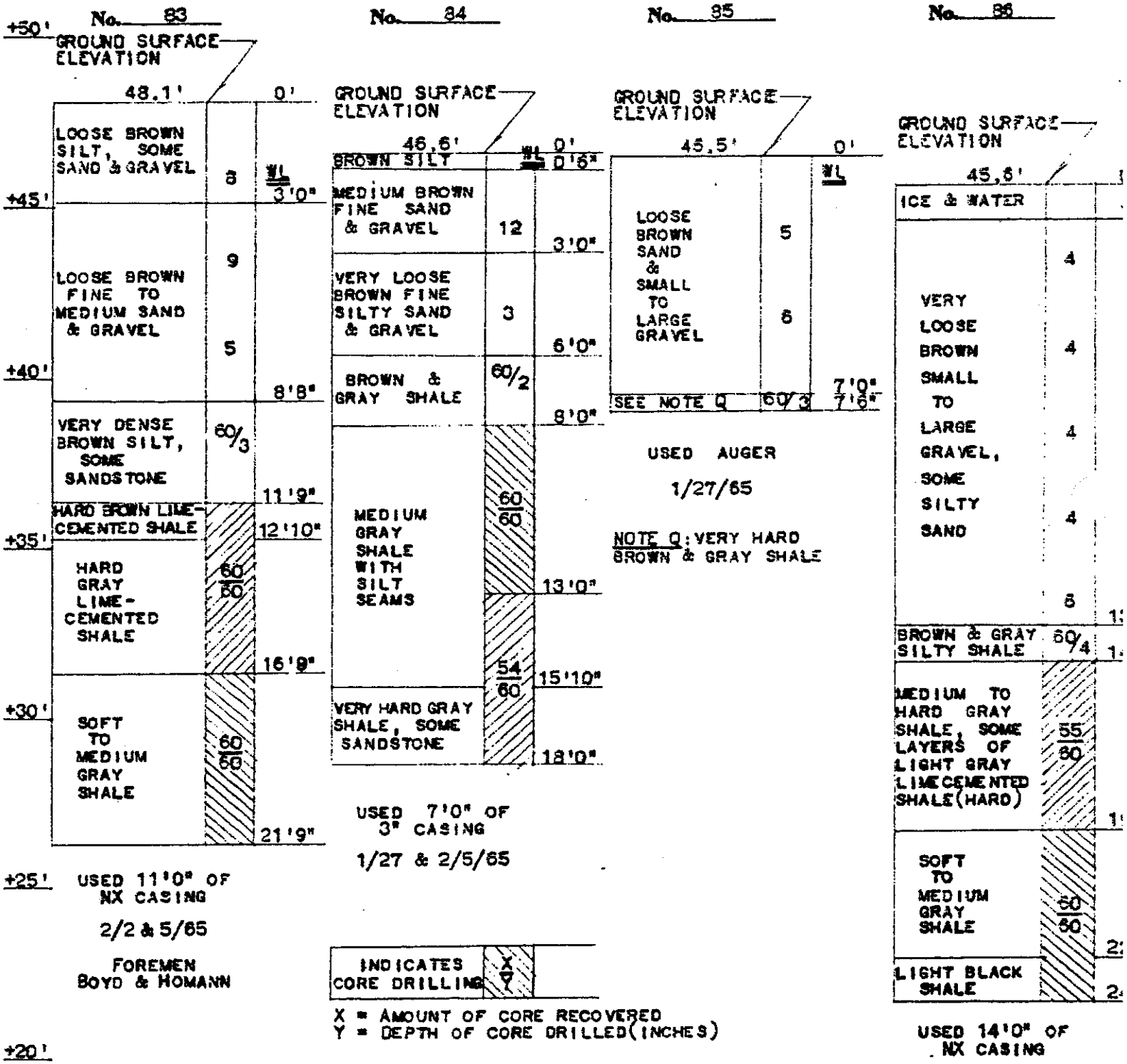
TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

To CATERPILLAR TRACTOR COMPANY Date 20 FEBRUARY 1965195 Job No. CB-345

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.



Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 71'3"

Foreman HERSCHEL BOYD

Classification by FOREMAN

Sheet 10 of 20

844-B—100 Pads—10-56

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC

CATERPILLAR TRACTOR COMPANY Date 20 FEBRUARY 1965 195 Job No. CB-3450-C(A

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

+50'

No. 87

GROUND SURFACE ELEVATION 45.6'

ICE & WATER		0'	1'0"
LOOSE BROWN FINE TO MEDIUM SAND & GRAVEL	4		
	3		7'0"
SEE NOTE R	75		7'6"

+45'

+40'

USED AUGER

2/3/65

+35'

NOTE R: BROWN & GRAY SILTY SHALE

No. 88

GROUND SURFACE ELEVATION 45.1'

ICE & WATER		0'	1'0"
LOOSE BROWN SMALL TO LARGE GRAVEL & SILTY SAND	8		
	1		
	3		8'0"
LOOSE BROWN SMALL TO LARGE GRAVEL, SOME SAND, TRACE COAL	3		
	8		12'8"
BROWN SHALE			12'10"

USED AUGER

2/2/65

+30'

INDICATES CORE DRILLING X/Y

X = AMOUNT OF CORE RECOVERED

Y = DEPTH OF CORE DRILLED (INCHES)

+25'

No. 89

GROUND SURFACE ELEVATION 45.1'

ICE & WATER		0'	1'0"
LOOSE BROWN SMALL TO LARGE GRAVEL & FINE SILTY SAND	10		4'0"
BLACK COAL	45		6'0"
LOOSE BROWN SMALL TO MEDIUM GRAVEL, SOME SAND	6		
	10		12'2"
NOTE S	60/4		12'6"
HARD GRAY SHALE, SOME LAYERS OF LIGHT GRAY LIME CEMENTED SHALE	38/60		17'6"
SEE NOTE T			18'3"
HARD GRAY SHALE, SOME LAYERS OF LIGHT GRAY LIME CEMENTED SHALE	60/60		22'6"

NOTE S: BROWN & GRAY SHALE

NOTE T: HARD LIGHT GRAY LIMECEMENTED SHALE

USED 12'6" OF NX CASING

2/3-4/65

FOREMAN BOYD & HOMANN

No.

+20'

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 42'10"

Foreman HERSCHEL BOYD

Classification by FOREMAN

Sheet 11 of 20

844-2—100 Pads—10-64

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

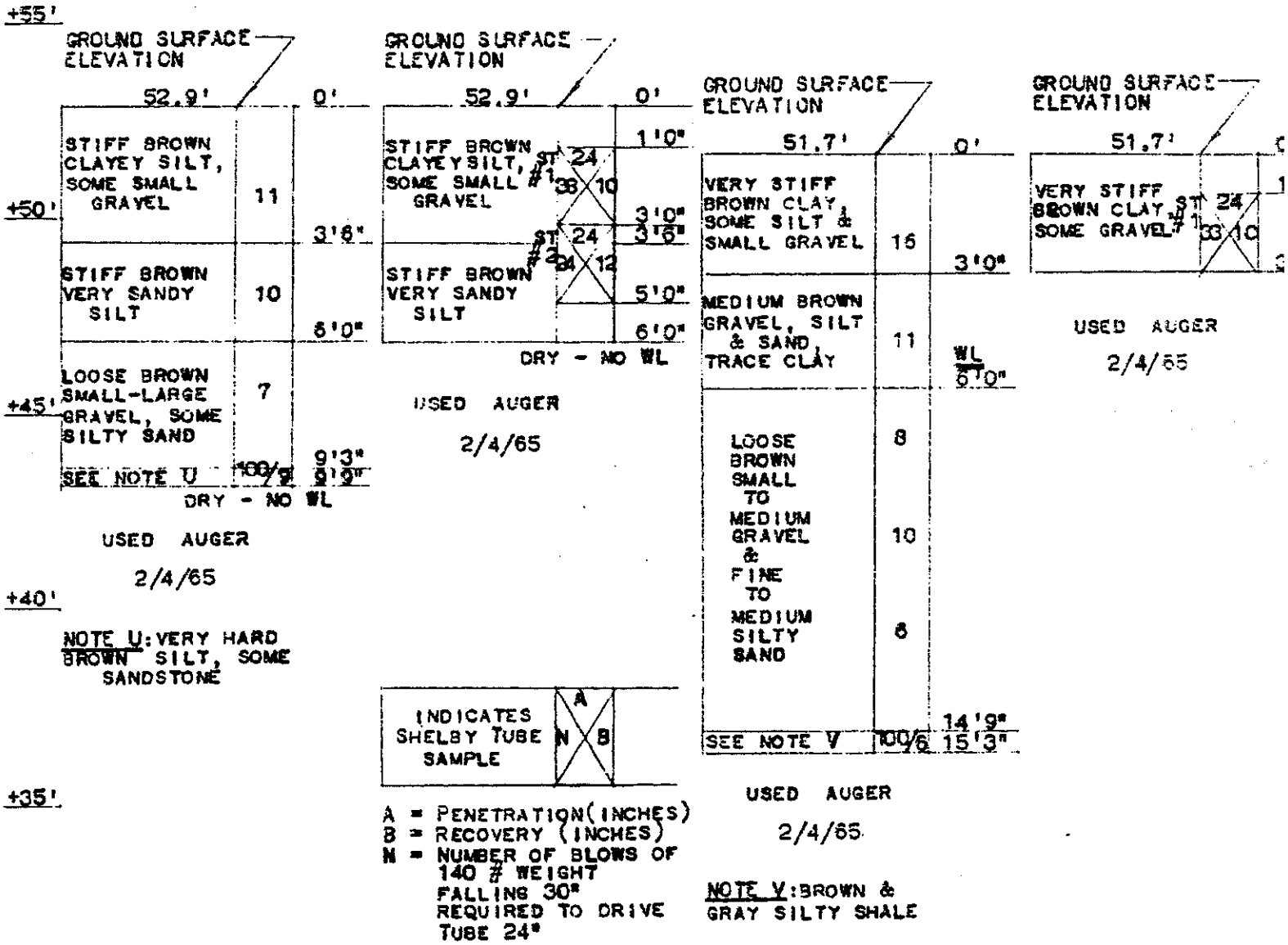
RAYMOND INTERNATIONAL INC.

To CATERPILLAR TRACTOR COMPANY Date 20 FEBRUARY 1965 195 Job No. C8-34

Location of Borings CATERPILLAR TRACTOR Co., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 90 No. 90-A No. 91 No. 91-A



Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 34'0"
Foreman HERSCHEL BOYD
Classification by FOREMAN
Sheet 12 of 20

344-2—100 Pads—10-56

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

CATERPILLAR TRACTOR COMPANY Date 21 FEBRUARY 1965 195 Job No. CB-3450-C(

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 92	No. 92-A	No. 93	No.

+55'

No. 92

GROUND SURFACE ELEVATION 50.5' — 0'

+50'

BROWN CLAYEY SILTY LOAM — 1'0"

STIFF BROWN MIXTURE OF CLAY, GRAVEL, SILT & SAND — 14 — WL 3'6"

MEDIUM BROWN SMALL-LARGE GRAVEL & SAND — 12 — 6'0"

+45'

LOOSE BROWN SMALL-MEDIUM GRAVEL & SILTY SAND — 5, 8 — 11'6"

SEE NOTE W — 100/5 — 12'0"

USED AUGER
2/4/65

+35'

NOTE W: BROWN & GRAY SILTY SHALE

FOREMAN
HERSCHEL BOYD

+30'

No. 92-A

GROUND SURFACE ELEVATION 50.5' — 0'

BROWN CLAYEY SILTY LOAM — 1'0"

STIFF BROWN MIXTURE OF #1 CLAY, GRAVEL, SILT & SAND — 24" — 23 — 36 — 3'0"

USED AUGER
2/4/65

FOREMAN
HARSCHEL BOYD

INDICATES SHELBY TUBE SAMPLE — A / N / B

A = PENETRATION (INCHES)
B = RECOVERY (INCHES)
N = NUMBER OF BLOWS OF 140# WEIGHT FALLING 30" REQUIRED TO DRIVE TUBE 24"

No. 93

GROUND SURFACE ELEVATION 48.2' — 0'

WL

VERY SOFT DARK GRAY SILTY LOAM, TRACE ORGANIC MATTER — 3, 2 — 6'6"

MEDIUM DARK BROWN SANDY CLAY WITH SANDSTONE — 5 — 8'3"

VERY LOOSE BROWN SMALL-MEDIUM GRAVEL & FINE-COARSE SAND WITH CLAY BINDER — 2, 2, 1 — 16'1"

HARD GRAY CLAY — 39 — 18'10"

REFUSAL — ROCK OR BOULDER

USED 16'0" OF NX CASING
2/10/65

FOREMAN
WAYNE HOMANN

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 33'10"
Foreman AS NOTED
Classification by FOREMAN
Sheet 13 of 20

844-3—100 Pads—10-64

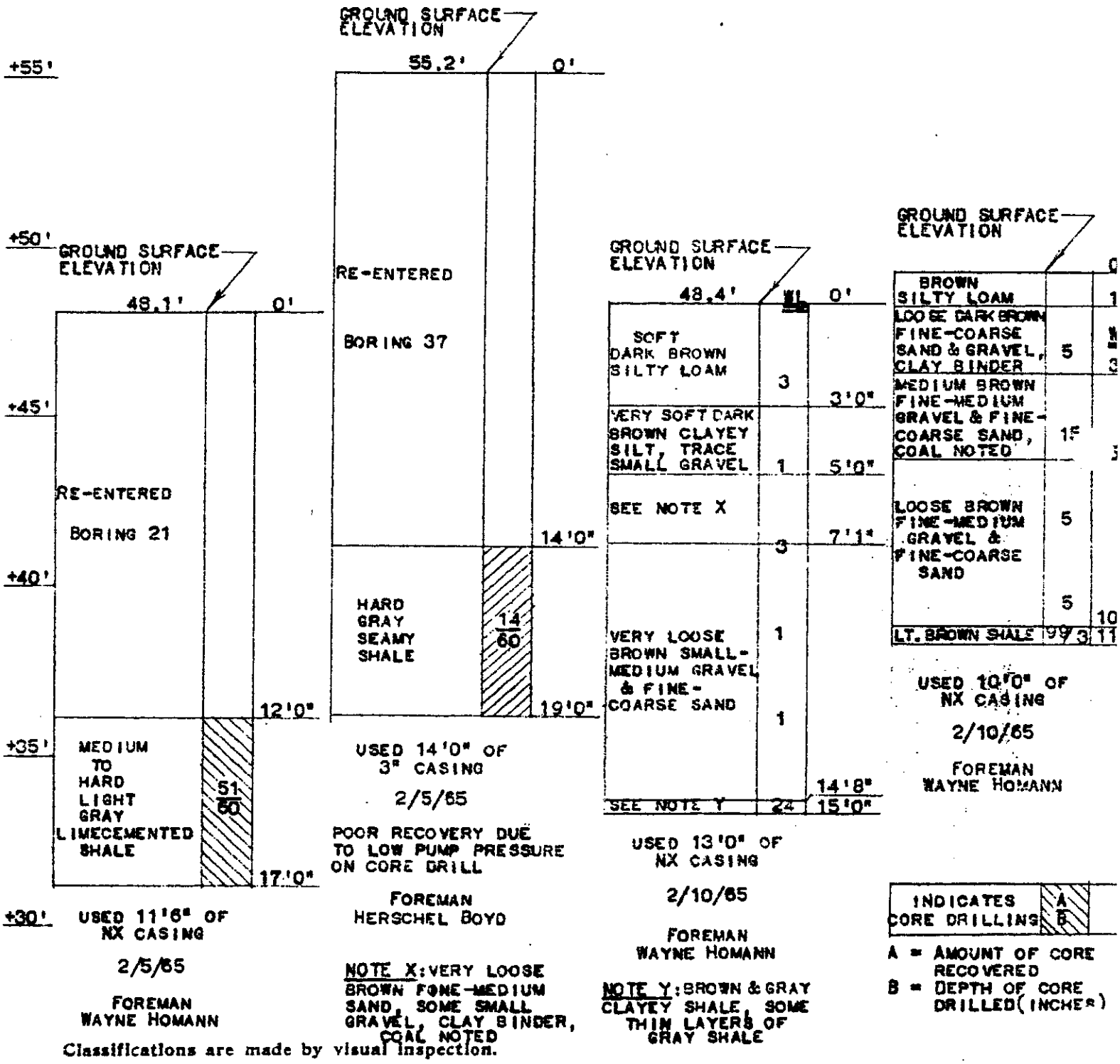
TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC

To CATERPILLAR TRACTOR COMPANY Date 21 FEBRUARY 1965195 Job No. CB-345

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.



Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 36'0"
Foreman AS NOTED
Classification by FOREMAN
Sheet 14 of 20

844-3—100 Pads—1-65

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

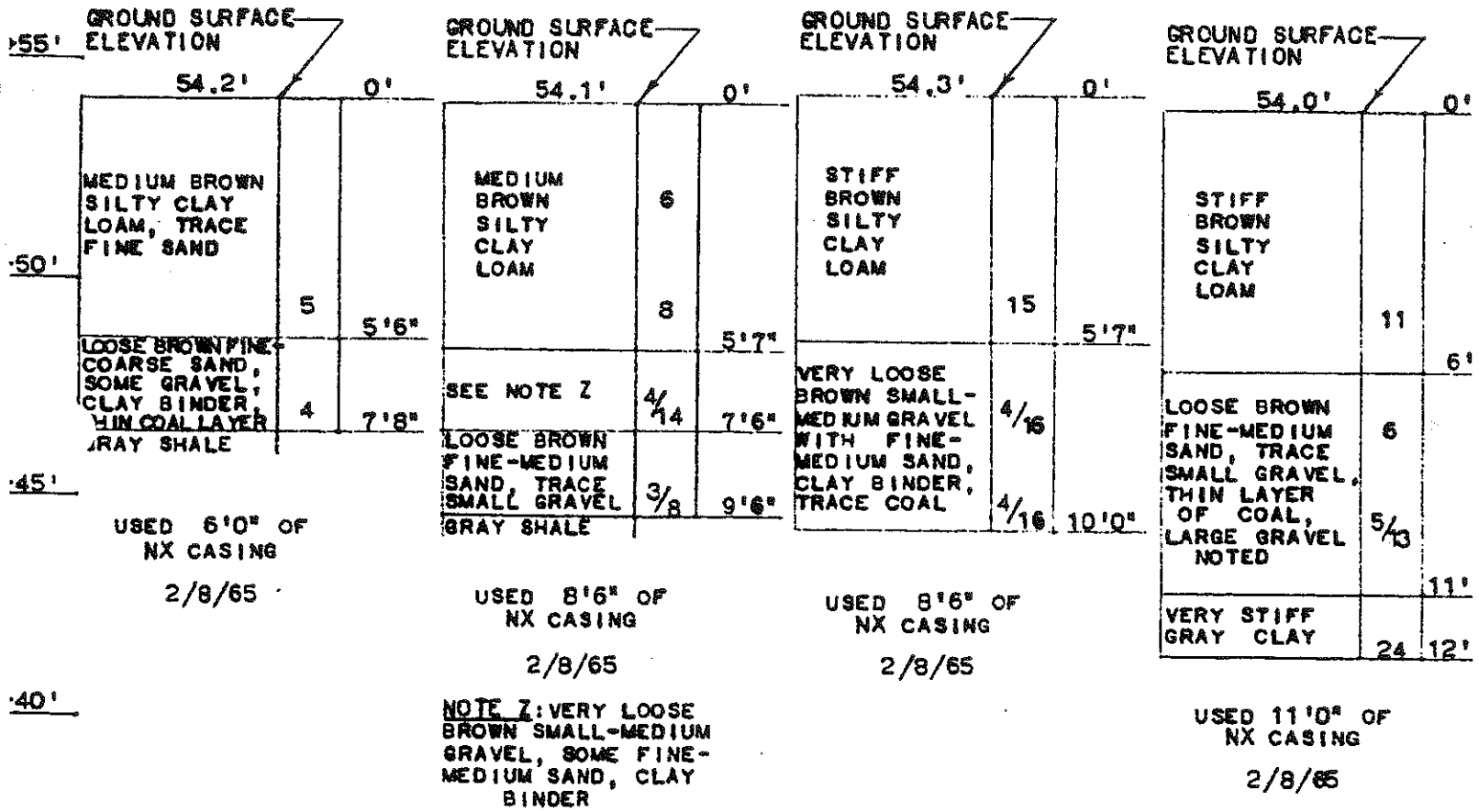
RAYMOND INTERNATIONAL INC

CATERPILLAR TRACTOR COMPANY Date 30 APRIL 1965 195 Job No. CB-3450-C(A

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 69-B	No. 70-B	No. 71-B	No. 72-B



NOTE: THESE BORINGS ARE LOCATED ADJACENT TO THE ORIGINAL BORINGS.

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 39'8"
Foreman WAYNE HOMANN
Classification by FOREMAN
Sheet 15 of 20

344-B—100 Pads—10-64

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

To CATERPILLAR TRACTOR COMPANY Date 26 APRIL 1965 195 Job No. 68-3450-[illegible]

Location of Borings CATERPILLAR TRACTOR COMPANY, FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATION SUPPLIED as a fixed datum.

No. 102	No.	No.	No.

GROUND SURFACE ELEVATION 50.5'

50'	LOOSE BROWN SILTY LOAM	7	2'6"
	MEDIUM BROWN FINE-LARGE GRAVEL, CLAY BINDER	19	WL 1/2 & 3 — 6'0"
45'	LOOSE BROWN FINE-MEDIUM GRAVEL & FINE-COARSE SAND	7	
		6	10'0"
40'	DENSE LIGHT BROWN SILT		11'0"
	VERY HARD GRAY CLAYEY SHALE	99/7	12'6"

USED NO CASING

4/12/65

35'

WELL POINT READINGS FOR BORINGS, 6, 29, 43 & 53

Boring	Elevation of Top of Black Pipe	Water Reading as of: 2/11	2/17	3/5	3/11	3/15	3/26	4/5	4/1[illegible]
6	446.82'	0.45'	0.45'	0.55'	0.57'	0.58'	0.61'	0.37'	0.40
29	448.80'	1.90'	2.33'	2.20'	3.32'	2.71'	2.30'	2.17'	2.04
48	458.65'	9.40'	9.50'	8.11'	9.20'	8.42'	8.26'	5.89'	2.88
53	452.15'	4.84'	5.26'	4.84'	4.52'	5.00'	5.34'	4.39'	4.28

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 12'6"

Foreman WAYNE HOMANN

Classification by FOREMAN

Sheet 18 of 20

844-S—100 Pads—10-64

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC

CATERPILLAR TRACTOR COMPANY Date 26 APRIL 1965 195 Job No. 68-3450-C(A

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. 94

GROUND SURFACE ELEVATION 46.8'

+45'	SOFT DARK BROWN CLAYEY SILT, TRACE ORGANIC MAT'L	3	WL ∓ 0' – 3'6"
	VERY SOFT DARK BROWN ORGANIC SILT	2	
+40'		2	7'5"
	FINE-COARSE GRAY SAND		8'6"
	SOFT BLACK SILTY ORGANIC CLAY	3	
+35'		3	
			14'5"
	SEE NOTE AA		15'0"
	SEE NOTE BB		15'3"

REFUSAL ROCK OR BOULDER

+30'

USED 10'0" OF 2-1/2" CASING

3/30/65

FOREMAN WAYNE HOMANN

+25' NOTE AA: MED. BROWN FINE-MEDIUM GRAVEL & FINE-COARSE SAND

NOTE BB: VERY HARD BROWN & GRAY CLAYEY SHALD

No. 95

GROUND SURFACE ELEVATION 46.3'

	VERY SOFT BROWN & GRAY ORGANIC SILT	2/14	WL ∓ 0' – 3'8"
	VERY SOFT DARK GRAY ORGANIC CLAYEY SILT, SOME LENSES OF SAND	2	
		2/14	
		2	
		2/14	
		2	16'0"
	VERY HARD BROWN & GRAY CLAYEY SHALE	99/10	17'3"

REFUSAL ROCK OR BOULDER

USED 15'0" OF 2-1/2" CASING

3/31/65

AT COMPLETION OF BORING, WL = 0'2". BAILED 4 GALLONS OF WATER TO 2'6" AFTER 3 MIN. WL=0'2"

No. 96

GROUND SURFACE ELEVATION 46.8'

	SOFT BLACK LOAM		WL ∓ 0'6"
	MEDIUM BROWN SANDY SILT WITH CLAY BINDER	6	4'0"
	SOFT BROWN & GRAY CLAYEY SANDY SILT WITH FINE-MEDIUM GRAVEL & SANDSTONE FRAGMENTS, COAL NOTED	4	
		6	7'7"
	MEDIUM BROWN FINE-MEDIUM GRAVEL & FINE MEDIUM SAND, CLAY BINDER	14	10'6"
	SEE NOTE CC		10'8"
	SEE NOTE DD	99/3	11'2"

REFUSAL ROCK OR BOULDER

USED 8'6" OF 2-1/2" CASING

3/30/65

NOTE CC: BROWN MEDIUM-COARSE SAND

NOTE DD: VERY HARD BROWN & GRAY CLAYEY SHALE

AT COMPLETION OF BORING, WL = 0'6". BAILED 3 GALLONS OF WATER TO 3'6" AFTER 8 MIN. WL=0'6"

No. 97

GROUND SURFACE ELEVATION 46.8'

	BROWN SILTY CLAYEY LOAM, TRACE SAND		WL ∓ 0 – 1
	MEDIUM BROWN SILTY CLAY, SOME FINE TO MEDIUM GRAVEL, TRACE SAND & SANDSTONE FRAGMENTS	6	4
	MEDIUM BROWN FINE-MEDIUM GRAVEL & FINE-COARSE SAND WITH CLAY BINDER, LARGE GRAVEL NOTED	16	
		15	7
	SEE NOTE EE		8

REFUSAL ROCK OR BOULDER

USED 8'0" OF 2-1/2" CASING

3/26/65

NOTE EE: HARD BROWN & GRAY CLAYEY SHALE

AT COMPLETION OF BORING, WL = 0'5". BAILED 2 GALLONS OF WATER TO 3'3" AFTER 12 MIN. WL=0'5"

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage 52'2"
Foreman WAYNE HOMANN
Classification by FOREMAN
Sheet 16 of 20

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION
RAYMOND INTERNATIONAL INC.

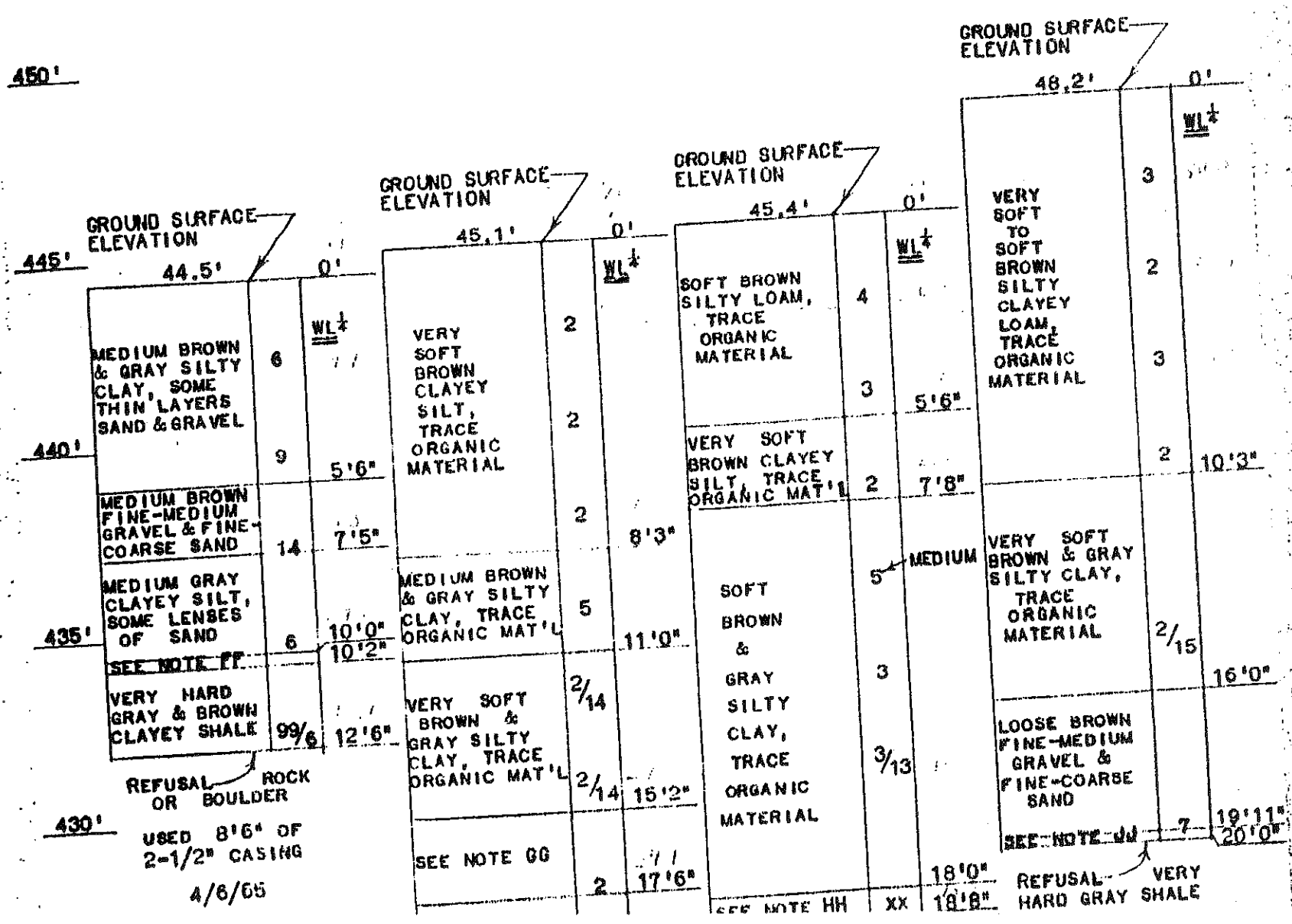
Date 27 APRIL 1965

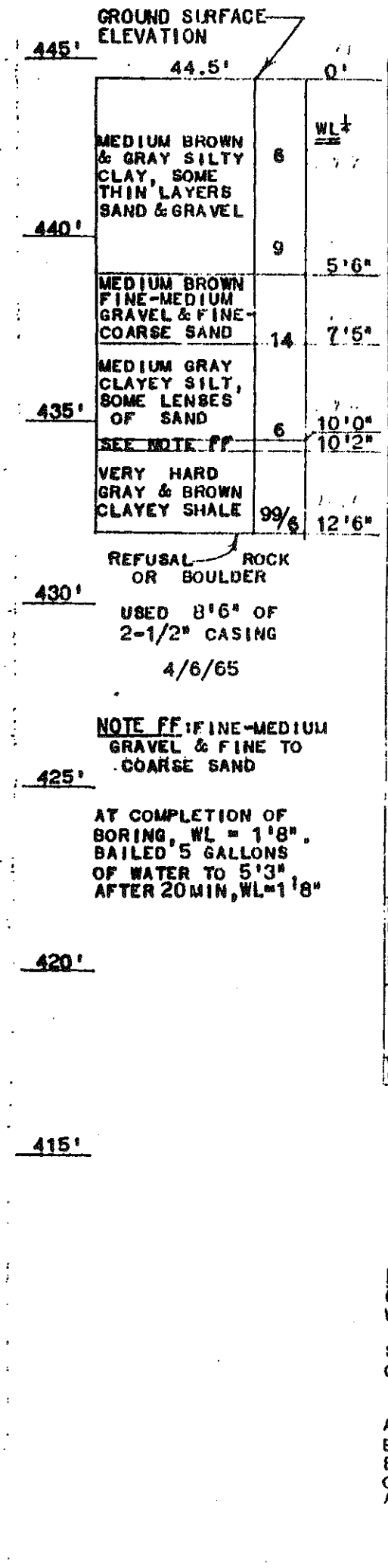
To CATERPILLAR TRACTOR COMPANY

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

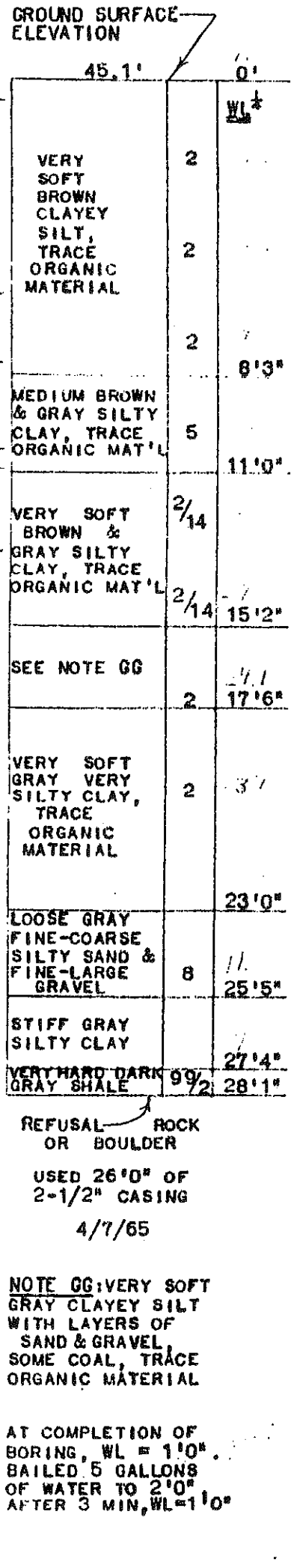
Boring No. 98 | Boring No. 99 | Boring No. 100 | Boring No. 101





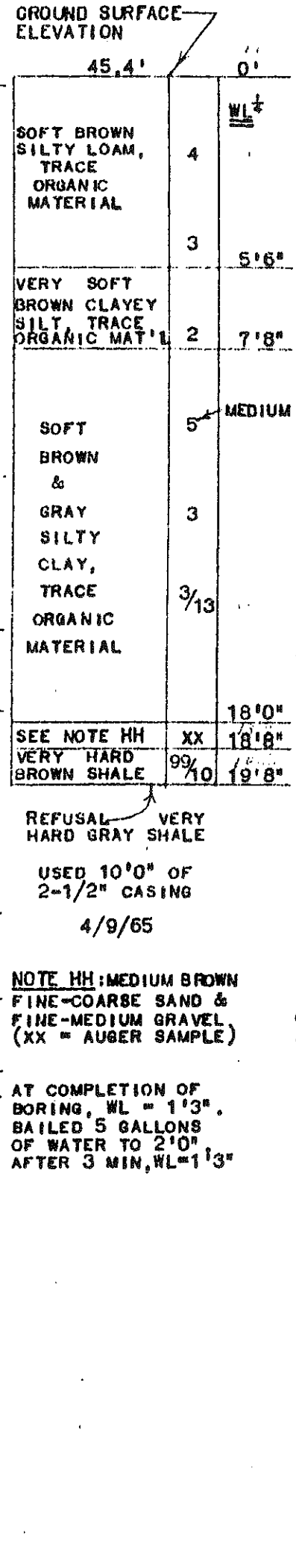
NOTE FF: FINE-MEDIUM GRAVEL & FINE TO COARSE SAND

AT COMPLETION OF BORING, WL = 1'8". BAILED 5 GALLONS OF WATER TO 5'3" AFTER 20 MIN, WL=1'8"



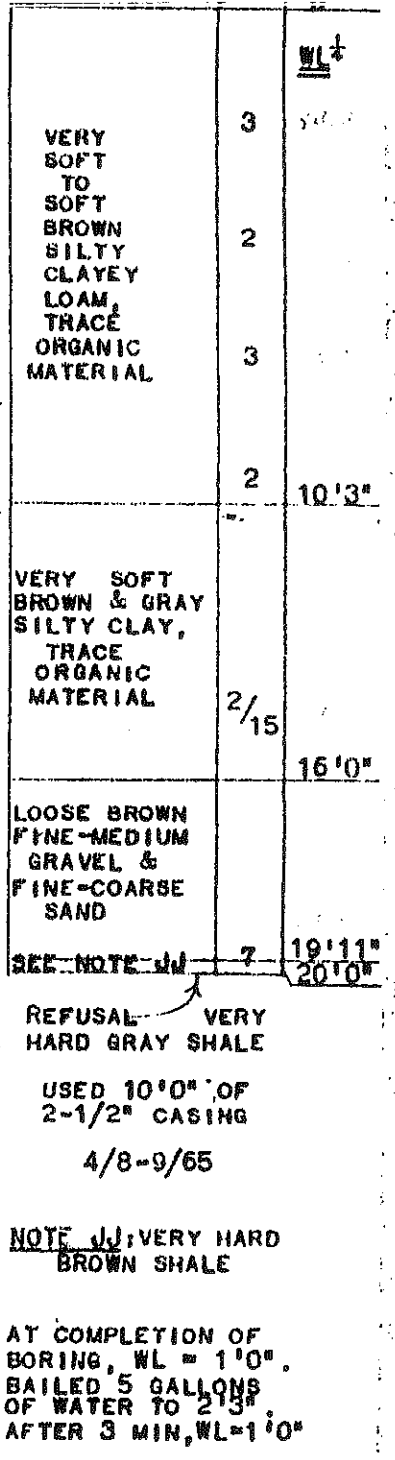
NOTE GG: VERY SOFT GRAY CLAYEY SILT WITH LAYERS OF SAND & GRAVEL, SOME COAL, TRACE ORGANIC MATERIAL

AT COMPLETION OF BORING, WL = 1'0". BAILED 5 GALLONS OF WATER TO 2'0" AFTER 3 MIN, WL=1'0"



NOTE HH: MEDIUM BROWN FINE-COARSE SAND & FINE-MEDIUM GRAVEL, (XX = AUGER SAMPLE)

AT COMPLETION OF BORING, WL = 1'3". BAILED 5 GALLONS OF WATER TO 2'0" AFTER 3 MIN, WL=1'3"



NOTE JJ: VERY HARD BROWN SHALE

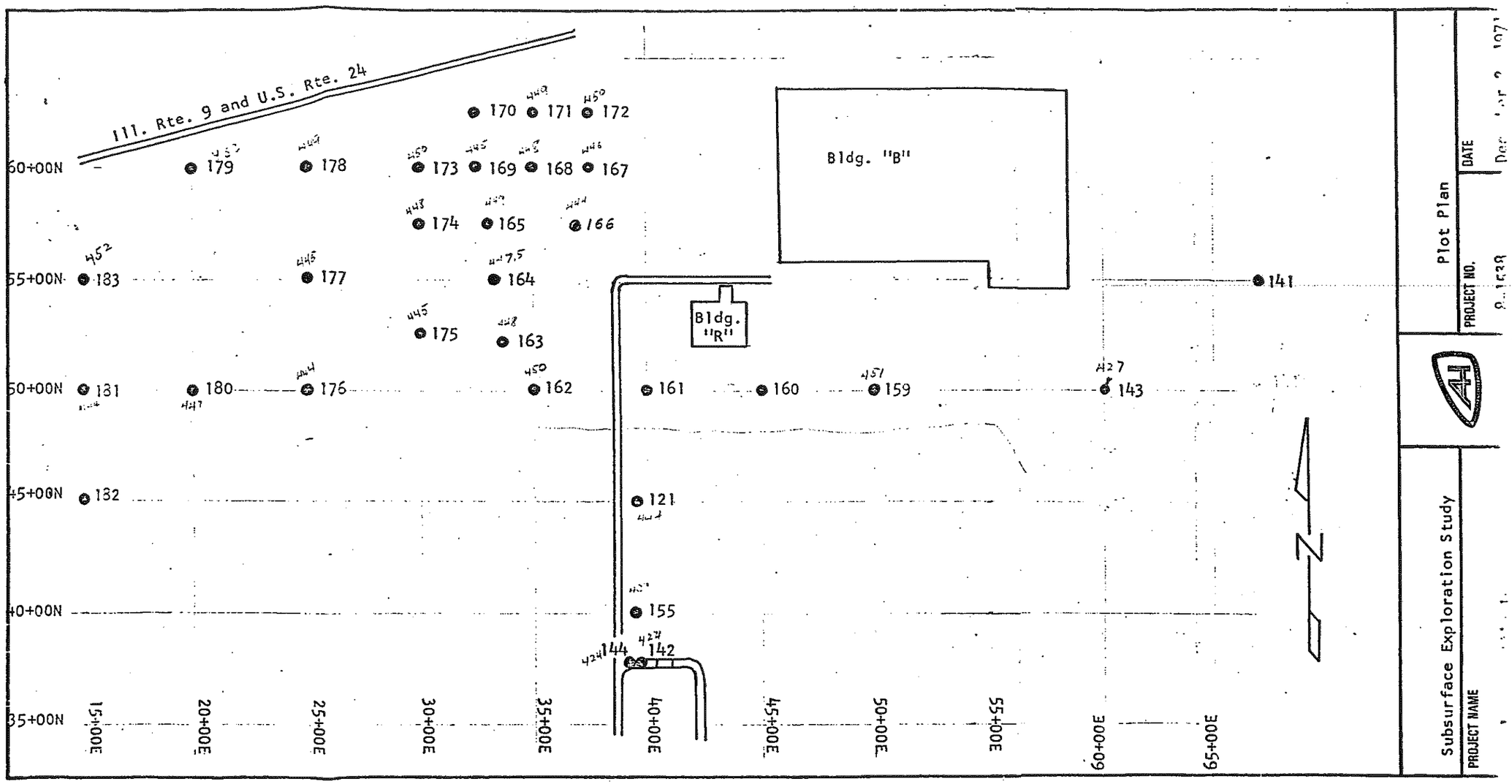
AT COMPLETION OF BORING, WL = 1'0". BAILED 5 GALLONS OF WATER TO 2'3" AFTER 3 MIN, WL=1'0"

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140 lb. weight falling 30 inches.

Total Footage 80'3"
Foreman WAYNE HOMANN
Job No. CB-3450-C(A)
Classification by FOREMAN
Sheet 17 of 20


Ill. Rte. 9 and U.S. Rte. 24
170
171
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161
160
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143
141
Bldg. "B"
Bldg. "R"
132
121
155
144
142
60+00N
55+00N
50+00N
45+00N
40+00N
35+00N
15+00E
20+00E
25+00E
30+00E
35+00E
40+00E
45+00E
50+00E
55+00E
60+00E
65+00E
Plot Plan
DATE
PROJECT NO.
Subsurface Exploration Study
PROJECT NAME

344-2—100 Pads—10-66

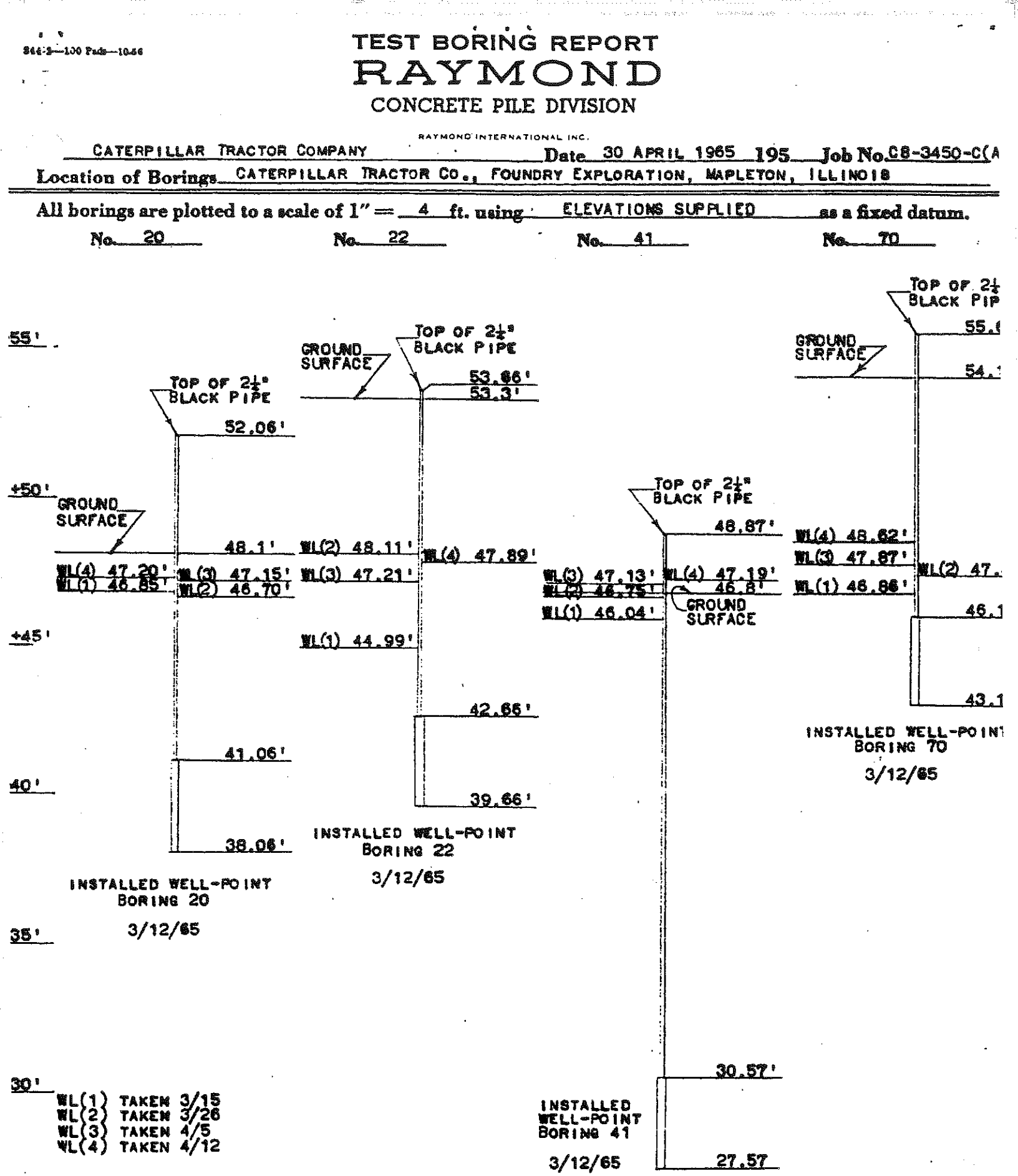
TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

CATERPILLAR TRACTOR COMPANY Date 30 APRIL 1965 195 Job No. C8-3450-C(A

Location of Borings CATERPILLAR TRACTOR Co., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.



WL(1) TAKEN 3/15
WL(2) TAKEN 3/26
WL(3) TAKEN 4/5
WL(4) TAKEN 4/12

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage
Foreman WAYNE HOMANN
Classification by FOREMAN
Sheet 19 of 20

844-2—100 Pads—10-64

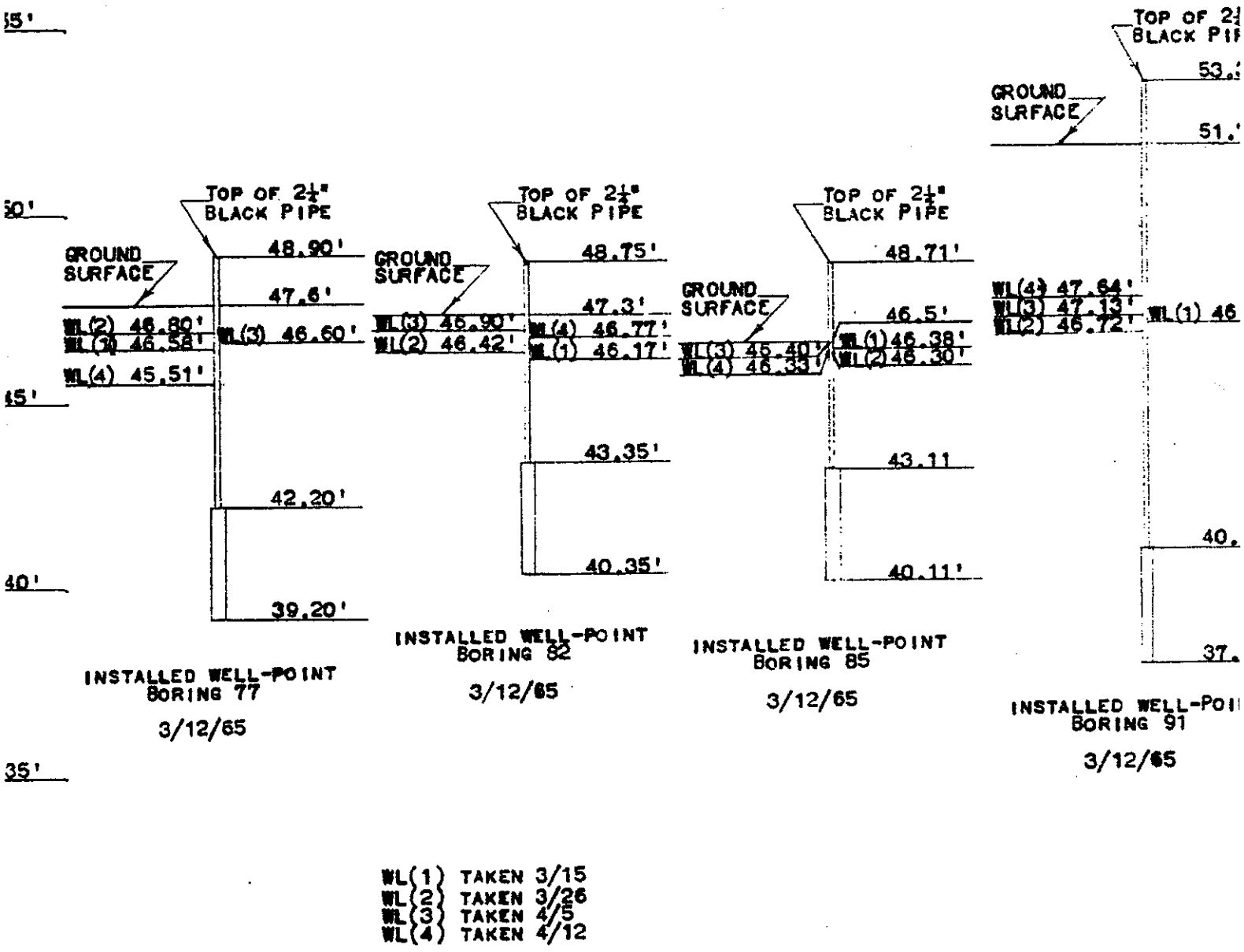
TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

To CATERPILLAR TRACTOR COMPANY Date 30 APRIL 1965 195 Job No 68-345

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, MAPLETON, ILLINOIS

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.



WL(1) TAKEN 3/15
WL(2) TAKEN 3/26
WL(3) TAKEN 4/5
WL(4) TAKEN 4/12

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage
Foreman WAYNE HOMANN
Classification by FOREMAN
Sheet 20 of 20

A & H ENGINEERING CORPORATION - CONSULTING ENGINEERS

CATERPILLAR TRACTOR CO.

SUBSURFACE EXPLORATION STUDY

MAPLETON, ILLINOIS

INSPECTION TESTING ENGINEERING

RECORDS RETENTION Official Record

Active + ___ yr Creation + ___ yr

Indefinite ISO/QS 9000

Until Superseded Maximum = ___ yr

Reference Life of Property + 15 yr

Termination + ___ yr

CHAMPAIGN, ILLINOIS PEORIA, ILLINOIS SPRINGFIELD, ILLINOIS CARBONDALE, ILLINOIS CHICAGO, ILLINOIS

RECORD OF SUBSURFACE EXPLORATION

Boring 159

Project Name: Subsurface Exploration Study — Date of Boring: November 8, 1971

Site: Mapleton, Illinois — Project No.: 8-1538

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	Mc	REMARK
SURFACE	458.8						
		1-Au				1.4	
Foundry SAND		2-SS	4			18.2	
	5	3-SS	5			15.9	▽ 4'-3" 0 Hrs.
		4-SS	4			14.4	
	10	5-SS	17			11.2	
		6-SS	17	1.6	1.5	13.3	
Gray brown clayey SILT	15	7-SS	15		1.0	18.8	
	20	8-SS	11		.8	24.7	
	25	9-SS	4		.5	22.3	
Brown clayey SILT	30	10-SS	5		.8	16.3	
Gray SHALE	35	11-SS	51		4.5+	8.3	
END OF BORING Hole Caved in 23 Days							

RECORD OF SUBSURFACE EXPLORATION

Boring 160

Project Name: Subsurface Exploration Study Date of Boring: November 12, 19

Site: Mapleton, Illinois Project No.: 8-1538

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	RE
SURFACE	458.7						
		1-Au				5.8	
Foundry SAND		2-SS	3			12.9	
	5	3-SS	3			11.1	
Gray brown silty CLAY		4-SS	10		.75	16.2	
	10	5-SS	11		.75	17.0	
		6-SS	12		.75	19.0	
Brown clayey SILT	15	7-SS	16		1.0	18.8	
	20	8-SS	2			23.7	
Brown silty SAND							
	25	9-SS	3			16.3	
Gray silty SAND w/small pebbles	30	10-SS	4			23.4	
Blue gray SHALE	35	11-SS	100/7"			7.4	
END OF BORING							
Hole Caved In							

F-341-C-50 PADS 1-62

TEST BORING REPORT
RAYMOND
CONCRETE PILE DIVISION
RAYMOND INTERNATIONAL INC.
140 CEDAR STREET - NEW YORK 6, N. Y.

DATE RECEIVED
MAY 7 1965
DEPT. ATTEN.

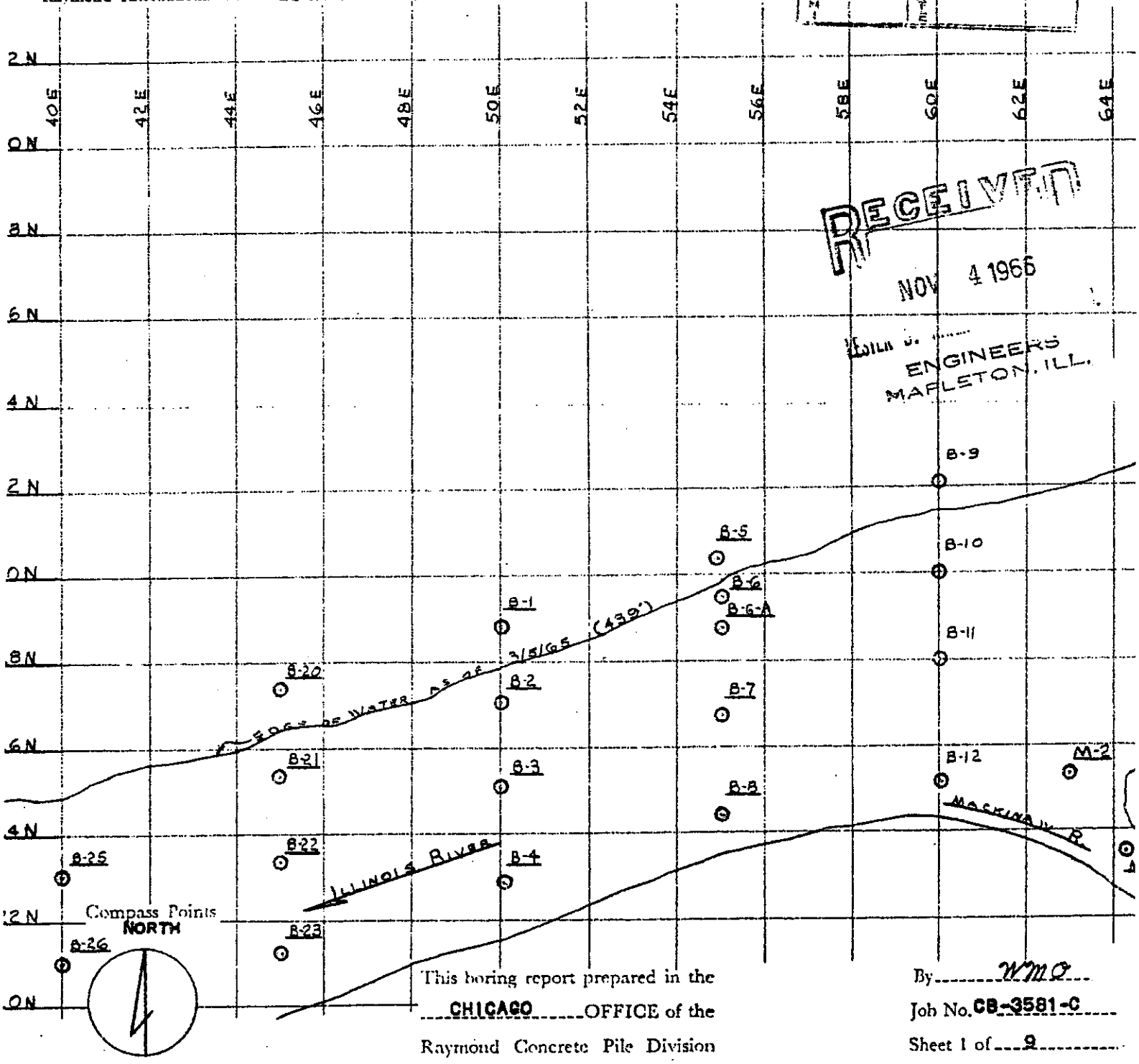
To CATERPILLAR TRACTOR COMPANY, MANUFACTURING GENERAL OFFICE Date 5 MAY 19 65

Address PLANT ENGINEERING, PEORIA, ILLINOIS ATTENTION: MR. PAUL ZUMWALT

We have completed the following borings for you at: CATERPILLAR TRACTOR COMPANY, FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON, ILLINOIS

with results shown below. In accordance with your instructions, we have sent labelled samples of the strata encountered To Address Via under date of Raymond Concrete Pile Division

Raymond International Inc. LOCATION PLAN SCALE 1" = 320'



RECEIVED
NOV 4 1966
ENGINEERS
MAPLETON, ILL.

This boring report prepared in the CHICAGO OFFICE of the Raymond Concrete Pile Division
RAYMOND INTERNATIONAL INC.

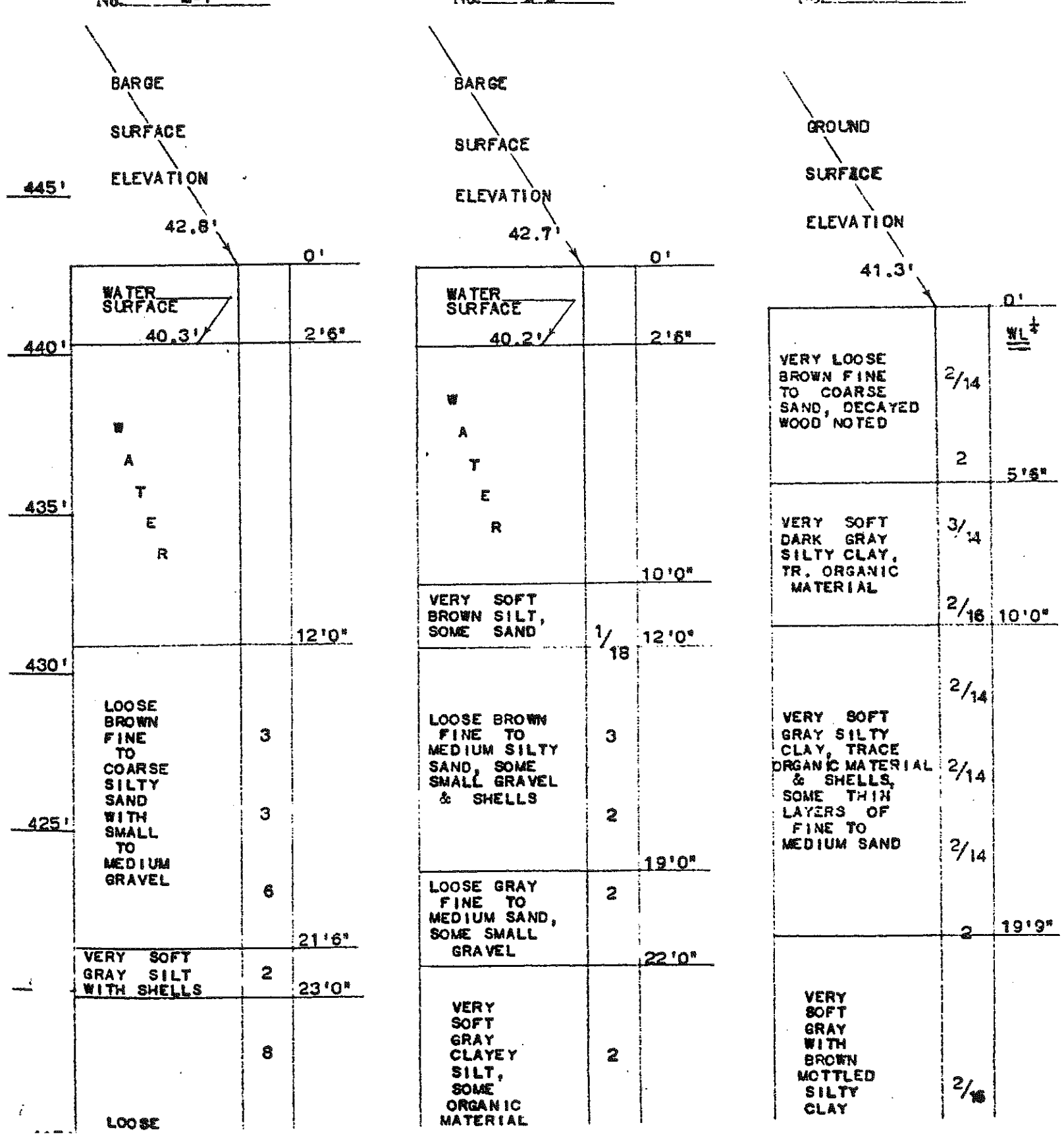
By WMO
Job No. CB-3581-C
Sheet 1 of 9

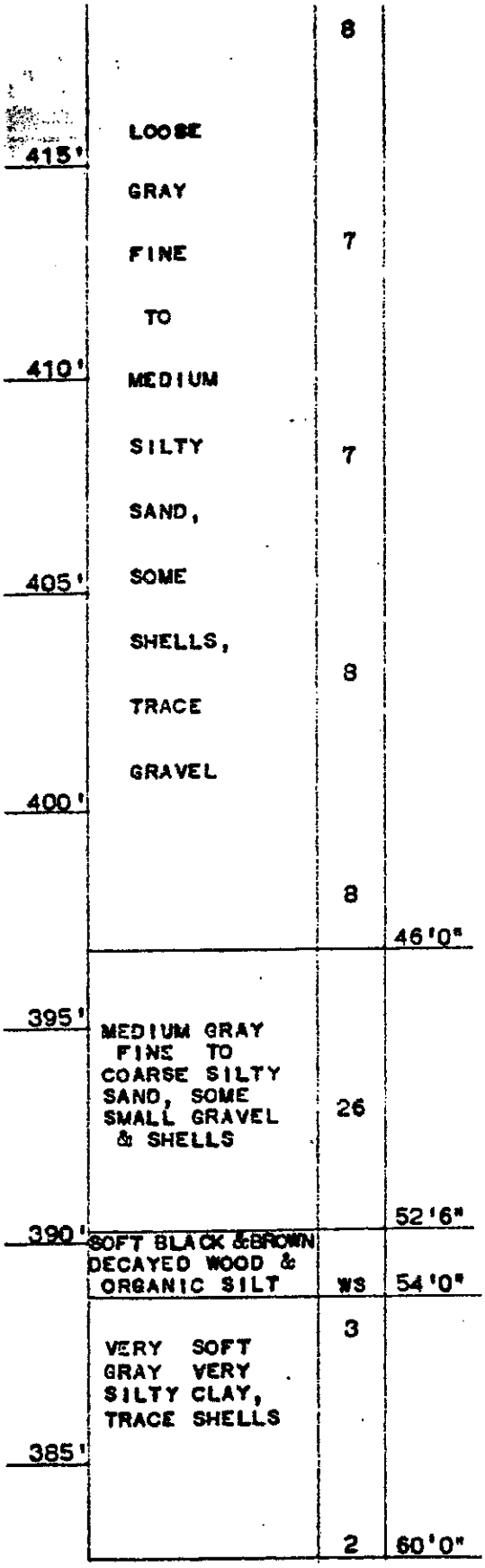
TEST BORING REPORT
RAYMOND
CONCRETE PILE COMPANY
GOW DIVISION

CATERPILLAR TRACTOR COMPANY Date 3 MAY 1965 195 Job No. CB-3581-C

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION ON ILLINOIS RIVER, MAPLETON, IL

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

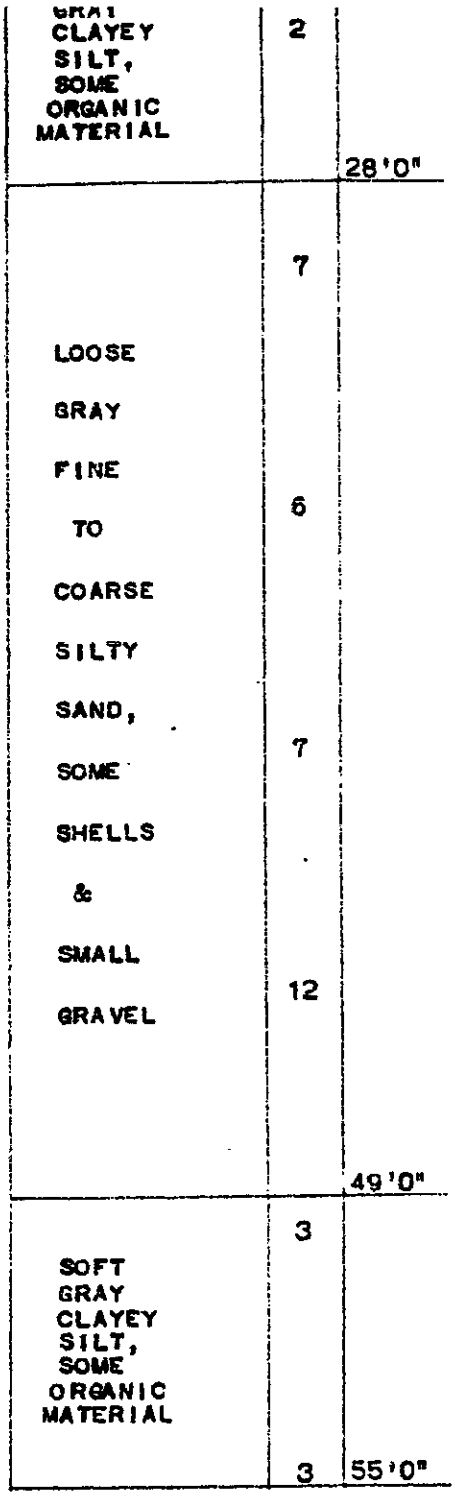




USED 55'0" OF 2-1/2" CASING

2/18/65

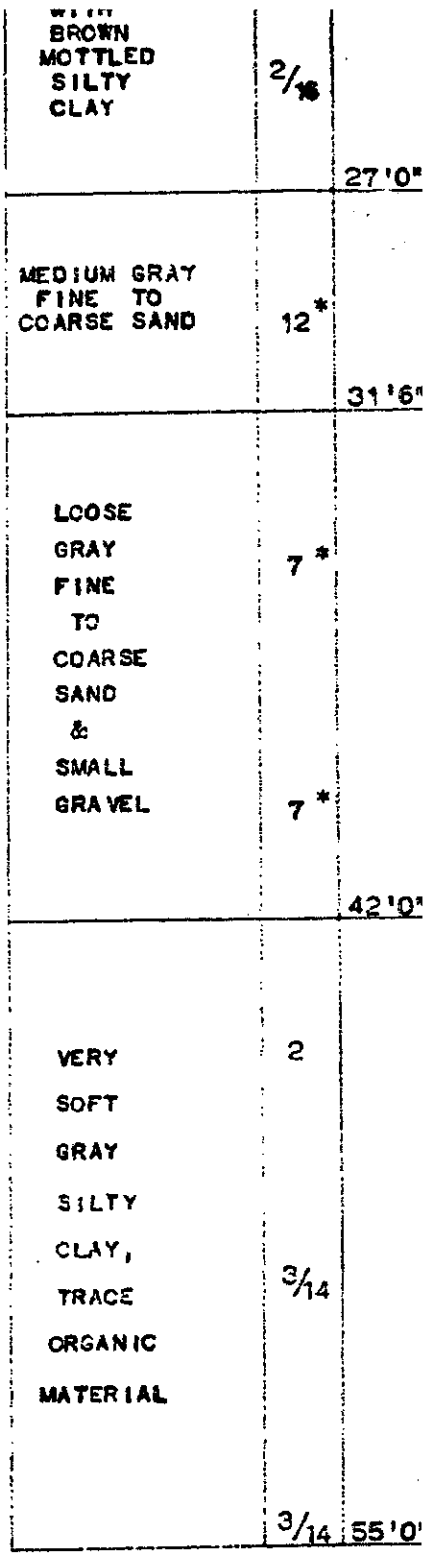
FOREMAN
HERSCHEL BOYD



USED 50'0" OF 2-1/2" CASING

2/19/65

FOREMAN
HERSCHEL BOYD



USED 42'6" OF NX CASING

2/17/65

FOREMAN
WAYNE HOMANN

WS = WASH SAMPLE OBTAINED

Classifications are made by visual inspection. * INDICATES LOST CIRCULATING WATER

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings

Total Footage 148'0"

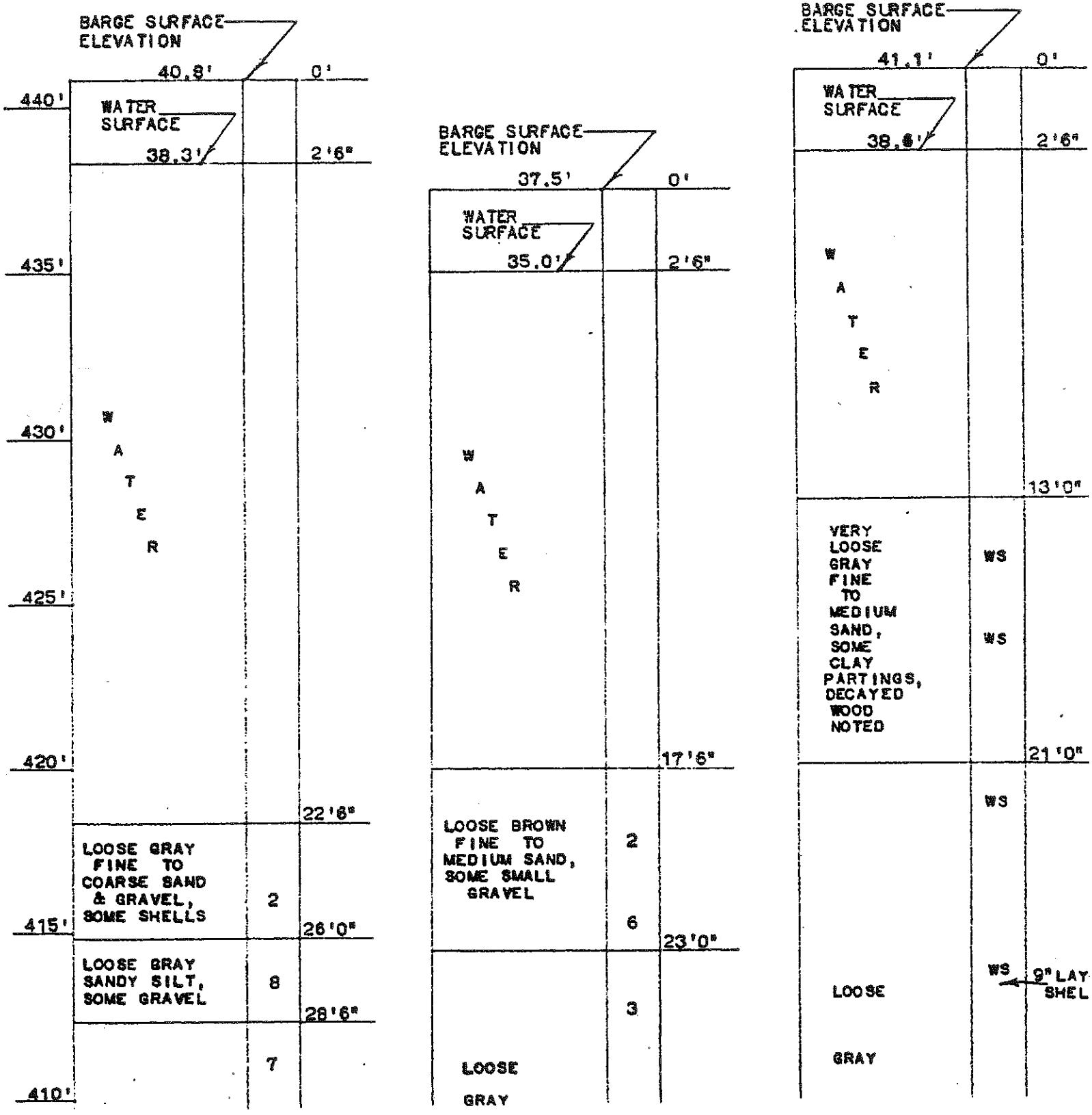
Foreman AS NOTED

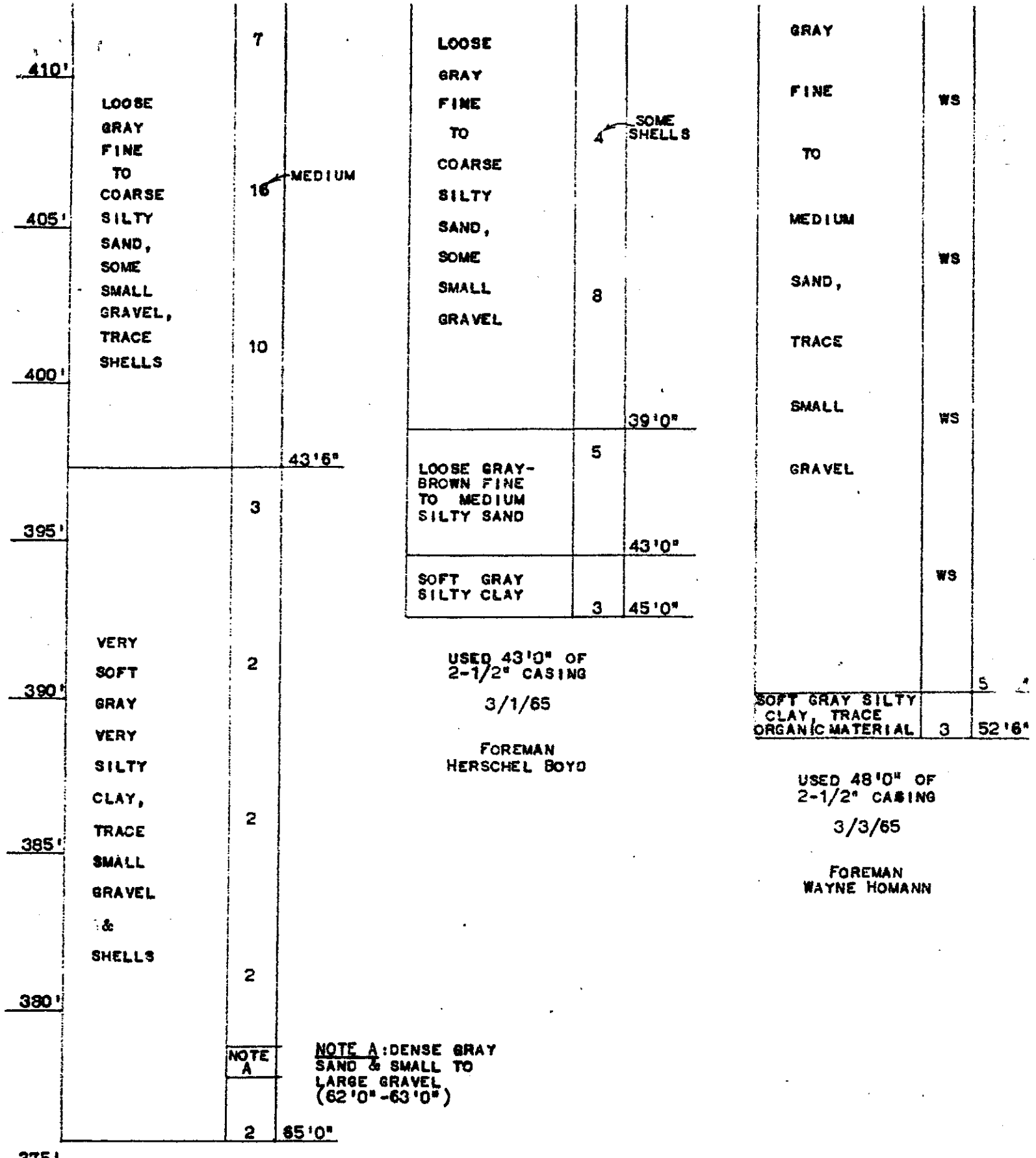
TEST BORING REPORT
RAYMOND
CONCRETE PILE COMPANY
GOW DIVISION

CATERPILLAR TRACTOR COMPANY Date 3 MAY 1965 195 Job No. CB-3581-C

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON, ILL.

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.





WS = WASH SAMPLE OBTAINED

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site

Total Footage 109'6"

Foreman AS NOTED

GOW DIVISION

To CATERPILLAR TRACTOR COMPANY Date 4 MAY 1965 195 Job No. C8-3581-C

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON, ILL.

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

No. B-5

GROUND SURFACE ELEVATION 41.5' — 0'

SEE NOTE B — 0'9" WL & 24

440' — VERY LOOSE BROWN FINE TO COARSE SAND — 3/14 — 3'9"

435' — SOFT BROWN TO DARK GRAY MOTTLED SILTY CLAY, TRACE ORGANIC MATERIAL, — 4/13, 3, 4/13, 3, 3 — 17'0"

425' — VERY SOFT BROWN & GRAY CLAYEY SILT, TRACE ORGANIC MATERIAL — 2, 3/13 — 19'9"

420' — VERY SOFT BLUE-GRAY CLAYEY SILT, TR. ORGANIC MATERIAL — 2 — 24'0"

415' — VERY SOFT BLUE-GRAY CLAYEY SILT, SOME SAND SEAMS, TRACE ORGANIC MATERIAL — 2/14, 2/15 — 31'6"

410' — MEDIUM GRAY FINE TO COARSE SAND & SMALL TO

No. B-6

BARGE SURFACE ELEVATION 41.1' — 0'

WATER SURFACE 38.6' — 2'6"

W A T E R — 10'0"

VERY SOFT BROWN SILTY CLAY — 1/18 — 13'0"

LOOSE BROWN & GRAY SILTY FINE TO COARSE SAND, TRACE SHELLS & GRAVEL — 4 — 17'0"

VERY SOFT GRAY SILTY CLAY — 3, 2, 2 TRACE SHELLS — 27'0"

VERY SOFT GRAY SILTY CLAY, SOME SHELLS AND THIN SAND — 1

No. B-6-A

BARGE SURFACE ELEVATION 41.1' — 0'

WATER SURFACE 38.6' — 2'6"

W A T E R — 19'0"

VERY SOFT GRAY SILTY CLAY, SOME ORGANIC MATERIAL — 1/18, 2 — 27'0"

LOOSE GRAY SANDY SILT WITH DECAYED WOOD & SHELLS, SOME SAND SEAMS — 3 — 32'0"

	SEAMS, TRACE ORGANIC MATERIAL	2/15	31'6"
410'	MEDIUM GRAY FINE TO COARSE SAND & SMALL TO MEDIUM GRAVEL, SOME THIN LAYERS OF CLAYEY SILT	12*	37'0"
405'	MEDIUM GRAY FINE TO COARSE SAND, TRACE SMALL GRAVEL	14*	
400'		22*	44'3"
	VERY SOFT GRAY CLAYEY SILT, TRACE ORGANIC MATERIAL	2	
395'		2/13	
390'			52'6"
	LOOSE GRAY FINE TO COARSE SAND WITH SHELLS	3/13*	55'9"
385'	VERY SOFT GRAY CLAYEY SILT, TRACE ORGANIC MATERIAL	3/13	
380'			62'0"
	MEDIUM GRAY SMALL TO LARGE GRAVEL, SOME FINE TO COARSE SAND	25*	
		29*	65'0"
375'	USED 63'6" OF 2-1/2" CASING		

2/15-16/65

FOREMAN
WAYNE HOMANN

	VERY SOFT GRAY SILTY CLAY, SOME SHELLS AND THIN SAND & GRAVEL SEAMS	1	
		2	38'0"
	DENSE GRAY FINE-COARSE SILTY SAND, SOME SMALL TO MEDIUM GRAVEL	30	40'0"

USED 35'0" OF
2-1/2" CASING

3/3/65

FOREMAN
HERSCHEL BOYD

	WITH DECAYED WOOD & SHELLS, SOME SAND SEAMS	3	32'0"
	LOOSE GRAY FINE TO MEDIUM SILTY SAND WITH SMALL TO MEDIUM GRAVEL	4	
		WS	43'0
	SOFT GRAY SILTY CLAY	3	45'0

USED 43'0" OF
2-1/2" CASING

3/3/65

FOREMAN
HERSCHEL BOYD

NOTE B: VERY LOOSE BLACK SILTY SAND, TRACE ORGANIC MATERIAL

WS = WASH SAMPLE OBTAINED

* INDICATES LOST CIRCULATING WATER

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made or as noted. Porosity of the soil strata, variations of rainfall, site

Total Footage 121'0"

Foreman AS NOTED

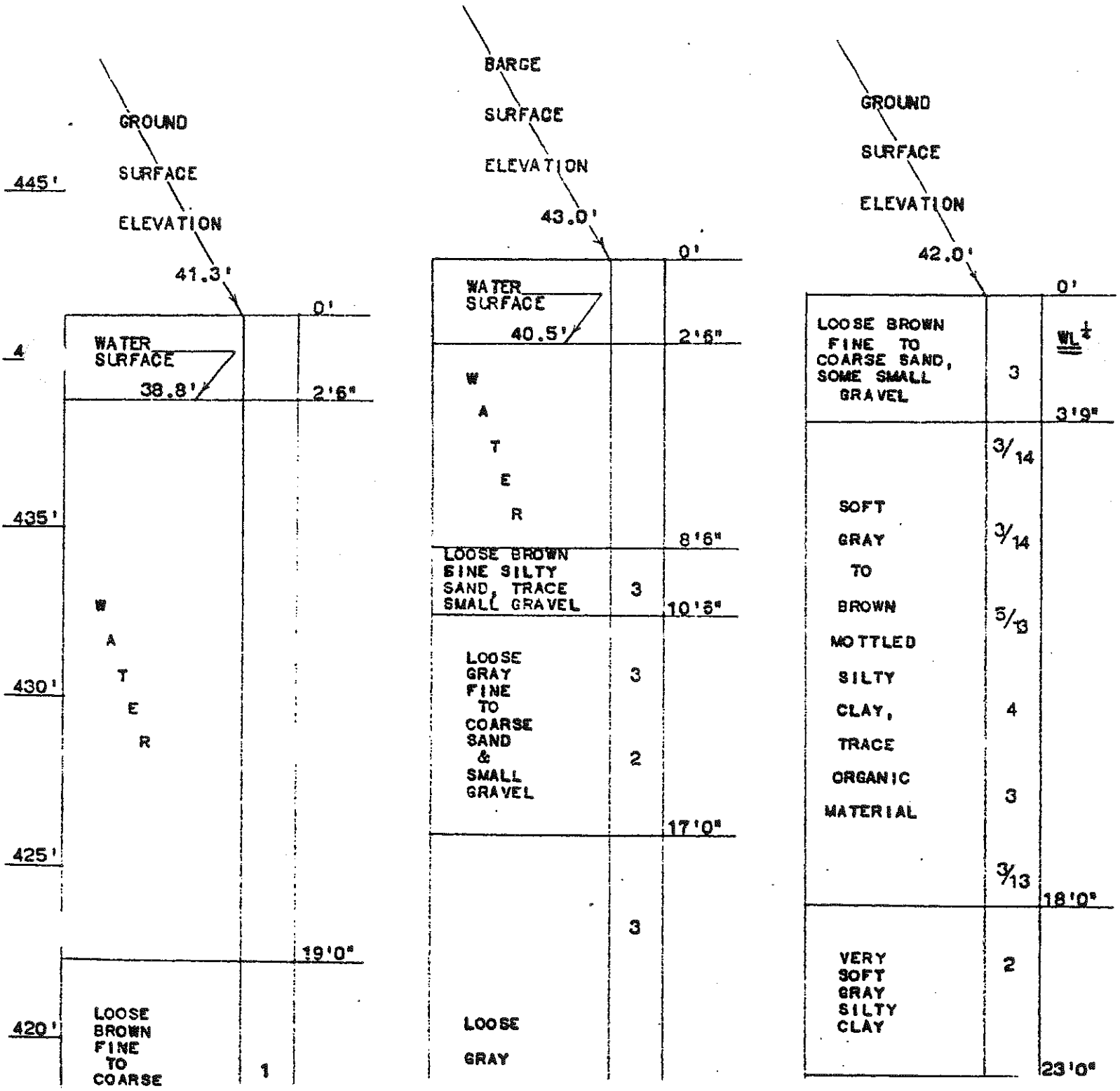
FOREMAN

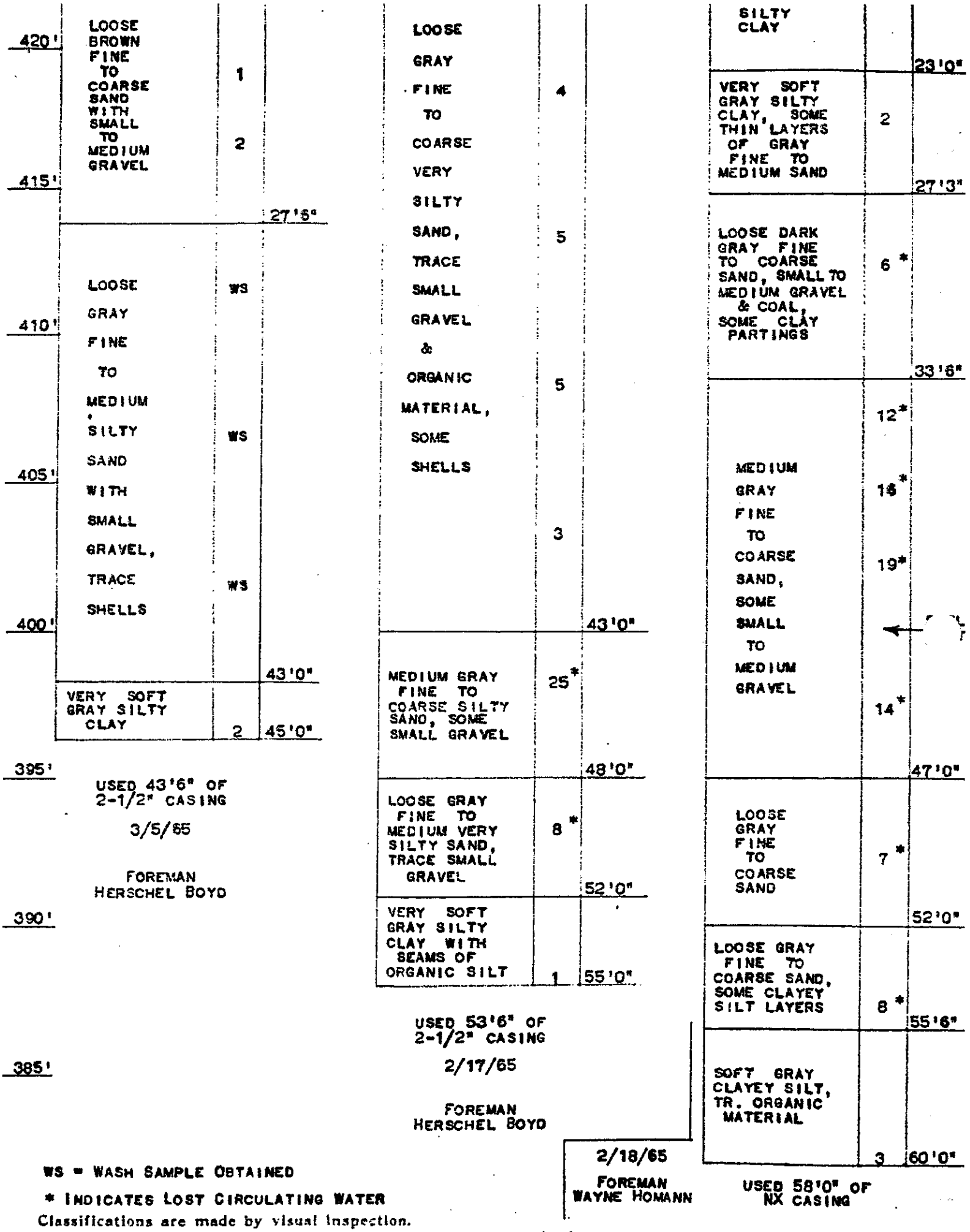
TEST BORING REPORT
RAYMOND
CONCRETE PILE COMPANY
GOW DIVISION

CATERPILLAR TRACTOR COMPANY Date 4 MAY 1965 195 Job No. CB-3581-C

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON, ILL.

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.





WS = WASH SAMPLE OBTAINED

* INDICATES LOST CIRCULATING WATER

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings

Total Footage 132'6"

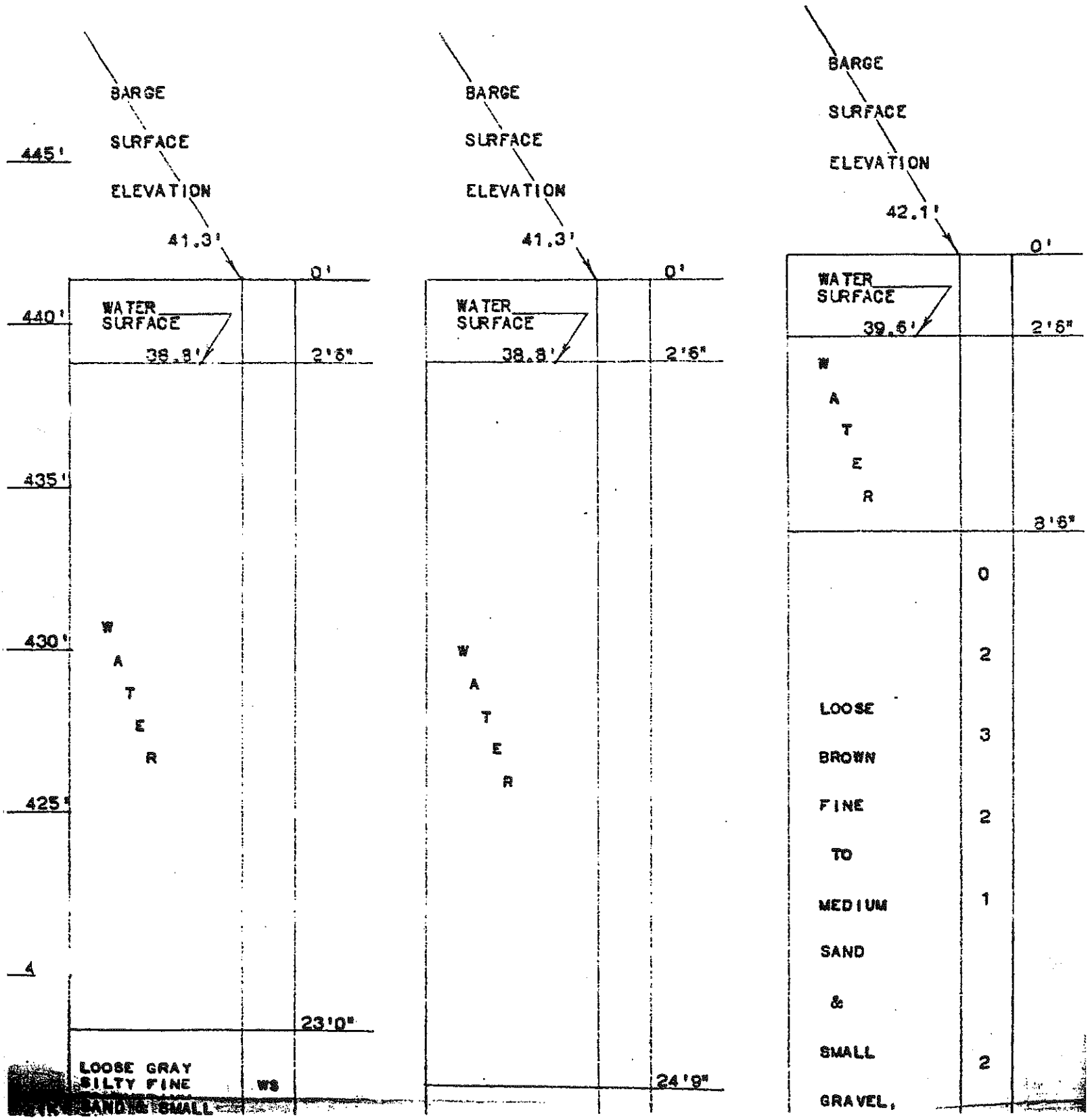
Foreman As Noted

TEST BORING REPORT
RAYMOND
CONCRETE PILE COMPANY
GOW DIVISION

CATERPILLAR TRACTOR COMPANY Date 4 MAY 1965 195 Job No GB-3581-C

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON, ILL.

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.



415'	LOOSE GRAY SILTY FINE TO MEDIUM SAND & SMALL TO MEDIUM GRAVEL, SOME LAYERS CLAYEY SILT & SHELLS	WS WS	29'6"
410'	LOOSE GRAY FINE TO MEDIUM SAND & SMALL TO MEDIUM GRAVEL, TRACE SHELLS	WS WS	
405'		WS	
400'		WS	
395'		WS	
390'		WS	52'6"
	SOFT GRAY SANDY CLAYEY SILT, TRACE ORGANIC MATERIAL	WS	55'0"
385'			

USED 50'0" OF 2-1/2" CASING

3/4/65

FOREMAN
WAYNE HOMANN

			24'9"
	LOOSE GRAY FINE TO COARSE SAND & SMALL TO MEDIUM GRAVEL, TRACE DECAYED WOOD	WS WS WS	43'6"
	SOFT GRAY SILTY CLAY, TRACE ORGANIC MATERIAL	3/13	45'0"

USED 40'0" OF 2-1/2" CASING

3/4/65

FOREMAN
WAYNE HOMANN

	SMALL GRAVEL, TRACE SHELLS	2 3	32'0"
	MEDIUM GRAY FINE TO COARSE SILTY SAND & SMALL TO MEDIUM GRAVEL, TRACE SHELLS	12 10 14	48'0"
	SOFT GRAY SILTY CLAY, TRACE ORGANIC SILT	3 4	55'0"

USED 49'0" OF 2-1/2" CASING

2/20/65

FOREMAN
HERSCHEL BOYD

WS = WASH SAMPLE OBTAINED

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site

Total Footage 98'9"

Foreman AS NOTED

Classification FOREMAN

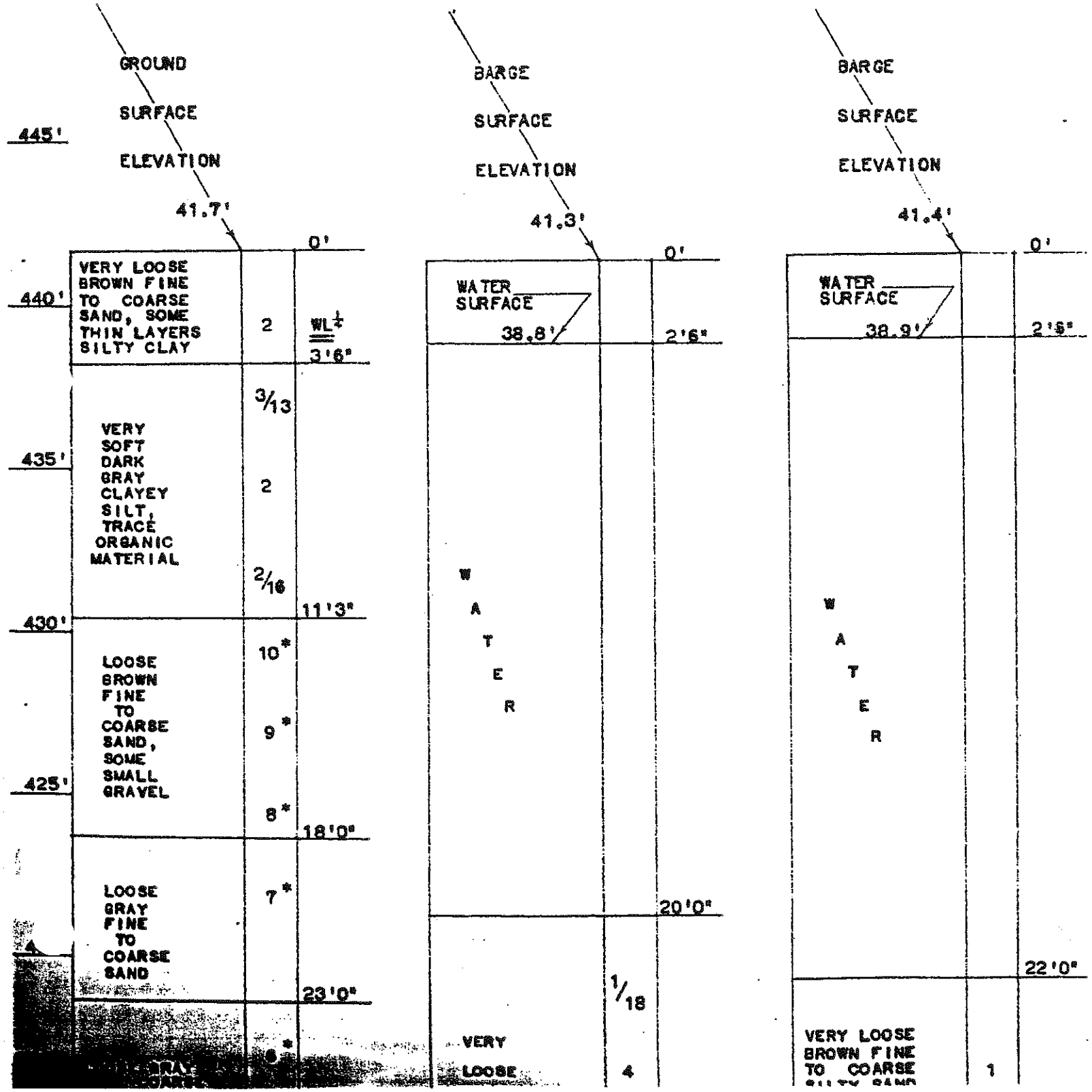
F 384-R 30 PAGE 2-66

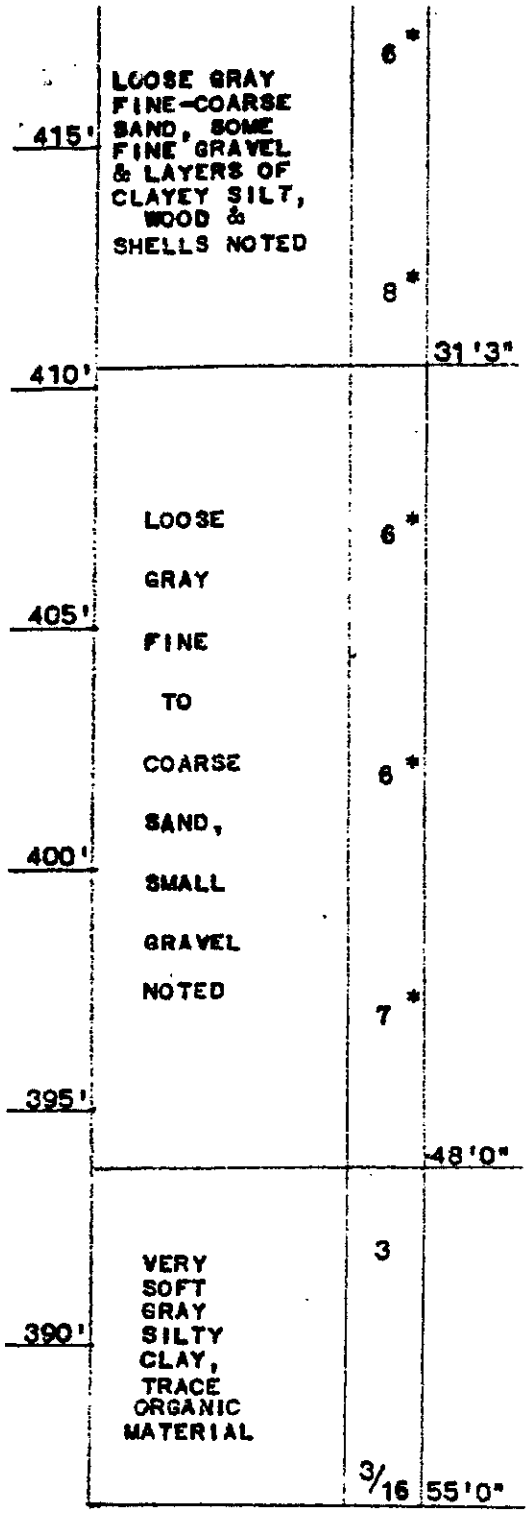
TEST BORING REPORT
RAYMOND
CONCRETE PILE COMPANY
GOW DIVISION

CATERPILLAR TRACTOR COMPANY Date 5 MAY 1965 195 Job No. CB-3581-C

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON, ILL.

All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.

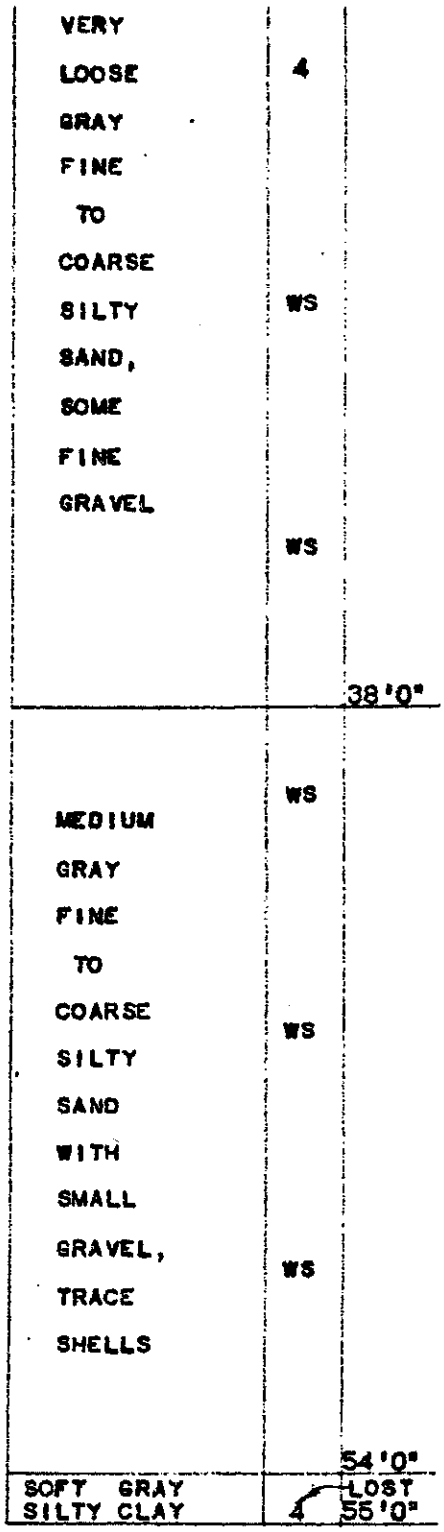




385' USED 48'0" OF NX CASING

2/19/65

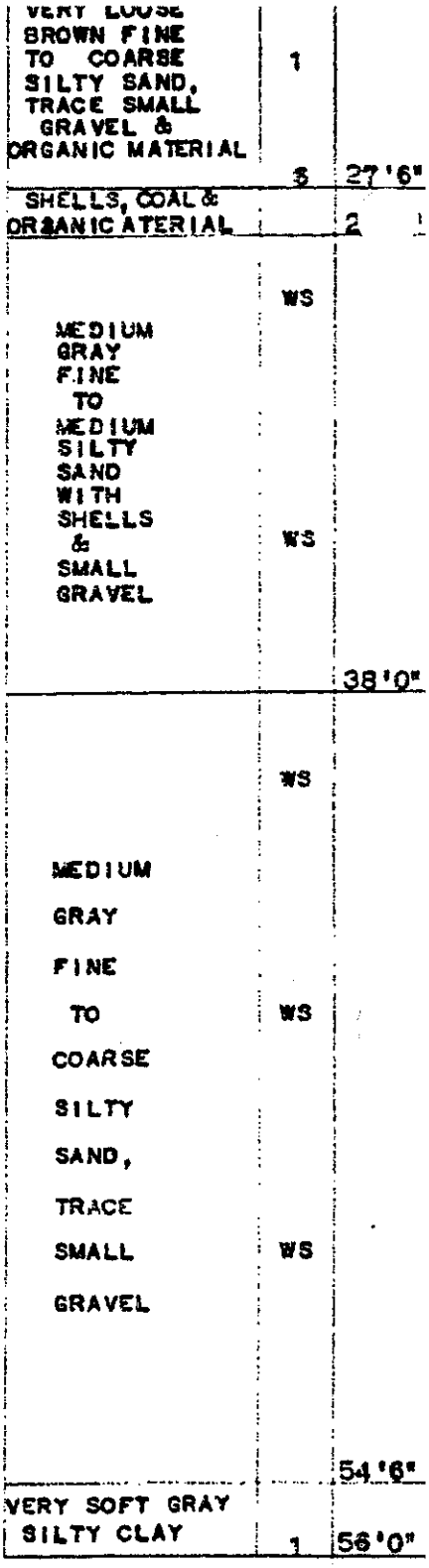
FOREMAN
WAYNE HOMANN



USED 53'6" OF
2-1/2" CASING

3/4/65

FOREMAN
HERSCHEL BOYD



USED 54'0" OF
2-1/2" CASING

3/5/65

FOREMAN
HERSCHEL BOYD

WS = WASH SAMPLE OBTAINED
* INDICATES LOST CIRCULATING WATER

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

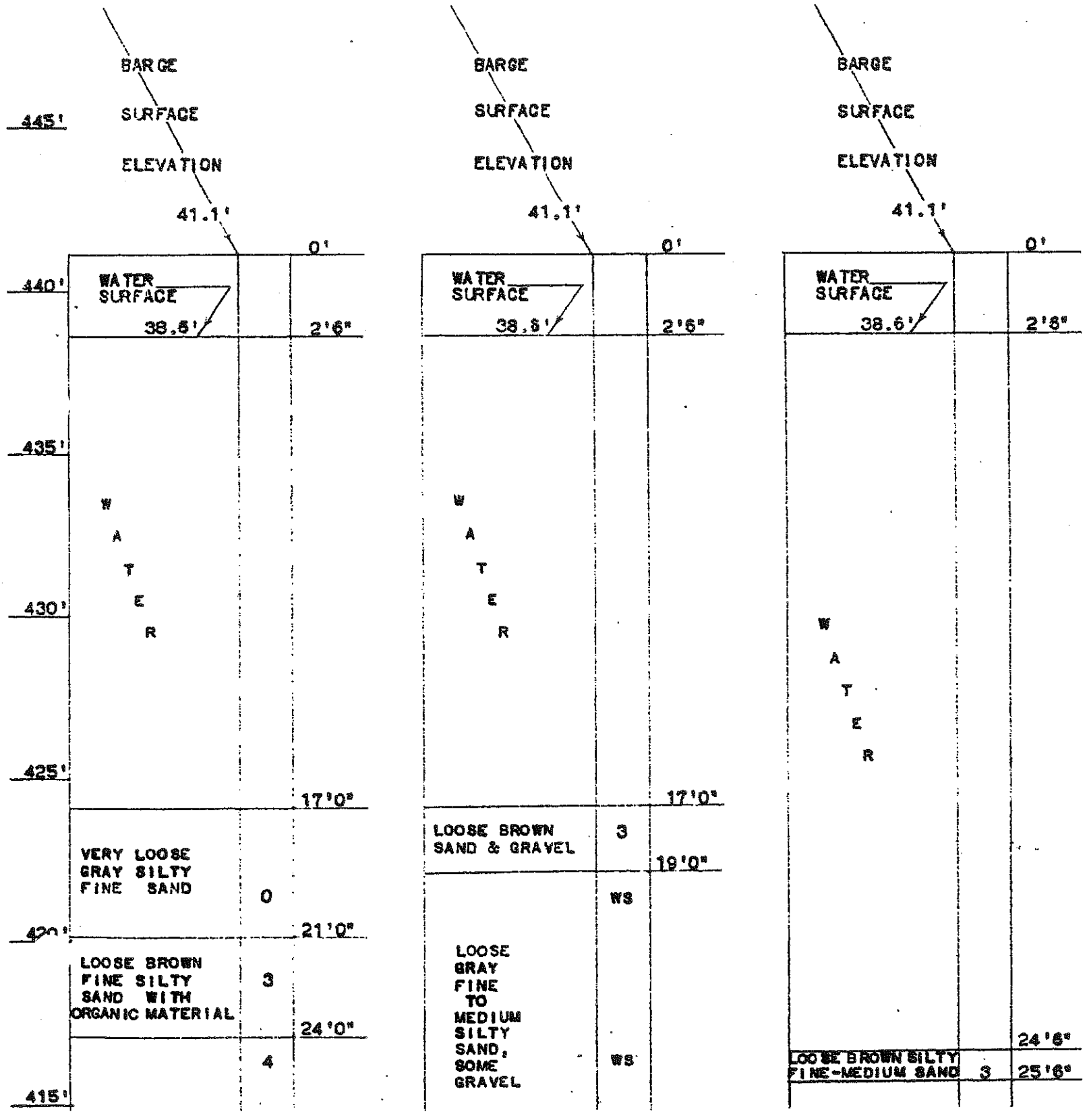
Total Footage 124'0"
Foreman AS NOTED
Classification by FOREMAN

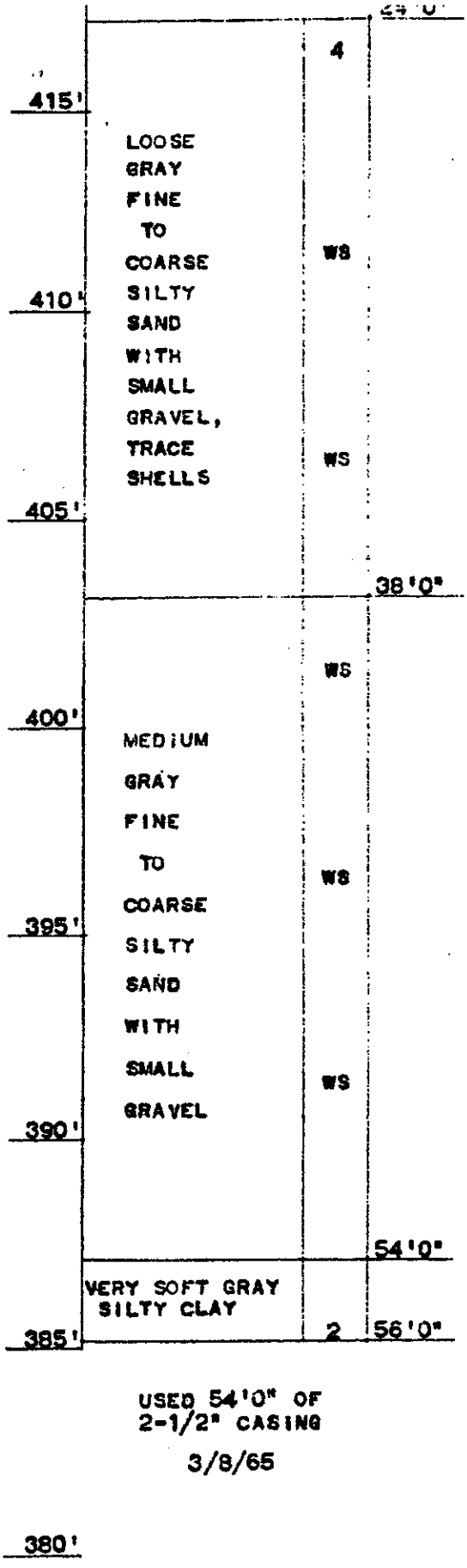
TEST BORING REPORT
RAYMOND
CONCRETE PILE COMPANY
GOW DIVISION

CATERPILLAR TRACTOR COMPANY Date 6 MAY 1965 195 Job No. CB-3581-C

Location of Borings CATERPILLAR TRACTOR CO., FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON, ILL.

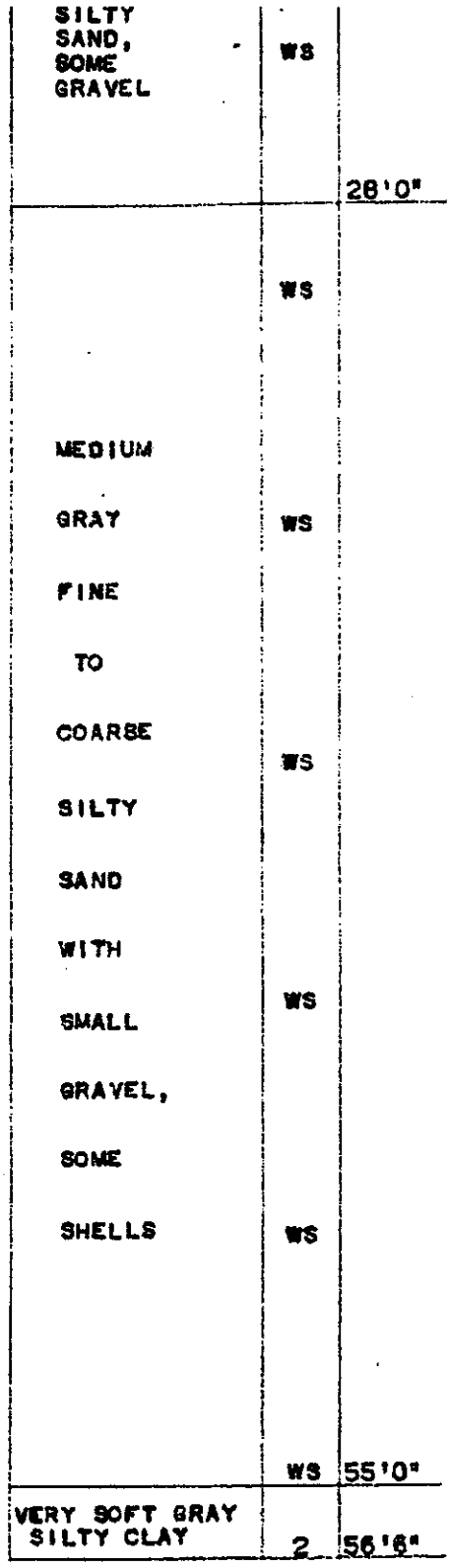
All borings are plotted to a scale of 1" = 4 ft. using ELEVATIONS SUPPLIED as a fixed datum.





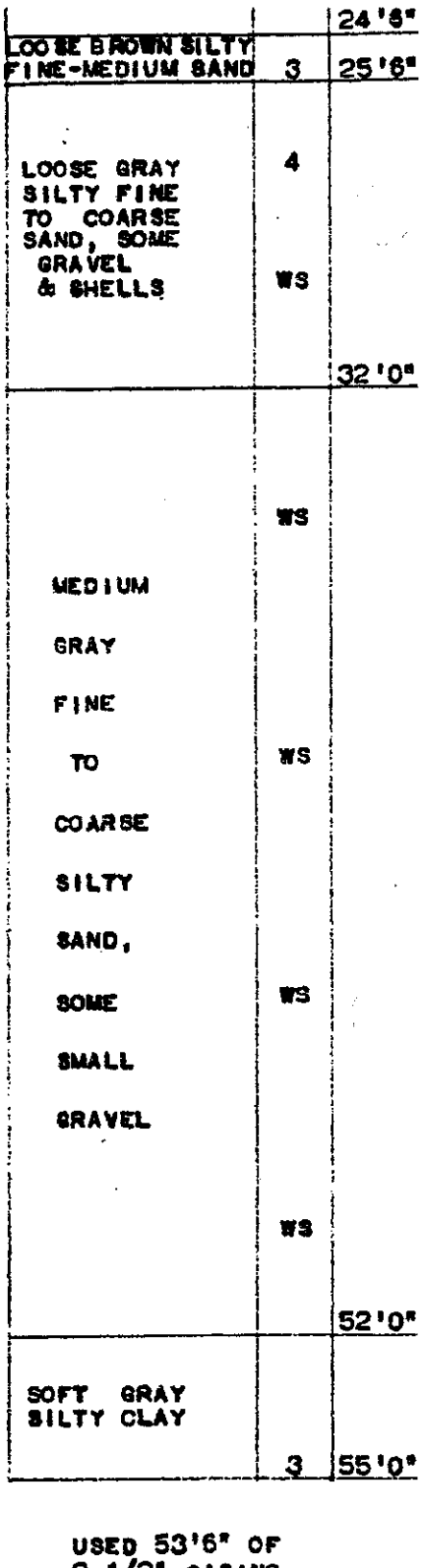
USED 54'0" OF 2-1/2" CASING

3/8/65



USED 55'0" OF 2-1/2" CASING

3/9/65



USED 53'6" OF 2-1/2" CASING

3/11/65

Classifications are made by visual inspection. **WS = WASH SAMPLE RECOVERED**

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site

Total Footage 109'0"

Foreman HERSCHEL BOYD

344-S—100 Pads—10-64

TEST BORING REPORT

RAYMOND

CONCRETE PILE DIVISION

RAYMOND INTERNATIONAL INC.

"T" CATERPILLAR TRACTOR COMPANY Date 6 MAY 1965 195 Job No. CB-3581-C

cation of Borings CATERPILLAR TRACTOR COMPANY, FOUNDRY EXPLORATION, ILLINOIS RIVER, MAPLETON

All borings are plotted to a scale of 1" = ____ ft. using _____ as a fixed datum.

No. 45+00 E		No. 50+00 E		No. 55+00 E		No. 60+00 E	
NORTH CO-ORD.	RIVER BOTTOM ELEV.	NORTH CO-ORD.	RIVER BOTTOM ELEV.	NORTH CO-ORD.	RIVER BOTTOM ELEV.	NORTH CO-ORD.	RIVER BOTTOM ELEV.
26+43	439.0'	27+86	439.0'	29+38	439.0'	31+45	439.0'
26+00	431.2'	27+50	424.0'	29+50	432.8'	31+00	431.0'
25+75	428.0'	27+25	419.0'	29+00	423.8'	30+50	429.5'
25+50	422.0'	27+00	417.0'	28+50	417.0'	30+00	423.0'
25+00	418.7'	26+50	416.2'	28+00	415.5'	29+50	417.0'
24+50	418.0'	26+00	417.5'	27+50	416.0'	29+00	416.5'
24+00	418.0'	25+50	418.0'	27+00	419.0'	28+50	416.0'
23+50	417.5'	25+00	419.3'	26+50	424.7'	28+00	415.0'
23+00	419.4'	24+50	420.5'	26+00	429.3'	27+50	419.0'
22+50	419.8'	24+00	423.2'	25+50	432.5'	27+25	424.3'
22+00	422.8'	23+50	424.2'	25+00	433.0'	27+00	429.0'
21+50	425.0'	23+00	427.1'	24+50	435.0'	26+50	430.2'
21+00	427.3'	22+50	431.1'	24+00	435.5'	26+00	432.8'
20+50	429.9'	22+00	431.9'	23+75	435.0'	25+50	432.1'
20+00	433.0'	21+50	439.0'	23+50	439.0'	25+00	432.8'
19+78	439.0'					24+50	433.5'
						24+10	439.0'

THE TOP CO-ORDINATE IN EACH COLUMN INDICATES THE NORTH BANK OF THE ILLINOIS RIVER AS OF 3/5/65 AND THE BOTTOM CO-ORDINATE IN EACH COLUMN INDICATES THE SOUTH BANK.

Classifications are made by visual inspection.

Water levels (WL). Figure indicates time of reading (hours) after completion of boring. Water levels indicated are those observed when borings were made, or as noted. Porosity of the soil strata, variations of rainfall, site topography, etc., may cause changes in these levels.

Figures in right hand column indicate number of blows required to drive 2" O.D. sampling pipe one foot, using 140-lb. weight falling 30 inches.

Total Footage _____

Foreman WAYNE HOMANN

Classification by _____

Sheet 9 of 9

13307 Client-Supplied Documents

LOG OF BORING NO. B-102

OWNER: CATERPILLAR TRACTOR COMPANY

ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.

SITE: MAPLETON, ILLINOIS

PROJECT NAME:

LOCATION: 53 + 64N
52 + 95E

SURFACE ELEVATION 456.6'

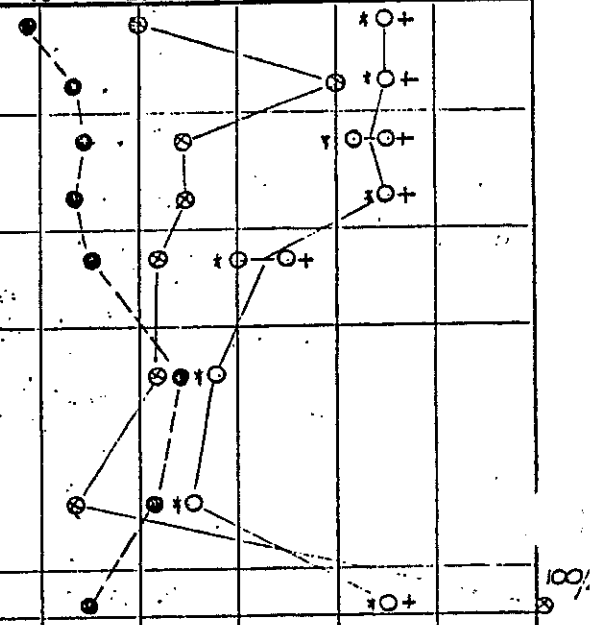
DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL
	1	SS			CLAYEY SILT-SOME FINE SAND-TRACE GRAVEL & FRAGMENTED SHALE-GRAY-BROWN-MEDIUM DENSE TO DENSE (SM-SC)
	2	SS			
	3	SS			SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-GRAY & BROWN-HARD (CL-CH)
	4	SS			
10.0	5	SS			SILTY CLAY-SOME SAND-TRACE GRAVEL-BROWN & GRAY-VERY TOUGH (CL-SC)
	6	SS			SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-BROWN & GRAY-VERY TOUGH (CL-CH)
20.0	7	SS			
23.5					NOTE A
25.3	8	SS			

END OF BORING
5' OF NX CASING USED

NOTE A: SILT-TRACE TO SOME CLAY, SAND & FINE GRAVEL-LIGHT GRAY-VERY DENSE-(ML-CL) POSSIBLE SILTSTONE

UNIT DRY WT. LBS./FT.³

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²
1 2 3 4 5
PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %
STANDARD "N" PENETRATION (BLOWS/FT.)
10 20 30 40 50



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS

W.L.	W.S. OR W.D.	
W.L.	3' B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-11-65		
BORING COMPLETED	11-11-65		
RIG	70	FOREMAN	ZAPPIA
DRAWN	MP	APPROVED	LDG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. B-103

OWNER: CATERPILLAR TRACTOR COMPANY	ARCHITECT - ENGINEER: LESTER B. KNIGHT & ASSOC.
SITE: MAPLETON, ILLINOIS	PROJECT NAME:

LOCATION: 53 + 64N
53 + 55E

SURFACE ELEVATION 456.1'

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL
	1	SS			NOTE A
	2	SS			SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-BROWN & GRAY-HARD (CL)
	3	SS			
	4	SS			SILTY CLAY-TRACE SAND-GRAY-BROWN-TOUGH (CL-CH)
10.0	5	SS			SILTY CLAY-TRACE SAND & GRAVEL-LIGHT BROWN & GRAY-HARD (CL)
	6	SS			CLAYEY & SILTY SAND-TRACE TO SOME GRAVEL-BROWN-MEDIUM DENSE-(SC)
20.0					SILTY CLAY-TRACE SAND & GRAVEL-GRAY & BROWN-SOFT TO VERY TOUGH (CL)
					NOTE: NO SAMPLE OBTAINED FROM 20' TO 21.5'
	7	SS			
28.0					NOTE B
30.0	8	SS			
30.3					END OF BORING

5' NX CASING USED

UNIT DRY WT. LBS./FT.³

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²

1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.)

10 20 30 40 50

62 1/2

54 1/2

*CALIBRATED PENETROMETER

NOTE A: CLAYEY SILT-SOME SAND-TRACE GRAVEL-GRAY-BROWN-MEDIUM DENSE (SM-SC)

NOTE B: SILT-TRACE TO SOME CLAY-SAND & GRAVEL-VERY DENSE-LIGHT GRAY (ML-CL) POSSIBLE SILTSTONE

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	15' B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-11-65		
BORING COMPLETED	11-11-65		
RIG	70	FOREMAN	ZAPPIA
DRAWN	MP	APPROVED	LDG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. B-104

OWNER: CATERPILLAR TRACTOR COMPANY	ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.
SITE: MAPLETON, ILLINOIS	PROJECT NAME:

LOCATION: 53 + 18N
52 + 95E

SURFACE ELEVATION 451.1'

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL
	1	SS			SILTY & CLAYEY SAND-TRACE TO SOME FINE GRAVEL-BROWN-MEDIUM DENSE-MOIST (SC) FILL
	2	SS			
	3	SS			SILTY CLAY-SOME TOPSOIL-TRACE ROOTS-BROWN TO DARK BROWN-ORGANIC (OL)
	4	SS			CLAYEY SILT-TRACE SAND-BROWN & GRAY-LOOSE-SATURATED (MH)
10.0	5	SS			
	6	SS			SILTY CLAY-TRACE SAND-MEDIUM DARK GRAY-STIFF TO SOFT-SLIGHTLY ORGANIC (CL)
20.0	7	SS			
					24.0
25.8	8	SS			NOTE A

END OF BORING
10' OF NX CASING USED

NOTE A: SILT-TRACE TO SOME CLAY, SAND & GRAVEL-VERY DENSE-LIGHT GRAY (ML-CL)

UNIT DRY WT. LBS./FT.³

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²
1 2 3 4 5

PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.)
10 20 30 40 50

185

*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L. 10'	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-11-65
BORING COMPLETED	11-11-65
RIG 70	FOREMAN ARRIA
DRAWN MP	APPROVED LOG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B-105

OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE MAPLETON, ILLINOIS	**PROJECT NAME**

LOCATION: 53 + 18N
53 + 55E

SURFACE ELEVATION 451.3'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1 2 3 4 5)
PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %
STANDARD "N" PENETRATION (BLOWS/FT.) (10 20 30 40 50)

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			NOTE A	
	2	SS			CLAYEY & SILTY SAND-TRACE GRAVEL-BROWN & GRAY-DENSE TO MEDIUM DENSE-(SC) POSSIBLE	
	3	SS			FILL	
	4	SS			CLAYEY SILT-TRACE SAND &	
10.0	5	SS			ROOTS-SATURATED-ORGANIC-LOOSE (MH)	
	6	SS			SILTY CLAY-TRACE SAND & ROOTS-MEDIUM DENSE-DARK GRAY-SLIGHTLY ORGANIC-STIFF (CL)	
20.0	7	SS			CLAYEY & SILTY SAND-MEDIUM DARK GRAY-LOOSE-SATURATED (SC)	
					24.5	
25.0	8	SS			NOTE B	

185/11
10+

END OF BORING
10' NX CASING USED

*CALIBRATED PENETROMETER

NOTE A: SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-BROWN-HARD (CL) POSSIBLE FILL

NOTE B: CLAYEY SILT-TRACE SAND-LIGHT GRAY-VERY DENSE (ML-CL) POSSIBLE SILTSTONE

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L. 10'	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-11-65
BORING COMPLETED	11-11-65
RIG 70	FOREMAN ZAPPIA
DRAWN MP	APPROVED LOG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B-106

OWNER: CATERPILLAR TRACTOR COMPANY	ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOCIATES
SITE: MAPLETON, ILLINOIS	PROJECT NAME:

LOCATION: 52 + 45N, 52 + 95E

SURFACE ELEVATION: 458.2'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1, 2, 3, 4, 5)

PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.) (10, 20, 30, 40, 50)

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			NOTE A	
	2	SS			SILTY CLAY-TRACE SAND TO TRACE TO SOME SAND-TRACE GRAVEL-GRAY & BROWN-HARD (CL-CH)	
	3	SS				
	4	SS				
10.0	5	SS				
	6	SS			SILTY CLAY-TRACE TO SOME GRAVEL-TRACE SAND-DARK GRAY & BROWN-SATURATED-SOFT (CL-CH)	
20.0	7	SS			CLAYEY SILT-TRACE TO SOME SAND-DARK GRAY-LOOSE TO MEDIUM DENSE (ML-OL) ROCK AT 34'	
	8	SS				
30.0	9	SS				
34.0		RB				
					END OF BORING	

*CALIBRATED PENETROMETER

NOTE A: SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-GRAY-BROWN- HARD (CL)

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-10-65		
BORING COMPLETED	11-10-65		
RIG	70	FOREMAN	ZAPPIA
DRAWN	MP	APPROVED	LOG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. B-107

OWNER	ARCHITECT - ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILLINOIS	

LOCATION: 52 + 45N
53 + 55E

SURFACE ELEVATION 458.0'

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL
	1	SS			NOTE A
	2	SS			SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-BROWN & GRAY-HARD TO VERY TOUGH (CL-CH)
	3	SS			
	4	SS			
10.0	5	SS			
	6	SS			CLAYEY SILT-TRACE SAND-BROWN & GRAY-MEDIUM DENSE (ML-CL)
20.0	7	SS			SILTY CLAY-TRACE SAND-MEDIUM DARK GRAY & BROWN-TOUGH (CL)
	8	SS			CLAYEY SILT-TRACE FINE SAND-LOOSE (ML-OL)
30.0	9	SS			
					33.0
					NOTE B
35.3	10	SS			
					END OF BORING

UNIT DRY WT. LBS./FT.³

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²
1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.)
10 20 30 40 50

12E/4"

*CALIBRATED PENETROMETER

NOTE A: SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-LIGHT BROWN & GRAY-HARD (CL)

NOTE B: CLAYEY SILT-TRACE FINE GRAVEL-TRACE SAND-LIGHT GRAY-VERY DENSE-SATURATED (ML-MH)

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-10-65
BORING COMPLETED	11-10-65
RIG 70	FOREMAN ZAPPIA
DRAWN MP	APPROVED LDG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B-108

OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE MAPLETON, ILLINOIS	**PROJECT NAME**

LOCATION: 55 + 00N, 39 + 00E

SURFACE ELEVATION 450.6'

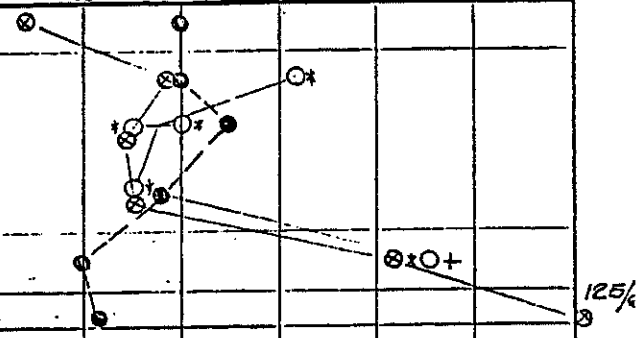
DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			CLAYEY & SILTY SAND-TRACE GRAVEL-BROWN-LOOSE (SC)	
	2	SS			SILTY CLAY-TRACE SAND TO TRACE TO SOME SAND-LIGHT BROWN & GRAY-VERY TOUGH TO TOUGH (CL-CH)	
	3	SS				
	4	SS				
10.0					SILTY CLAY-SOME SAND & GRAVEL-HARD-VERY BRITTLE (CL-ML)	
	5	SS		12"		
13.5	6	SS			NOTE A	
					END OF BORING	

NOTE A: CLAYEY SILT-LIGHT GRAY-VERY DENSE (ML-CL) POSSIBLE SHALE

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — 1 2 3 4 5

PLASTIC LIMIT % × — WATER CONTENT % ○ — LIQUID LIMIT % △

STANDARD "N" PENETRATION (BLOWS/FT.) ⊗ — 10 20 30 40 50



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-10-65
BORING COMPLETED	11-10-65
RIG 70	FOREMAN ZAPPIA
DRAWN MP	APPROVED LDG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B-109

OWNER	ARCHITECT - ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILLINOIS	

LOCATION: 52 + 00N
39 + 00E

SURFACE ELEVATION 450.2'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²
1 2 3 4 5
PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %
STANDARD "N" PENETRATION (BLOWS/FT.)
10 20 30 40 50

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			CLAYEY & SILTY SAND-BROWN-MEDIUM DENSE (SC)	
	2	SS			SILTY CLAY-TRACE SAND OR TRACE TO SOME SAND-LIGHT BROWN & GRAY-VERY TOUGH TO TOUGH (CL-CH)	
	3					
	4	SS			SILTY CLAY-TRACE SAND OR TRACE TO SOME SAND-TOUGH TO STIFF (CL)	
10.0	5	SS				
					13.0	
14.5	6	SS			NOTE A	

END OF BORING

*CALIBRATED PENETROMETER

NOTE A: CLAYEY SILT-TRACE SAND & GRAVEL-LIGHT GRAY-VERY DENSE (ML-CL) POSSIBLE SILTSTONE

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-10-65
BORING COMPLETED	11-10-65
RIG 70	FOREMAN ZAPPIA
DRAWN MP	APPROVED LDG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B-110

OWNER: CATERPILLAR TRACTOR COMPANY	ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.
SITE: MAPLETON, ILLINOIS	PROJECT NAME:

LOCATION: 55 + 00N
36 + 55E

SURFACE ELEVATION 451.4'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²
1 2 3 4 5
PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %
STANDARD "N" PENETRATION (BLOWS/FT.)
10 20 30 40 50

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			NOTE A	
	2	SS			SILTY CLAY-TRACE SAND-LIGHT BROWN & GRAY-VERY TOUGH TO TOUGH (CL-CH)	
	3	SS				
	4	SS				
10.0	5	SS			FINE TO COARSE SAND-SOME FINE GRAVEL-TRACE SILT-LIGHT BROWN & GRAY-DENSE-SATURATED (SW)	
	6	SS			SILTY CLAY-TRACE SAND-LIGHT BROWN & GRAY-STIFF (CL)	
	6A				NOTE B	
18.0	7	SS				

END OF BORING
15' OF NX CASING USED

*CALIBRATED PENETROMETER

NOTE A: CLAYEY SILT-SOME FINE SAND-BROWN & SLIGHTLY GRAY-MEDIUM DENSE (ML-CL)

NOTE B: FINE TO MEDIUM GRAVEL & SAND-TRACE SILT & CLAY-LIGHT BROWN & GRAY-DENSE TO VERY DENSE-SATURATED (GP)

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-10-65		
BORING COMPLETED	11-10-65		
RIG	70	FOREMAN	ZAPPIA
DRAWN	MP	APPROVED	LDG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. B-111

OWNER: CATERPILLAR TRACTOR COMPANY

ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.

SITE: MAPLETON, ILLINOIS

PROJECT NAME:

LOCATION: 52 + 00N, 36 + 50E

SURFACE ELEVATION: 452.6'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1, 2, 3, 4, 5)

PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.) (10, 20, 30, 40, 50)

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			NOTE A	
	2	SS			NOTE B	
	3	SS			SILTY CLAY-TRACE SAND-BROWN & GRAY-VERY TOUGH (CL-CH)	
	4	SS			SILTY CLAY-TRACE SAND-BROWN & GRAY-TOUGH (CL)	
10.0	5	SS				
					NOTE C	
16.0	6	SS				
					END OF BORING	

REF.

*CALIBRATED PENETROMETER

NOTE A: SILTY CLAY-SOME SAND-TRACE GRAVEL & ROOTS-GRAY & BROWN-HARD-(CL) FILL

NOTE B: SANDY & SILTY CLAY-TRACE GRAVEL & ROOTS-BROWN & GRAY-VERY TOUGH (CL_SC)

NOTE C: FINE TO COARSE GRAVEL & SAND-TRACE SILT & CLAY-LIGHT GRAY & BROWN-VERY DENSE-SATURATED (GP-GW)
NOTE: REFUSAL AT THE END OF BORING

WATER LEVEL OBSERVATIONS

W.L.	8' W.S. ~~X~~ ~~R~~ ~~X~~ ~~Y~~ ~~X~~ ~~D~~	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-10-65
BORING COMPLETED	11-10-65
RIG 70	FOREMAN ZAPPIA
DRAWN MP	APPROVED LDG
JOB # 9600-B	SHEET 1 OF 1

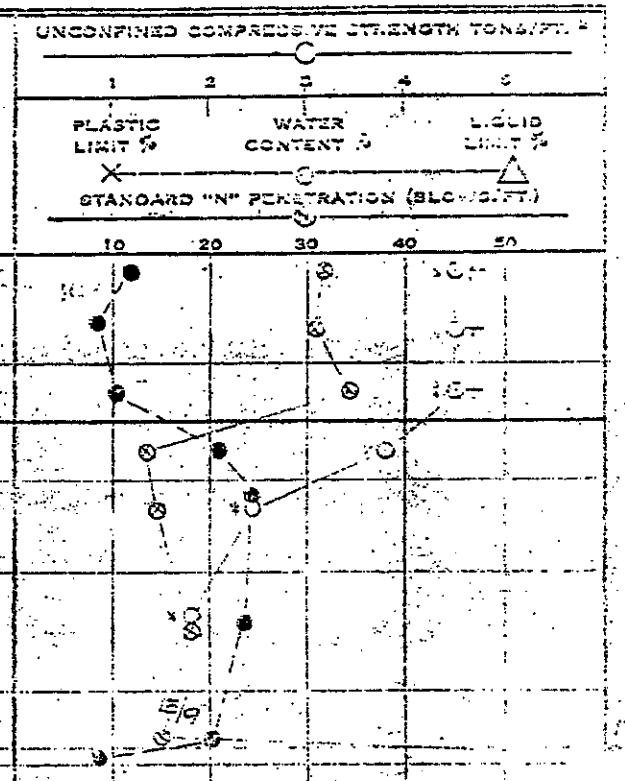
LOG OF BORING NO. B-112

OWNER	ARCHITECT-ENGINEER
[illegible]TERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE	PROJECT NAME
[illegible]PLETON, ILLINOIS	

LOCATION: N 53+50
E 42+00

SURFACE ELEVATION 458.8

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE NO.	BLOCK	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-GRAY & BROWN-HARD (CL-ML) (FILL)	
	2	SS				
	3	SS			SILTY & CLAYEY SAND-TRACE GRAVEL-GRAY-DENSE-MOIST (SC) (FILL)	
	4	SS			NOTE A	
	5	SS			SILT-TRACE CLAY & SAND-LIGHT BROWN & GRAY-MEDIUM DENSE-MOIST TO WET (ML)	
	6	SS			SILTY CLAY-TRACE TO SOME SAND-LIGHT BROWN-TOUGH (CL)	
					NOTE B	
	7	SS			NOTE C	



END OF BORING
NO CASING

*CALIBRATED PENETROMETER

NOTE A: SILTY CLAY-TRACE SAND & GRAVEL-LIGHT BROWN-VERY TOUGH-HORIZONTAL SAND SEAMS (CL)

NOTE B: SILTY & CLAYEY SAND-TRACE TO SOME GRAVEL-BROWN-MEDIUM DENSE-WET (SC)

NOTE C: GRAY TO GREEN & BROWN SILTY & CLAYEY SHALE

WATER LEVEL OBSERVATIONS	SOIL TESTING SERVICES INC. 111 PFINGSTEN ROAD NORTHBROOK, ILLINOIS	BORING STARTED [illegible]	
W.S. OR W.D.		BORING COMPLETED [illegible]	
D.C.R. / C.R.		RIG 70	FOREMAN
		DRAWN [illegible]	APPROVED [illegible]
		JOB # [illegible]-B	SHEET [illegible] OF [illegible]

LOG OF BORING NO. B-113

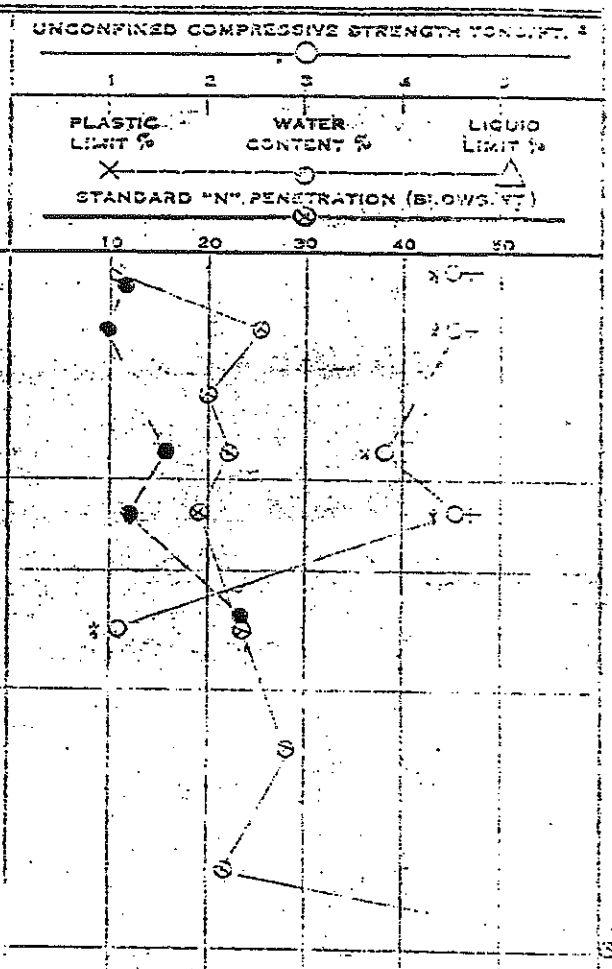
OWNER: Caterpillar Tractor Co.	ARCHITECT-ENGINEER: Lester B. Knight & Assoc.
SITE: Napleton, Illinois	PROJECT NAME

LOCATION: 43+40E
53+50 N

SURFACE ELEVATION 458.8

DEPTH	ELEVATION	SAMPLE NO.	TYPE SAMPLE	BLOWS	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
		1	SS		SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-GRAY-HARD TO VERY TOUGH (CL-ML) (FILL)	
		2	SS			
		3	SS			
		4	SS			
10.0		5	SS		SILTY CLAY-SOME SAND-TRACE GRAVEL-BROWN-HARD (CL-SC)	
		6	SS		SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-BROWN-TOUGH (CL)	
20.0		7	SS		FINE TO COARSE SAND-TRACE TO SOME SILT & CLAY-TRACE GRAVEL-BROWN-MEDIUM DENSE-WET (SM-SC)	
		8	SS		REFUSAL WITH SPLIT-SPOON AT 29' INDICATES BEDROCK OR BOULDER	
29.0			SS			

END OF BORING
29.0' NX CASING



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS	
W.L.	A.S. OR W.D.
W.L.	12 A.C.R. 7.0' A.C.R.
W.L.	

COIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-23-6[illegible]
BORING COMPLETED	11-23-6[illegible]
RIG 70	FOREMAN J7
DRAWN MP	APPROVED [illegible]
JOB # 9600-B	SHEET 1 OF [illegible]

LOG OF BORING NO. B-114

OWNER: CATERPILLAR TRACTOR COMPANY	ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.
SITE: MAPLETON, ILLINOIS	PROJECT NAME

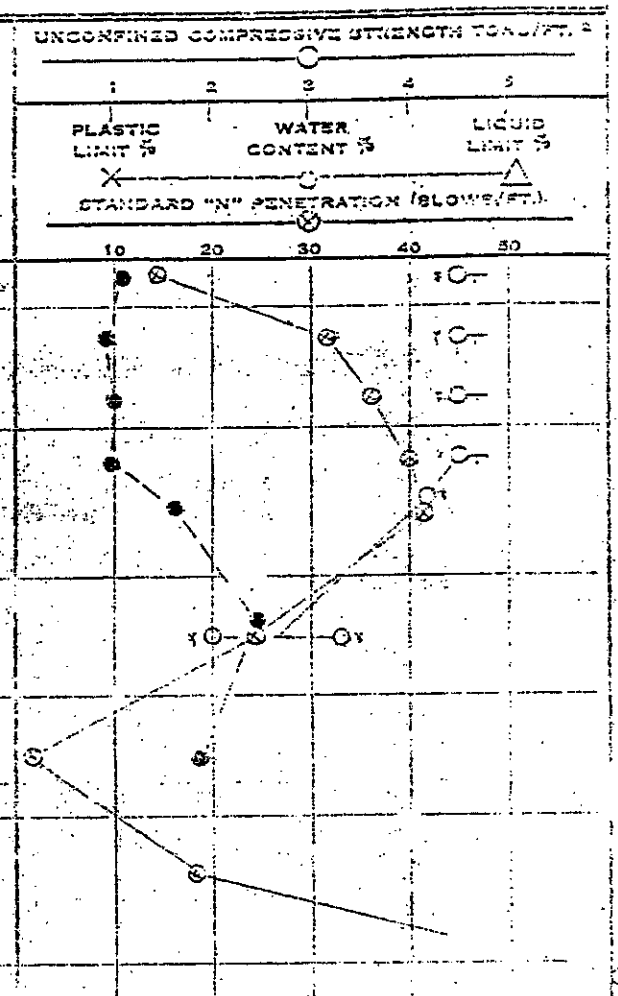
LOCATION: N 52+00
E 42+00

SURFACE ELEVATION 458.8

DEPTH / ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE ENG.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			NOTE A	
	2	SS			SANDY & SILTY CLAY-TRACE GRAVEL-GRAY & BROWN-HARD (CL-SC) (FILL)	
	3	SS				
	4	SS			SILTY CLAY-SOME SAND-TRACE GRAVEL-LIGHT BROWN & GRAY-HARD (CL)	
10.0	5	SS				
	6	SS			SILT-TRACE CLAY & SAND-BROWN-MEDIUM DENSE-WET (ML)	
[illegible]	7	SS			CLAYEY & SILTY SAND-TRACE GRAVEL-BROWN-LOOSE-WET (SC)	
	8	SS			FINE TO COARSE SAND-SOME GRAVEL-TRACE SILT & CLAY-BROWN-MEDIUM DENSE-MOIST TO WET (SW)	
					GRAY TO GREEN SILTY & CLAYEY SHALE	

END OF BORING
29.0' NX CASING

NOTE A: CLAYEY SILT-TRACE TO SOME SAND-LIGHT BROWN & GRAY-MEDIUM DENSE-MOIST (ML-CL) (FILL)



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS	
W.L.	W.S. OR W.D.
W.L.	14.0' B.C.R. 7.0' A.C.R.
W.L.	

SOIL TESTING SERVICES, INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11-23-68		
BORING COMPLETED	11-23-68		
RIG	70	FOREMAN	
DRAWN	MP	APPROVED	[illegible]
JOB #	9600-B	SHEET	[illegible]

LOG OF BORING NO. B-115

OWNER: CATERPILLAR TRACTOR COMPANY	ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.
SITE: NAPLETON, ILLINOIS	PROJECT NAME

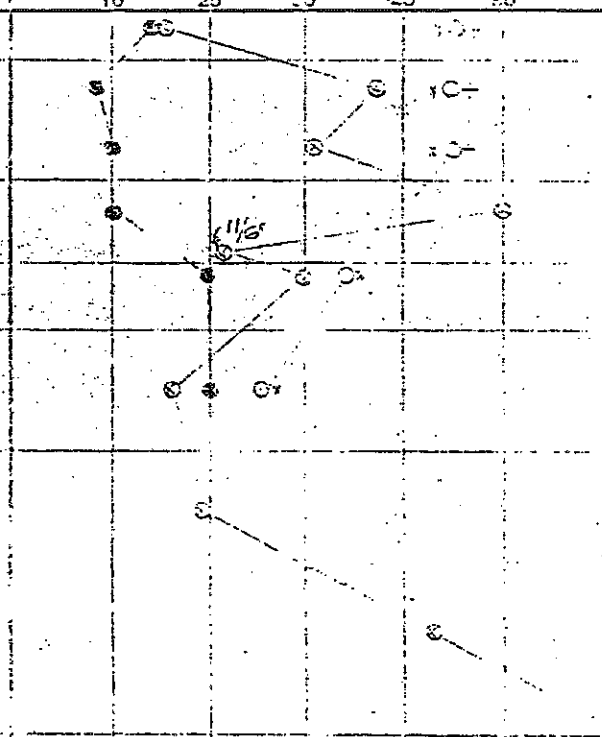
LOCATION: N 5[illegible] E 43+00

SURFACE ELEVATION 456.8

DEPTH	ELEVATION	SAMPLE NO.	TYPE SAMPLE	DESCRIPTION OF MATERIAL
		1	SS	SILTY CLAY-TRACE SAND & GRAVEL-GRAY-HARD (CL-ML) (FILL)
		2	SS	SILTY CLAY-SOME SAND-TRACE GRAVEL-BROWN & GRAY-HARD (CL) (FILL)
		3	S	
		4	SS	SANDY & SILTY CLAY-TRACE GRAVEL-BROWN & GRAY-HARD (CL-SC) (FILL)
		5	SS	
		5A		SILTY CLAY-TRACE SAND & GRAVEL-LIGHT BROWN & GRAY-VERY TOUGH (CL-CH) (POSSIBLE FILL)
		6	SS	SILTY CLAY-SOME SAND-TRACE GRAVEL-BROWN-VERY TOUGH (CL)
20.0		7	SS	FINE TO MEDIUM SAND-TRACE TO SOME GRAVEL-TRACE SILT & CLAY-BROWN-MEDIUM DENSE TO DENSE-WET (SP-SW)
			SS	NOTE: REFUSAL AT 30.0' WHICH INDICATES BEDROCK OR BOULDERS
30.0			SS	

END OF BORING
30.0' NX CASING

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — 1 2 3 4 5
PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %
STANDARD "N" PENETRATION (BLOWS/FT.) — 10 20 30 40 50



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.		N.S. OR W.D.
W.L.	25.0' B.C.R.	1[illegible].8' A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	[illegible]
BORING COMPLETED	[illegible]
RIG	[illegible]
FOREMAN	[illegible]
DRAWN MP	APPROVED [illegible]
JOB # 9000-B	SHEET 1 OF

LOG OF BORING NO. B-116

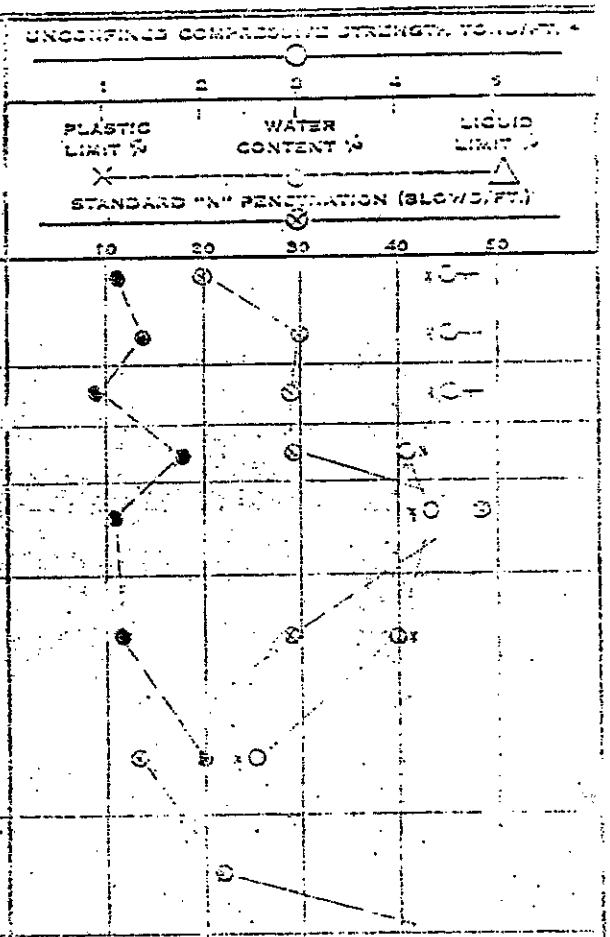
OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE: MAPLETON, ILLINOIS	PROJECT NAME

LOCATION: N 53+50
E 45+00

SURFACE ELEVATION 458.8

DEPTH	ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DEPTH	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
		1	SS		SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-GRAY TO GREEN-HARD (CL-ML) (FILL)	
		2	SS			
		3	SS		SANDY & SILTY CLAY-TRACE GRAVEL-GRAY & BROWN-HARD (CL-SC) (FILL)	
		4	SS		SILTY CLAY-TRACE SAND & GRAVEL-GRAY-HARD (CL) (FILL)	
10.0		5	SS		CLAYEY & SILTY SAND-TRACE GRAVEL-BROWN-DENSE-MOIST (SC)	
		6	SS		SILTY CLAY-SOME SAND-TRACE GRAVEL-BROWN & GRAY-HARD TO VERY TOUGH (CL)	
		7	SS			
		8	SS		FINE TO COARSE SAND-TRACE TO SOME GRAVEL-TRACE SILT & CLAY-BROWN-MEDIUM DENSE-WET (SC)	
30.0		9	SS		NOTE A	
40.2					END OF BORING 30.0' NX CASING	

NOTE A: SILTY SAND-TRACE CLAY & GRAVEL-BROWN-VERY DENSE-MOIST TO WET (SM)



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.		W.B. OR W.D.
W	FT. 0' B.C.R.	3.5' A.C.R.
W.L.		

SOIL BORING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	[illegible]
BORING COMPLETED	[illegible]
RIG 70	FOREMAN [illegible]
DRAWN [illegible]	APPROVED [illegible]
JOB # 9600-[illegible]	SHEET [illegible] OF [illegible]

LOG OF BORING NO. 5-[illegible]

OWNER: CATERPILLAR TRACTOR COMPANY	ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.
SITE: [illegible], ILLINOIS	PROJECT NAME

LOCATION: N 53+00
E 45+50

SURFACE ELEVATION 458.8

DEPTH	ELEVATION	SAMPLE NO.	SAMPLE TYPE	DESCRIPTION OF MATERIAL
		1	SS	SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-GRAY-HARD (CL-ML) (FILL)
		2	SS	
		3	SS	
		4	SS	NOTE A
10.0		5	SS	SILTY CLAY-SOME SAND-TRACE GRAVEL-LIGHT BROWN & GRAY-VERY TOUGH TO HARD (CL) (FILL)
		6	SS	SANDY & SILTY CLAY-TRACE GRAVEL-BROWN-HARD (CL-SC) (FILL)
20.0		7	SS	SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-BROWN-TOUGH (CL)
		8	SS	CLAYEY & SILTY SAND-TRACE GRAVEL-BROWN-LOOSE-WET (SC)
				28.5 GRAY & BROWN SILTY & CLAYEY SHALE
30.2		9	SS	

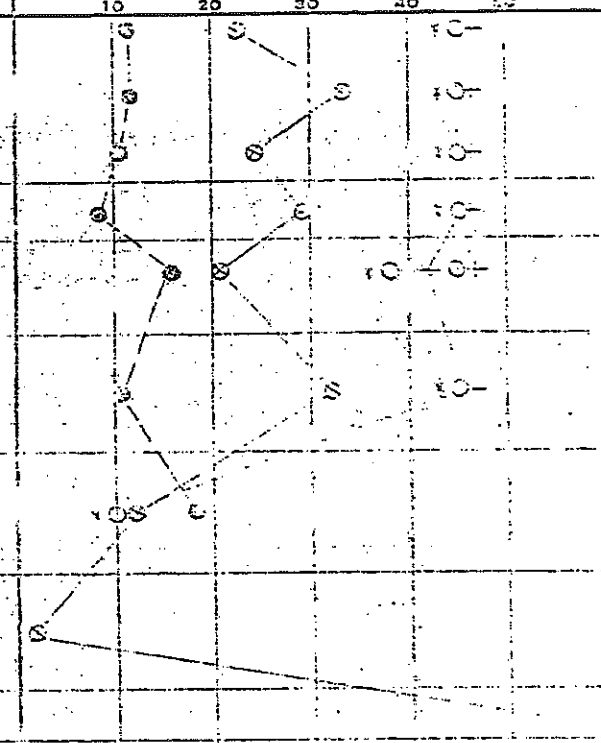
END OF BORING
NO CASING

NOTE A: SILTY CLAYEY SAND-TRACE GRAVEL-GRAY-MEDIUM DENSE-MOIST (SM-SC) (FILL)

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1, 2, 3, 4)

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.) (10, 20, 30, 40, 50)



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
	W.S. OR W.D.	
	B.C.R.	A.C.R.

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	[illegible]
BORING COMPLETED	[illegible]
R.G. [illegible]	FOREMAN
DRAWN [illegible]	APPROVED [illegible]
JOB # [illegible]	SHEET 1 OF 1

LOG OF BORING NO. B-110

OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE: MAPLETON, ILLINOIS	PROJECT NAME

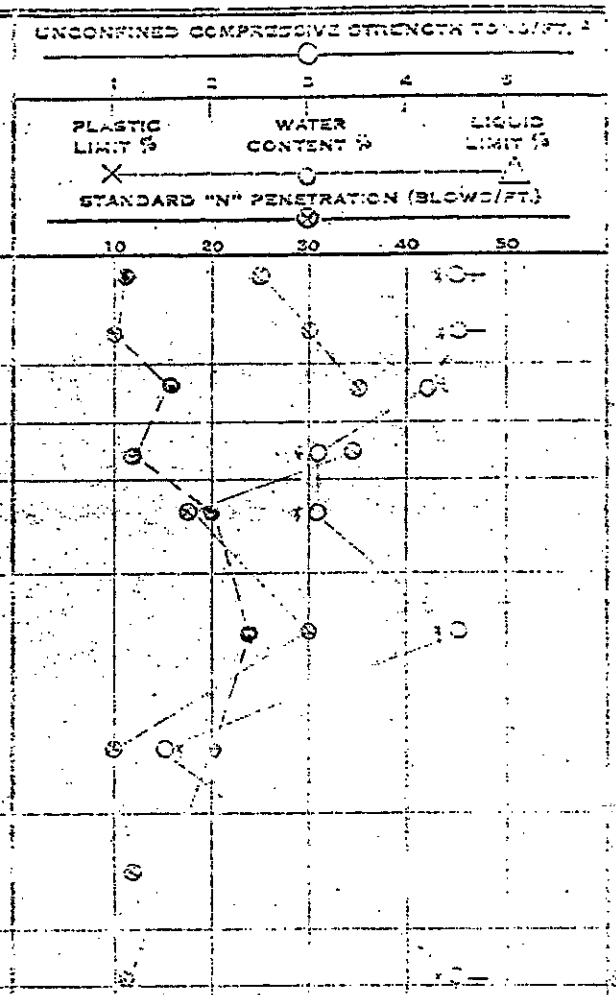
LOCATION: N 51+30
E 42+00

SURFACE ELEVATION 458.8

DEPTH	ELEVATION	SAMPLE NO.	TYPE SAMPLE	DESCRIPTION OF MATERIAL
		1	SS	SILTY CLAY-SOME SAND-TRACE GRAVEL-GRAY & BROWN-HARD (CL-ML)(FILL)
		2	SS	
		3	SS	SILTY CLAY-TRACE SAND & GRAVEL-GRAY TO GREEN-HARD (CL-CH)(FILL)
		4	SS	NOTE A
		5	SS	SILTY CLAY-TRACE SAND-BROWN DARK BROWN-VERY TOUGH (CL-ML)
		6	SS	SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-BROWN-HARD TO TOUGH (CL)
20.0		7	SS	
		8	SS	SILTY & CLAYEY SAND & GRAVEL-BROWN-MEDIUM DENSE-WET (CM)
30.0		9	SS	SILTY & CLAYEY SAND-TRACE GRAVEL-BROWN-VERY DENSE-MOIST (SM-SC)

END OF BORING
30.0' NX CASING

NOTE A: SILTY CLAY-TRACE TO SOME SAND-TRACE GRAVEL-LIGHT BROWN-VERY TOUGH (CL)(FILL)



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	[illegible] B.C.R.	[illegible] C.R.
W		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	[illegible]
BORING COMPLETED	[illegible]
RIG	[illegible]
FORE[illegible]	[illegible]
DRAWN	MP
APPROVED	[illegible]
JOB #	9600-3
SHEET	1 OF 1

LOG OF BORING NO. B - 119

OWNER	ARCHITECT - ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILLINOIS	

LOCATION: N44 + 50
E46 + 00

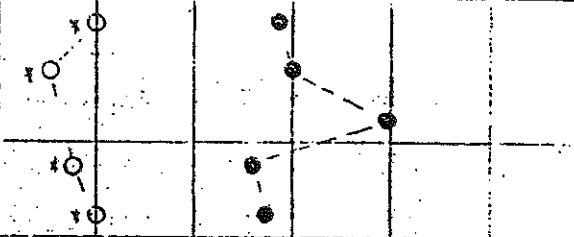
SURFACE ELEVATION → 450.00'

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	ST			SILTY CLAY, TRACE SAND - BROWN - TOUGH TO SOFT - (CL-ML)	
	2	ST				
	3	ST				
	4	ST			SILTY CLAY, TRACE SAND AND GRAVEL - BROWN - STIFF TO TOUGH - (CL)	
10.0	5	ST				
					END OF BORING NO CASING USED	

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1 2 3 4 5)

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.) (10 20 30 40 50)



*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS			
W.L.	6.0'	W.S.XXXXXX	
W.L.	B.C.R.	A.C.R.	
W.L.			

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11/30/65		
BORING COMPLETED	11/30/65		
RIG	HA	FOREMAN	RR
DRAWN	MP	APPROVED	LG
JOB #	9600-B	SHEET	1 OF 1

(CORRECTED COPY)

LOG OF BORING NO. B - 119-A

OWNER	ARCHITECT - ENGINEER
CATERPILLAR TRACTOR CO.	LESTER B. KNIGHT AND ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILL.	

LOCATION: N44 + 50, E46 + 00

SURFACE ELEVATION 450.0'

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			CLAYEY SILT, TRACE SAND - BROWN - LOOSE - MOIST TO WET (ML-CL)	
	2	SS				
	3	SS			SILTY CLAY, TRACE SAND - BROWN & GRAY - TOUGH TO VERY TOUGH - (CL)	
	4	SS				
10.0	5	SS				
	6	SS			FINE TO MED. SAND, TRACE SILT AND GRAVEL - BROWN - LOOSE - WET - (SP)	
20.0	7	SS			FINE TO COARSE SAND, TRACE TO SOME GRAVEL, TRACE SILT - BROWN - DENSE - WET - (SW)	
	8	SS			GRAY SILTY SHALE	
30.0	9	DB			GRAY SILTY SHALE 40% RECOVERY	
31.0					END OF BORING 20' OF 4" CASING USED	

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²

1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.)

10 20 30 40 50

*CALIBRATED PENETROMETER

100

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	4.0' B.C.R.	3.0' A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	12/9/65
BORING COMPLETED	12/9/65
RIG 65	FOREMAN WEBER
DRAWN MP	APPROVED LDG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B - 120

OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR CO.	LESTER B. KNIGHT AND ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILL.	

LOCATION: N44 + 50, E45 + 00

SURFACE ELEVATION 448.4'

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			CLAYEY SILT, TRACE SAND & ROOTS - BROWN - LOOSE - MOIST - (ML-CL)	
	2	SS			SILTY CLAY, TRACE SAND - BROWN - TOUGH - (CL)	
	3	SS				
	4	SS			SILTY CLAY, TRACE TO SOME SAND - LT. BROWN AND GRAY - TOUGH - (CL)	
10.0						
	5	SS				
	6	SS			FINE TO MEDIUM SAND, TRACE SILT AND GRAVEL - BROWN - LOOSE TO MEDIUM DENSE - WET - (SP)	
20.0	—					
25.4	7	SS			GRAY SILTY SHALE	
					END OF BORING 25' NX CASING USED	

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²

1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.)

10 20 30 40 50

120/5

*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.		W.S. OR W.D.
W.L.	5.0' B.C.R.	5.0' A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	12/10/65
BORING COMPLETED	12/10/65
RIG 65	FOREMAN WEBER
DRAWN MP	APPROVED LDG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B - 122

OWNER: CATERPILLAR TRACTOR COMPANY

ARCHITECT-ENGINEER: LESTER B. KNIGHT & ASSOC.

SITE: MAPLETON, ILLINOIS

PROJECT NAME:

LOCATION: N38 + 00, E41 + 00

SURFACE ELEVATION: 443.6'

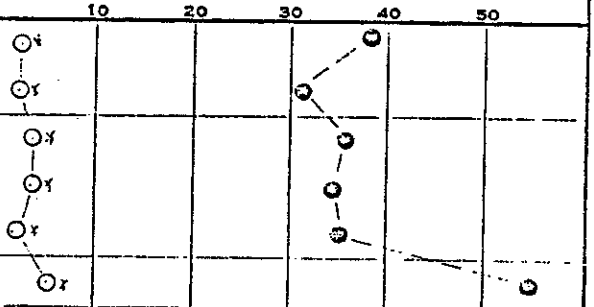
DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL
	1	ST			CLAYEY SILT, TRACE TO SOME SAND - BROWN - LOOSE - WET - (ML-CL)
	2	ST			
	3	ST			CLAYEY SILT, TRACE SAND - GRAY TO DK. GRAY - LOOSE - WET - (ML-CL)-(SLIGHTLY ORGANIC)
	4	ST			
10.0	5	ST			
12.0	6	ST			NOTE A
					END OF BORING NO CASING USED

UNIT DRY WT. LBS./FT.³

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.) — 10 20 30 40 50



*CALIBRATED PENETROMETER

NOTE A: SILTY CLAY, TRACE SAND AND ROOTS - GRAY TO DARK GRAY - SOFT - (CL-CH) - (MODERATELY ORGANIC)

WATER LEVEL OBSERVATIONS

W.L.	W.S. OR W.D.	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11/30/65
BORING COMPLETED	11/30/65
RIG	FOREMAN RR
DRAWN MP	APPROVED LG
JOB # 9600-B	SHEET 1 OF 1

LOG OF BORING NO. B - 123

OWNER	ARCHITECT - ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILLINOIS	

LOCATION: N35 + 00
E41 + 00

SURFACE ELEVATION → 441.4'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1, 2, 3, 4, 5)
PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %
STANDARD "N" PENETRATION (BLOWS/FT.) (10, 20, 30, 40, 50)

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	ST			SILTY CLAY, TRACE SAND-BROWN & GRAY - SOFT - (CL-ML)	
	2	ST				
	2A				NOTE A	
	3	ST			NOTE B	
	4	ST			NOTE C	
10.0	5	ST			SILTY CLAY, TRACE SAND, GRAVEL & ROOTS - GRAY-STIFF-(CL) - (SLIGHTLY ORGANIC)	
12.0	6	ST				
					END OF BORING NO CASING USED	

*CALIBRATED PENETROMETER

NOTE A: CLAYEY SILT, SOME SAND - BROWN & GRAY - LOOSE - WET - (SM-SC)

NOTE B: FINE TO MED. SAND, TRACE SILT, CLAY & GRAVEL - BROWN - LOOSE - WET - (SP)

NOTE C: SILTY CLAY, TRACE SAND - GRAY TO DARK GRAY - SOFT - (CL) - (SLIGHTLY ORGANIC)

WATER LEVEL OBSERVATIONS		
W.L.	4.0'	W.S. ~~CAVED~~
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11/30/65		
BORING COMPLETED	12/1/65		
RIG	HA	FOREMAN	RR
DRAWN	MP	APPROVED	LG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. B - 124

OWNER	ARCHITECT - ENGINEER
CATERPILLAR TRACTOR COMPANY	LESTER B. KNIGHT & ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILLINOIS	

LOCATION: N31 + 00
E41 + 00

SURFACE ELEVATION 441.00'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² (1, 2, 3, 4, 5)

PLASTIC LIMIT % | WATER CONTENT % | LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.) (10, 20, 30, 40, 50)

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	HA			NOTE A	
	2	ST			SILTY CLAY, TRACE SAND AND GRAVEL - BROWN - TOUGH TO	
	3	ST			STIFF - (CL)	
	4	ST			NOTE B	
10.0	5	ST			SILTY CLAY, TRACE SAND - BROWN - STIFF - (CL)	
12.0	6	ST			SILTY CLAY, TRACE SAND-LIGHT BROWN & GRAY - SOFT - (CL)	

END OF BORING
NO CASING USED

*CALIBRATED PENETROMETER

NOTE A: FINE TO MED. SAND, TRACE SILT, CLAY & SHELLS - BROWN - LOOSE - MOIST -(SP)

NOTE B: SILTY CLAY, TRACE TO SOME SAND, TRACE GRAVEL - BROWN - SOFT - (CL-ML)

WATER LEVEL OBSERVATIONS		
W.L.	7.0'	W.S. ~~CR~~/~~WD~~
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	12/1/65		
BORING COMPLETED	12/1/65		
RIG		FOREMAN	RR
DRAWN	MP	APPROVED	LG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. 125

OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR CO.	LESTER B. KNIGHT & ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILL.	

LOCATION: N36 + 00, E46 + 00

SURFACE ELEVATION 443.0'

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.² — 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %

STANDARD "N" PENETRATION (BLOWS/FT.) — 10 20 30 40 50

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	UNIT DRY WT. LBS./FT.³	DESCRIPTION OF MATERIAL
	1	SS				SILTY CLAY, TRACE SAND AND ROOTS - BROWN & GRAY - TOUGH
	2	SS				TO STIFF-(CL-ML)-(POSS.FILL)
	3	SS				NOTE A
	4	SS				SILTY CLAY, TRACE SAND -
10.0						GRAY - TOUGH TO SOFT-(CL-MH)
	5	SS				
	6	SS				SILTY CLAY, TRACE SAND AND GRAVEL - GRAY & BROWN - TOUGH - (CL-CH)
20.0	7	SS				
	8	SS				CLAYEY SILT, TRACE SAND - GRAY - LOOSE - MOIST TO WET - (MH)
30.0	9	SS				SILTY CLAY, TRACE SAND AND ROOTS - GRAY - STIFF -(CL-MH)
	10	SS				SILTY CLAY, TRACE SAND, GRAVEL & ROOTS - GRAY - TOUGH -(CH)
40.0	11	SS				FINE TO COARSE SAND, TRACE TO SOME GRAVEL, TRACE SILT-GRAY TO BROWN-MED.DENSE TO DENSE-WET - (SW)
46.5	12	SS				
						END OF BORING
						5.0' OF 4" CASING USED

60.

*CALIBRATED PENETROMETER

NOTE A: SILTY CLAY, TRACE SAND AND ROOTS - GRAY AND BROWN - STIFF - INTERMITTENT HORIZONTAL SAND SEAMS - (CL)

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	5.0' B.C.R.	4.0' A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	12/10/65		
BORING COMPLETED	12/10/65		
RIG	65	FOREMAN	WEBER
DRAWN	MP	APPROVED	LDG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. 126

OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR CO.	LESTER B. KNIGHT AND ASSOC.
SITE	**PROJECT NAME**
MAPLETON, ILL.	

LOCATION: N27 + 25, E48 + 00

SURFACE ELEVATION 441.0'

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS./FT.³
	1	SS			SILTY CLAY, TRACE SAND AND ROOTS-BROWN-STIFF - (CL-ML)	
	2	SS			SILTY CLAY, TRACE SAND - BROWN & GRAY - TOUGH - (CL)	
	3	SS				
	4	SS			SILTY CLAY, TRACE SAND AND ROOTS-BROWN & GRAY-SOFT-(CL)	
10.0						
	5	SS			FINE TO MEDIUM SAND, TRACE SILT AND GRAVEL - GRAY TO BROWN - LOOSE TO MED.DENSE - WET - (SP)	
	6	SS				
20.0					FINE TO COARSE SAND, TRACE GRAVEL & SILT - BROWN - MED. DENSE - WET - (SP-SW)	
21.5	7	SS				
					END OF BORING NO CASING USED	

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²

1 2 3 4 5

PLASTIC LIMIT % × — WATER CONTENT % ○ — LIQUID LIMIT % △

STANDARD "N" PENETRATION (BLOWS/FT.)

10 20 30 40 50

*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.	W.S. OR W.D.	
W.L.	B.C.R.	A.C.R.
W.L.		

SOIL TESTING SERVICES
INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	12/10/65		
BORING COMPLETED	12/10/65		
RIG	65	FOREMAN	WEBER
DRAWN	MP	APPROVED	LDG
JOB #	9600-B	SHEET	1 OF 1

LOG OF BORING NO. 127

OWNER	ARCHITECT-ENGINEER
CATERPILLAR TRACTOR CO.	LESTER B. KNIGHT AND ASSOC.
SITE MAPLETON, ILL.	PROJECT NAME

LOCATION: N43 + 60
E46 + 00

DEPTH ELEVATION	SAMPLE NO.	TYPE SAMPLE	SAMPLE DIST.	RECOVERY	DESCRIPTION OF MATERIAL
SURFACE ELEVATION					
	1	SS			SILTY CLAY, SOME SAND, TRACE GRAVEL - BROWN - TOUGH -(CL)- (POSSIBLE FILL)
	2	SS			FINE TO MED. SAND, SOME GRAVEL, TRACE SILT - BROWN - DENSE - MOIST TO WET - (SP)
10.0	3	SS			FINE TO COARSE SAND, SOME GRAVEL, TRACE SILT & CLAY - BROWN - DENSE - WET - (SW)
	4	SS			
20.0	5	SS			FINE TO MED. SAND, TRACE SILT AND GRAVEL - BROWN - DENSE TO VERY DENSE - WET - (SP)
	6	SS			
~~30.3~~	7	SS			GRAY SILTY SHALE
					END OF BORING 30.0' NX CASING USED

UNIT DRY WT. LBS./FT.³

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.²
1 2 3 4 5
PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %
STANDARD "N" PENETRATION (BLOWS/FT.)
10 20 30 40 50

61
129

*CALIBRATED PENETROMETER

WATER LEVEL OBSERVATIONS		
W.L.		W.S. OR W.D.
W.L.	7.0' B.C.R.	4.0' A.C.R.
W.L.		

SOIL TESTING SERVICES INC.
111 PFINGSTEN ROAD
NORTHBROOK, ILLINOIS

BORING STARTED	11/9/65		
BORING COMPLETED	11/10/65		
RIG	65	FOREMAN	WEBER
DRAWN	MP	APPROVED	LDG
JOB #	9600-B	SHEET	1 OF 1

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140-pound hammer falling 30 inches on a 2 inch O.D. split-spoon.

Qu: Unconfined compressive strength, TSF

Qp: Penetrometer value, unconfined compressive strength, TSF

Mc: Water content, %

LL: Liquid limit, %

Pl: Plastic limit, %

Dd: Natural dry density, PCF

▼: Apparent groundwater level at time noted after completion.

DRILLING AND SAMPLING SYMBOLS

SS: Split-spoon - 1 3/8" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
AU: Auger sample.
DB: Diamond bit.
CB: Carbide bit.
WS: Washed sample.

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

TERM (NON-COHESIVE SOILS)	BLOWS PER FOOT
Very loose	0 - 4
Loose	5 - 10
Firm	11 - 30
Dense	31 - 50
Very dense	Over 50

TERM (COHESIVE SOILS)	Qu (TSF)
Very soft	0 - 0.25
Soft	0.25 - 0.50
Medium	0.50 - 1.00
Stiff	1.00 - 2.00
Very stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	8 in.+	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005
Cobbles	8 in.-3 in.	Medium Sand	0.6mm-0.2mm	Clay	-0.005mm
Gravel	3 in.-5mm	Fine Sand	0.2mm-0.074mm		

DP9,7 13307
Client-Supplied
Information

CONSULTING GEOTECHNICAL ENGINEERS

FOUNDATION INVESTIGATION
AND ENGINEERING ANALYSIS
PROPOSED DUST COLLECTOR
AND APPURTENANCES
MAPLETON, ILLINOIS
PURCHASE ORDER NO. FYJ 73829B

Prepared for

Caterpillar Tractor Co.
Mapleton, Illinois

By

A&H Engineering Corporation

March 17, 1976

CHAMPAIGN, ILLINOIS PEORIA, ILLINOIS SPRINGFIELD, ILLINOIS CARBONDALE, ILLINOIS CHICAGO, ILLINOIS WEST LAFAYETTE, INDIANA COLUMBUS, OHIO

A & H ENGINEERING CORPORATION

CHAMPAIGN, ILLINOIS 61820, 2112 NORTH MARKET STREET — TELEPHONE 217 352-7918
EAST PEORIA, ILLINOIS 61611, 1501 N. MAIN STREET — TELEPHONE 309 694-4311
SPRINGFIELD, ILLINOIS 62703, 312 NORTH 10TH — TELEPHONE 217 544-6663
CARBONDALE, ILLINOIS 62901, R.R. #8-LEWIS LANE — TELEPHONE 618 549-1202
CHICAGO, ILLINOIS 60634, 7414 WEST BELMONT AVENUE — TELEPHONE 312 637-8100
COLUMBUS, OHIO 43229, 990 FREEWAY DRIVE NORTH — TELEPHONE 614 888-8835
WEST LAFAYETTE, IND. 47906, 2336 NORTHWESTERN AVE. — TELEPHONE 317 463-4112

AFFILIATED OFFICES:
ROCHESTER, NEW YORK, 14623, 210 COMMERCE DRIVE — TELEPHONE 716 359-1600

March 17, 1976

Caterpillar Tractor Co.
Mapleton Plant
Mapleton, IL 61547

Attn: Mr. D. Hoepker

Re: Foundation Investigation
and Engineering Analysis
Proposed Dust Collector
and Appurtenances
Mapleton, Illinois
P.O. No. FYJ 73829B
A&H File No. 03-6507

Gentlemen:

In compliance with your request, we have conducted a foundation investigation and evaluation for the above referenced project. It is our pleasure to transmit herewith three (3) copies of our report.

The results of our investigation and evaluation indicate that a raft or mat foundation appears to be the most feasible foundation type for the proposed dust collectors, fans, palletizer and substation. A raft or mat foundation may be founded at a depth of 3 feet below the final grade and may be dimensioned using a net allowable soil bearing pressure of 2000 psf. Further, that a pile foundation is recommended for the proposed stack. Point bearing steel "H" piles should achieve a 60 to 80 ton capacity at a penetration of approximately 20 to 25 feet. A qualified structural engineer should design the foundation to resist overturning moments using a maximum of 500 pounds per square foot skin friction on each pile.

Often because of design and construction details which occur on a project, questions arise concerning the soil conditions. If we can give further service in these matters, please contact us at your convenience.

Very truly yours,

A&H ENGINEERING CORPORATION

R. A. Bergquist, P.E.
Division Manager - East Peoria

James B Thomas

James B. Thomas, P.E.
Regional Manager - East Peoria

Enc.

SUBSURFACE INVESTIGATION

AND

FOUNDATION RECOMMENDATIONS

PROPOSED DUST COLLECTOR AND APPURTENANCES

MAPLETON, ILLINOIS

Prepared For

Caterpillar Tractor Co.
Mapleton, Illinois

By

A&H Engineering Corporation

March 17, 1976

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SUBSURFACE INVESTIGATION

AND

FOUNDATION RECOMMENDATIONS

INTRODUCTION

General

This report presents the results of a foundation investigation for the proposed dust collectors and appurtenances conducted for Caterpillar Tractor Co. in Mapleton, Illinois.

Authorization to perform this investigation was in the form of a purchase order number FYJ 73829B from Caterpillar Tractor Co. to A & H Engineering Corporation.

The scope of this investigation included a review of geological maps of the area and a review of geologic and related literature; a reconnaissance of the immediate site; subsurface exploration; field and laboratory testing; and engineering analysis and evaluation of the materials.

The purpose of this foundation investigation was to determine the various soil profile components, the engineering characteristics of the foundation materials and to provide criteria for use by the design engineers and architects in preparing the foundation design.

DESCRIPTION OF SITE

Site Location

The site of the proposed structures is located immediately south of the existing foundry building bound by coordinates 52+00N to 54+00N and 55+00E to 57+00E.

Site Topography, Drainage, and Vegetation

The surface of the immediate site is relatively flat with little relief and slight slope downward from north to south. The lack of relief is attributed to past construction activity. The surrounding vicinity is well developed with paved roadways. Little or no surface drainage has developed and drainage is primarily through the storm sewer system. No vegetative cover exists due primarily to constant filling and re-working.

GEOLOGY

The geology of this region has been greatly influenced by several major landforming factors including bedrock formation and tectonic movements prior to the Pleistocene Period on the geological time scale, and the action of water and wind. A mantle of wind-deposited and water-worked loessial material overlies a deposit of glacial drift on much of the region in which the site is located.

In this region the glacial drift has been deposited in terminal glacial moraines or intermediate ground moraines composed of compact glacial till which is oftentimes overlain by glacio-fluvial outwash deposits of variable thickness and areal extent. The outwash materials are usually variable textured, but consist predominantly of coarser-grained soils such as silts, sands, and gravels. The underlying glacial till may also be variable textured, but is primarily a heterogeneous mixture of sands, gravels, and pebbles bound in a compact clay to silt matrix. Boulders up to two feet in diameter may exist within the glacial till. The bluffs which border the present Illinois River Valley generally consist of glacial drift of

quite variable texture with particle sizes ranging from fine clay-sized materials to boulders of erratic origin and of various shapes and sizes. Recently deposited river and stream alluvium of variable texture, consistency and density comprise most of the surface soils in the valley.

The glacial drift and underlying older drift extend to bedrock which generally consists of interbedded limestone, sandstone, coal and shale. Bedrock exists at a shallow depth below the ground surface.

FIELD INVESTIGATIONS

Scope

Field investigations to determine the engineering characteristics of the foundation materials included a reconnaissance of the project site, making eight (8) borings located as shown on the Plot Plan, Figure 1, performing standard penetration tests and performing unconfined compressive strength tests on the cohesive soil samples retained in the standard split-spoon sampler. The apparent groundwater level at each boring location was also determined.

Drilling and Sampling Procedures

The soil borings were performed with a drilling rig equipped with a rotary head. Conventional hollow-stem augers were used to advance the holes. Representative samples were obtained employing split-spoon sampling procedures in accordance with ASTM Procedure D-1586.

Field Tests and Measurements

Penetration tests. During the sampling procedure, standard

penetration tests were performed at regular intervals to obtain the standard penetration value of the soil. The standard penetration value is defined as the number of blows of a 140-pound hammer falling 30 inches required to advance the split-spoon sampler one foot into the soil. The results of the standard penetration tests indicate the relative density and comparative consistency of the soils and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components.

Strength tests. During the field boring operations, samples of the cohesive soil from the split-spoon sampling device were frequently tested in unconfined compression by use of a calibrated spring testing machine. In addition, a calibrated soil penetrometer was used as an aid in determining the strength of the soil. The values of the unconfined compressive strength as determined on samples of soil from the split-spoon sampling must be considered recognizing the manner in which they were obtained since the split-spoon sampling techniques provide a representative but somewhat disturbed soil sample.

Water level measurements. Water level observations were made during the boring operations and are noted on the boring logs presented herewith. In relatively pervious soils such as sandy soils, the indicated elevations are considered reliable groundwater levels. In relatively impervious soils, the accurate determination of the groundwater elevation is not possible in even several days observation.

LABORATORY INVESTIGATIONS

In addition to the field investigations, a supplemental laboratory

investigation was conducted to ascertain additional pertinent engineering characteristics of the foundation materials necessary in analyzing the behavior of the proposed structure.

The laboratory testing program included supplementary visual classification and water content tests on all samples. All phases of the laboratory investigation were conducted in general accordance with applicable ASTM Specifications.

SUBSURFACE CONDITIONS

General

The types of foundation materials encountered have been visually classified and are described in detail on the boring logs. The results of the field penetration tests, strength tests, water level observations and laboratory water content, are presented on the boring logs in numerical form. The soil profile corresponds relatively well to the surface profile of the area. Representative samples of the soils encountered in the field were placed in sample jars and are now stored in our laboratory for further analysis if desired. Unless notified to the contrary, all samples will be disposed of after one year.

A black medium to fine SAND used as a fill material is encountered at the surface of all proposed sites. This sand is four feet in depth at the stack, dust collector, substation, and the northern most fan sites (B-1, B-2, B-2A, B-5, and B-7). The depth of sand at the three remaining sites, those to the southeast, is a relatively uniform 11 feet. Occasional sand core and gravel fragments are found to be present in the sand at all sites.

The natural moisture content of this soil ranges from 11 to 29 percent with an average of 19 percent. The natural moisture content generally increases with increased depth into this soil stratum. The standard penetration resistance in blows per foot is variable depending on amount and size of sand core and gravel fragments encountered.

Strata of alluvial soils consisting of Silty CLAYS to Clayey SILTS with sand and gravel are encountered at all sites below the fill sand with varying thickness from 15 to 25 feet. There are two separate cohesive materials present. Brown Silty CLAY to Clayey SILT has an average moisture content of 16 percent, standard penetration resistance of 20 blows per foot, and penetrometer values of 2.3 tons per square foot. Dark gray Silty CLAY to Clayey SILT has an average moisture content of 25 percent, standard penetration resistence of 10 blows per foot, and penetrometer values of 1.0 ton per square foot. Below the Silty CLAY at the dust collector and northern most fan sites, a 3-1/2 foot layer of mixed sand and gravel exists. The moisture content is 13 percent and a standard penetration resistance of 23 blows per foot.

At all sites, gray or brown Silty SHALE is encountered at depths of 17 to 26 feet below the fill sand strata. Auger refusal is encountered and standard penetration resistance is 50 blows per 1-1/4 inches of penetration.

FOUNDATION DISCUSSION AND RECOMMENDATIONS

Project Description

Preliminary design plans indicate a 9 foot diameter, 80 foot tall stack will be erected near Boring 1. Two fans will be built at Borings 2

and 3, a palletizer at Boring 4, two dust collectors at Borings 5 and 6, and a substation at Boring 7. Except for the stack, the total loads transmitted to the foundation soils are assumed to be light and that the dimensions of the equipment will control the foundation dimension instead of the soil conditions dictating the foundation dimension. The stack foundation will primarily be designed with respect to overturning moment as opposed to bearing capacity or settlement.

FOUNDATION RECOMMENDATIONS

Various foundation types have been considered for support of the proposed structure. The foundation types considered included mat foundations, available types of piles and drilled piers or caissons.

Dust Collectors, Fans, Palletizer and Substation

Piling. Several types of piling may be used to support the proposed structures. However, this more elaborate and expensive deep foundation type does not appear to be economical for the proposed structures when the engineering characteristics of the foundation materials are considered with regard to the assumed design loads.

Caissons or Drilled Piers. A caisson or drilled pier is most advantageously used where relatively soft strata overlie a firm or dense foundation material.

Such conditions do exist at this site; however, other suitable foundation types are more feasible from the standpoint of economics.

Raft or Mat. A raft or mat foundation may be used to support the

proposed structures. The raft may be founded at a depth of three feet and may be dimensioned using a net allowable soil bearing pressure of 2,000 psf. The raft should be an adequately reinforced concrete slab with dimensions appropriately considered in light of the plan of the proposed structure.

Stack

Piling. Pile types available for support of the proposed stack include steel pipe piles, driven open-end or closed-end and filled with concrete, hollow shell, straight or tapered, mandrel driven, precast concrete piles, steel H-piles, and timber piles. It appears that, based on the soil conditions, proposed loadings, and other pertinent information, steel H-piles will be most feasible for support of the proposed stack. These piles should achieve a design load-carrying capacity of 60 to 80 tons at an average penetration of 20 to 25. Piles should be driven in groups of three or more to insure lateral stability of the foundation. The foundation should be designed to withstand wind imposed overturning moments using a maximum of 500 psf skin friction on each pile in negative loading.

Caissons or Drilled Piers. Caissons or drilled piers may be used to support the proposed stack. This type of foundation is most advantageously used when soft or weak soils overly firm to dense materials.

Such conditions do exist at this site. However, consideration of the integrity of the clay core dike and possible construction problems suggest that drilled piers would not be economical.

Recommended Foundation Type

When the foundation types discussed herein are considered, mat

foundations and piling are recommended for use as foundations for the proposed structures, as previously discussed. Parameters have been given which may be used in design of the foundation. However, the final choice of foundation type should be based on its relative economic, engineering and construction advantages.

CONSTRUCTION CONSIDERATIONS

Site Preparation

Excessively loose dumped fill materials when loaded generally undergo high volume changes which are detrimental to the behavior of pavements, floor slabs, structural fills and shallow foundations placed upon them. Therefore, it is recommended that excessively loose dumped fill materials be compacted with vibratory equipment prior to placing foundations.

Groundwater

Because of the relatively low groundwater level no difficulty during excavation and construction of the proposed shallow foundations is anticipated.

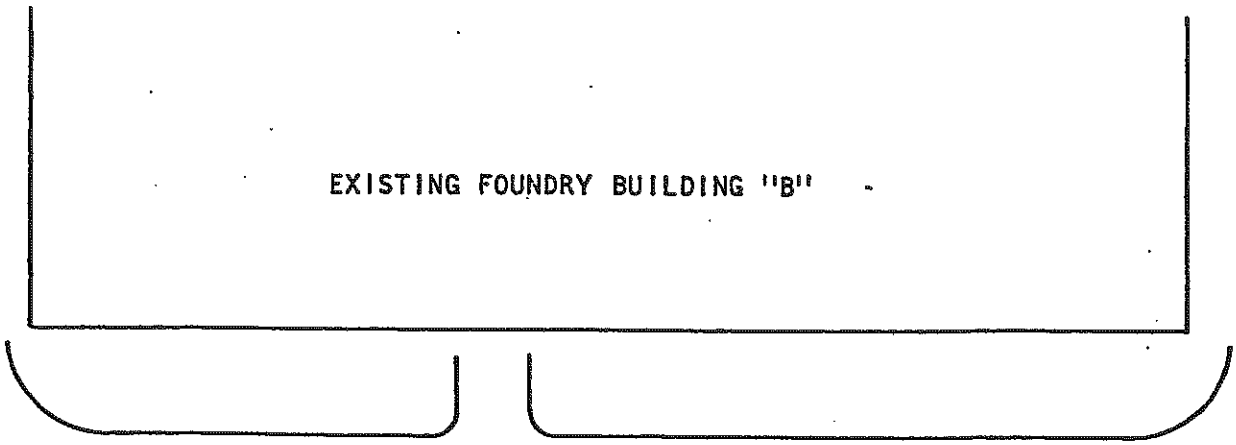
SUMMARY

An exploration and evaluation of the foundation conditions has been conducted at the site of the proposed dust collector and appurtenances.

Foundation criteria have been suggested and possible design and construction problems have been discussed.

The exploration and analysis of the foundation conditions reported

herein is considered in sufficient detail and scope to form a reasonable basis for final design. The recommendations submitted are based on the available soil information and the preliminary design details furnished by Caterpillar Tractor Co. for the proposed structure. Any revision in the plans for the proposed structure from those enumerated in this report should be brought to the attention of the soils engineer so that he may determine if changes in the foundation recommendations are required. If deviations from the noted subsurface conditions are encountered during construction, they should also be brought to the attention of the soils engineer.



10" Concrete Pavement - Road B

B-1

B-5

B-2A B-2

B-7

B-3

B-6

B-4

B1 - 53+51.52N
5E+94.59E

-N-

Drawing Not to Scale

Caterpillar Tractor Co.		BORING LOCATION DIAGRAM	
PROJECT NAME Proposed Dust Collector & Appurtenances - Mapleton, IL		PROJECT NO. 03-6507	DATE March 17, 1976

RECORD OF SUBSURFACE EXPLORATION

Boring B-1
53+51.52 N
55+94.59 E

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 2, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE El 458.55 ±							
Black medium to fine SAND occasional core fragments (fill)		1-AU	-	-	-	18	
		2-SS	30	NO SAMPLE RECOVERED			
	5	3-SS	23	-	3.0	17	
Brown Clayey SILT with sand and gravel		4-SS	19	-	2.3	16	
	10	5-SS	16	-	2.8	17	
Dark gray mottled brown Clayey SILT with sand and gravel		6-SS	24	2.0	-	17	
Brown mottled gray Silty CLAY with sand and gravel	15	7-SS	24	-	-	19	
Brown Clayey SILT with sand and gravel	20	8-SS	26	-	-	16	
Brown Silty CLAY with sand and gravel							
Gray Silty SHALE	25	9-SS	50/1¼"	-	-	11	
END OF BORING							Dry at 0 Hr.

RECORD OF SUBSURFACE EXPLORATION

Boring B-2
52+98.44N
55+95.21E

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 2, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE EL 458.17							
Black medium to fine SAND occasional core fragments (fill)		1Au	-	-	-	12	
		2SS	19	-	-	14	
Dark gray Silty CLAY with sand and gravel	5	3SS	15	-	-	21	
Dark gray mottled brown Silty CLAY with sand and gravel		4SS	8	-	-	28	
Dark gray Silty CLAY with sand and gravel	10	5SS	3	-	-	47	
		6SS	10	-	1.3	22	
Brown mottled dark gray Silty CLAY with sand and gravel	15	7SS	17	-	-	15	
Brown mixed SAND and GRAVEL with silt and clay	20	8SS	17	-	-	15	
Gray SHALE		9SS	50/0"	-	-	10	
END OF BORING	25						Dry at 0 Hr.

RECORD OF SUBSURFACE EXPLORATION

Boring B-2A
MOVED ABOUT 3' FROM B2

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 2, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE							
	5						
	10						
	15						
Auger Refusal (probable SHALE)							
	20						
END OF BORING							

RECORD OF SUBSURFACE EXPLORATION

Boring B-3
52+58.44N
55+95.68E

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 3, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE Elev. 458.25 ±							
		1Au	-	-	-	19	
		2SS	30	-	-	17	
Black medium to fine SAND occasional core fragments (fill)	5	3SS	9	-	-	20	
		4SS	6	-	-	24	
	10	5SS	6	-	-	23	
		6SS	18	-	-	22	
Dark gray Silty CLAY with sand and gravel	15	7SS	16	-	-	24	
	20	8SS	6	-	-	34	
Dark brown coarse Silty SAND	25	9SS	18	-	-	21	
Dark gray Silty CLAY with sand and gravel	30	10SS	10	-	-	25	
	35	11SS	43/3"	-	-	20	
Gray Silty SHALE	40	12SS	50/1"	-	-	12	
END OF BORING							

RECORD OF SUBSURFACE EXPLORATION

Boring B-4
52+34.2 N
55+95.97 E

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 3, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE EL 458.19 ?							
Black medium to fine SAND occasional core fragments (fill)	5	1Au	-	-	-	23	
		2SS	25	-	-	16	
		3SS	8	-	-	21	
		4SS	10	-	-	23	
	10	5SS	11	-	-	29	
Brown Clayey SILT with sand and gravel		6SS	10	-	4.5+	14	
	15	7SS	21	-	-	13	
Dark gray Silty CLAY with sand and gravel	20	8SS	7	-	-	28	
	25	9SS	8	1.2	1.7	29	
	30	10SS	10	1.4	1.8	25	
Dark gray Clayey SILT with sand	35	11SS	5	-	-	20	
Gray Silty SHALE	40	12SS	50/1½"	-	-	12	
END OF BORING							Dry at 0 Hr.

RECORD OF SUBSURFACE EXPLORATION

Boring B-5
53+09.89 N
56+58.55 E

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 3, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE El. 458.39 ±							
Black medium to fine SAND occasional core fragments (fill)		1Au	-	-	-	25	
		2SS	7	-	-	13	
Brown Silty CLAY with sand and gravel	5	3SS	11	-	-	19	
		4SS	10	1.5	1.0	22	
Brown mottled gray Silty CLAY with sand and gravel	10	5SS	50	-	-	22	
		6SS	12	-	-	20	
Gray mottled brown Silty CLAY with sand and gravel	15	7SS	13	1.2	1.0	26	
Brown mixed SAND and GRAVEL	20	8SS	23	-	-	13	
Gray SHALE		9SS	50/1¼"	-	4.5+		
END OF BORING							

RECORD OF SUBSURFACE EXPLORATION

Boring B-6
52+48.51N
56+60.27E

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 3, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE 458.37 ±							
Black fine to medium SAND occasional core fragments (fill)	5	1Au	-	-	-	13	
		2SS	29	-	-	11	
		3SS	7	-	-	19	
		4SS	3	-	-	21	
	10	5SS	12	-	-	22	
Brown Silty CLAY with sand and gravel		6SS	19	-	1.3	19	
Brown Sandy SILT with gravel trace clay	15	7SS	29	-	-	9	
Dark gray Silty CLAY with sand	20	8SS	6	-	-	29	
	25	9SS	8	-	1.0	32	
Light brown mottled gray SILT	30	10SS	50/3"	-	-	13	
Gray Silty SHALE	35	11SS	100/2½"	-	-	10	
END OF BORING							Caved at 0 Hr.

RECORD OF SUBSURFACE EXPLORATION

Boring B-7
APPROX. LOCATION @ ℄ TRANSFORMER PAD

Project Name: Proposed Dust Collector & Appurtenances Date of Boring: March 4, 1976

Site: Caterpillar Tractor Co. - Mapleton, Illinois Project No.: 03-6507

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE El 459.67 ±							
Black fine to medium SAND occasional sand core fragments (fill)		1-AU	-	-	-	14	
		2-SS	78	-	-	17	
	5	3-SS	18	-	-	20	
Brown Silty CLAY with sand and gravel		4-SS	18	NO SAMPLE RECOVERED			
	10	5-SS	4	-	-	21	
Brown Clayey SILT with sand and gravel		6-SS	19	-	-	18	
	15	7-SS	43	-	-	11	
Brown Sandy SILT with gravel trace clay							
Brown Silty CLAY with sand and gravel	20	8-SS	6	-	-	18	
Brown Silty SHALE							
	25	8-SS	50/1½"	-	-	11	
END OF BORING							Dry at 0 Hr.

2112 NORTH MARKET STREET, CHAMPAIGN, ILLINOIS 61820
8111 NORTH UNIVERSITY ST., PEORIA, ILLINOIS 61614

AREA CODE 217 352-7918
AREA CODE 309 691-0431

Address Reply to: Peoria

OUR REPORT NO. 8-5037

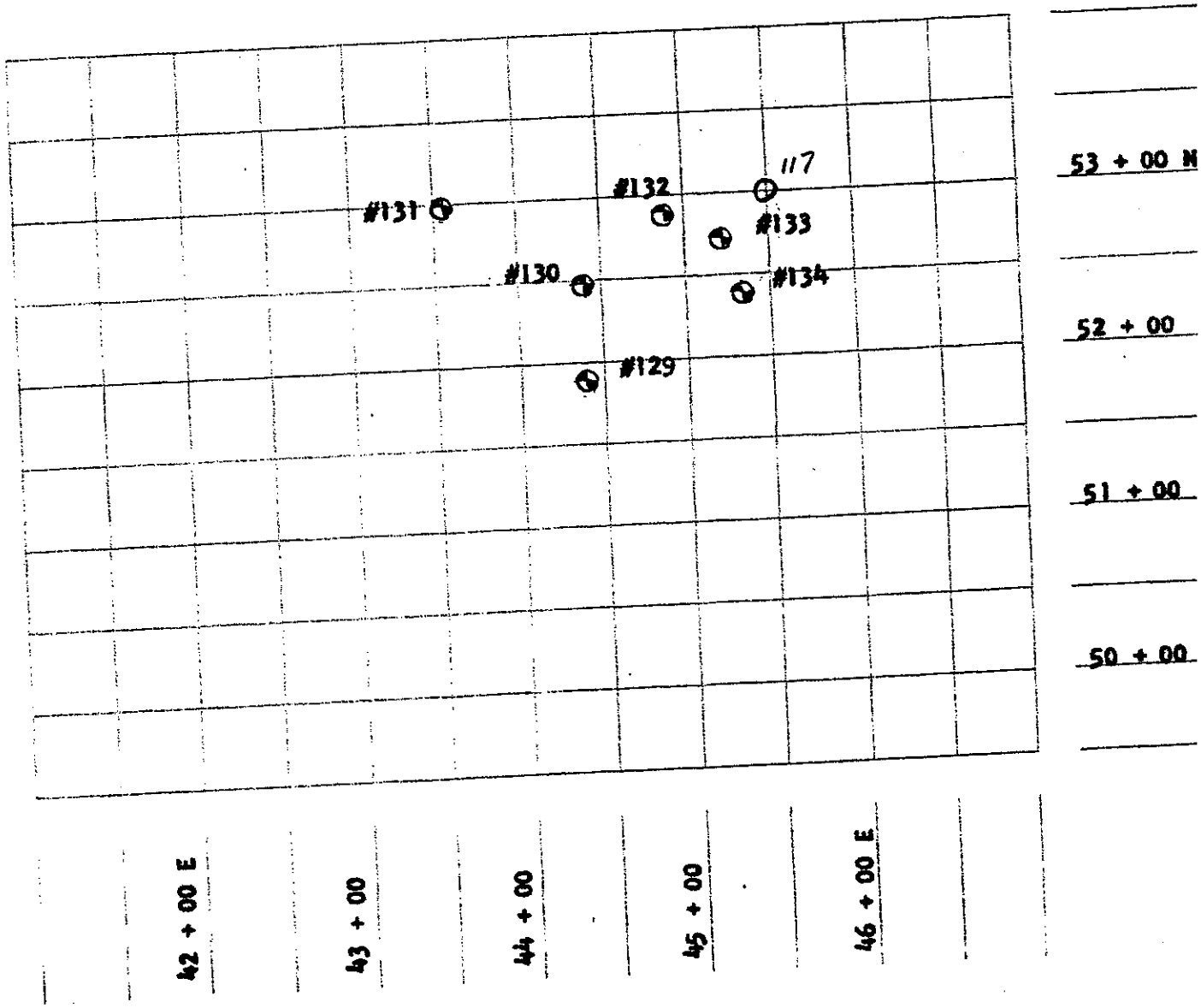
DATE February 2, 1966

TESTED FOR Caterpillar Tractor Company

PROJECT Mapleton Foundry

REMARKS: Boring Locations - Utility Building and Water Tower

LOCATION DIAGRAM



2112 NORTH MARKET STREET, CHAMPAIGN, ILLINOIS 61820
8111 NORTH UNIVERSITY ST., PEORIA, ILLINOIS 61614
AREA CODE 309

Address Reply to: Peoria

DATE February 2, 1966

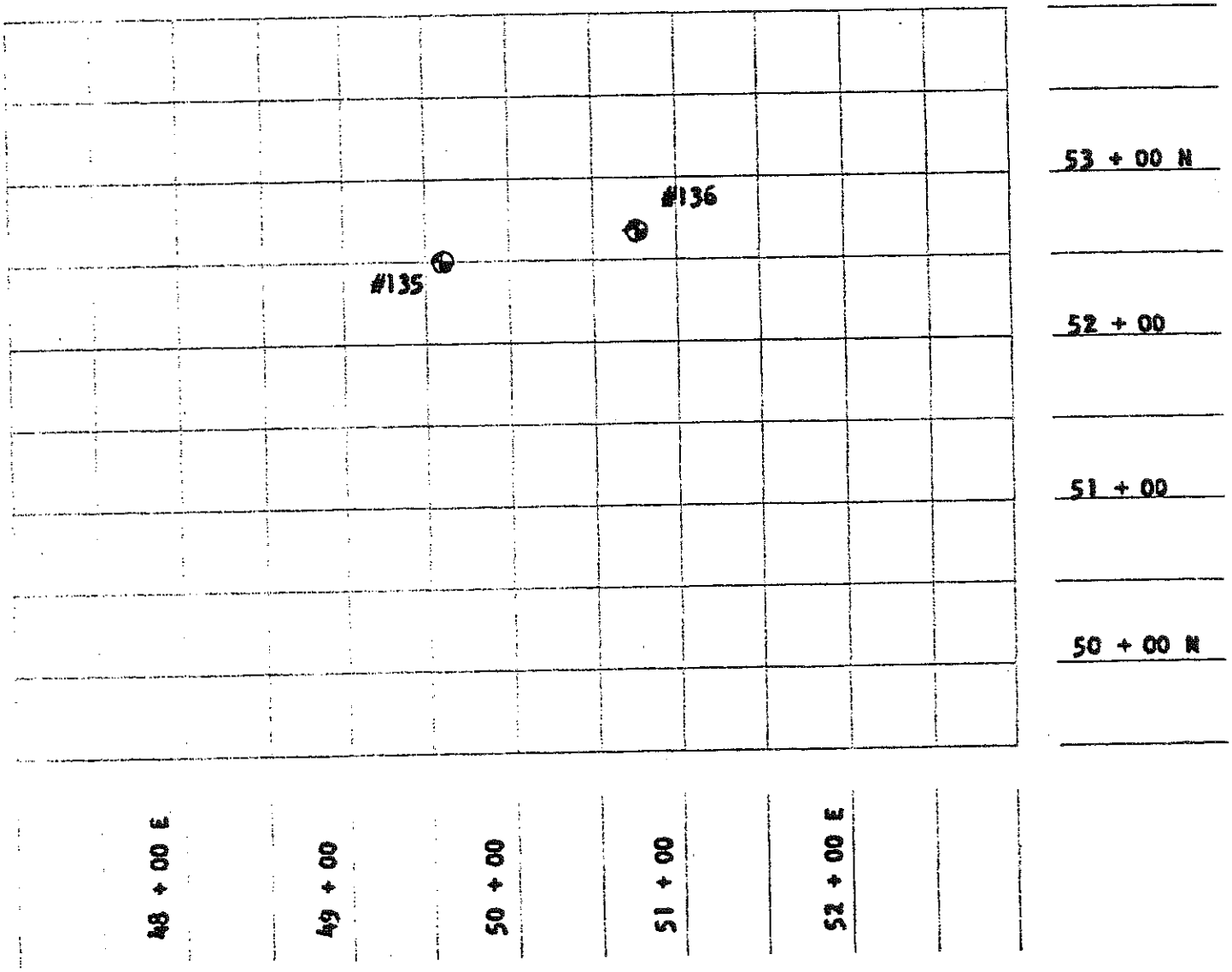
OUR REPORT NO. B-5037

TESTED FOR Caterpillar Tractor Company

PROJECT Mapleton Foundry

REMARKS: Boring Locations - Maintenance Building "P"

LOCATION DIAGRAM



MATERIALS TESTING AH CORPORATION

2112 NORTH MARKET STREET, CHAMPAIGN, ILLINOIS
8111 NORTH UNIVERSITY ST., PEORIA, ILLINOIS

Address Reply to:

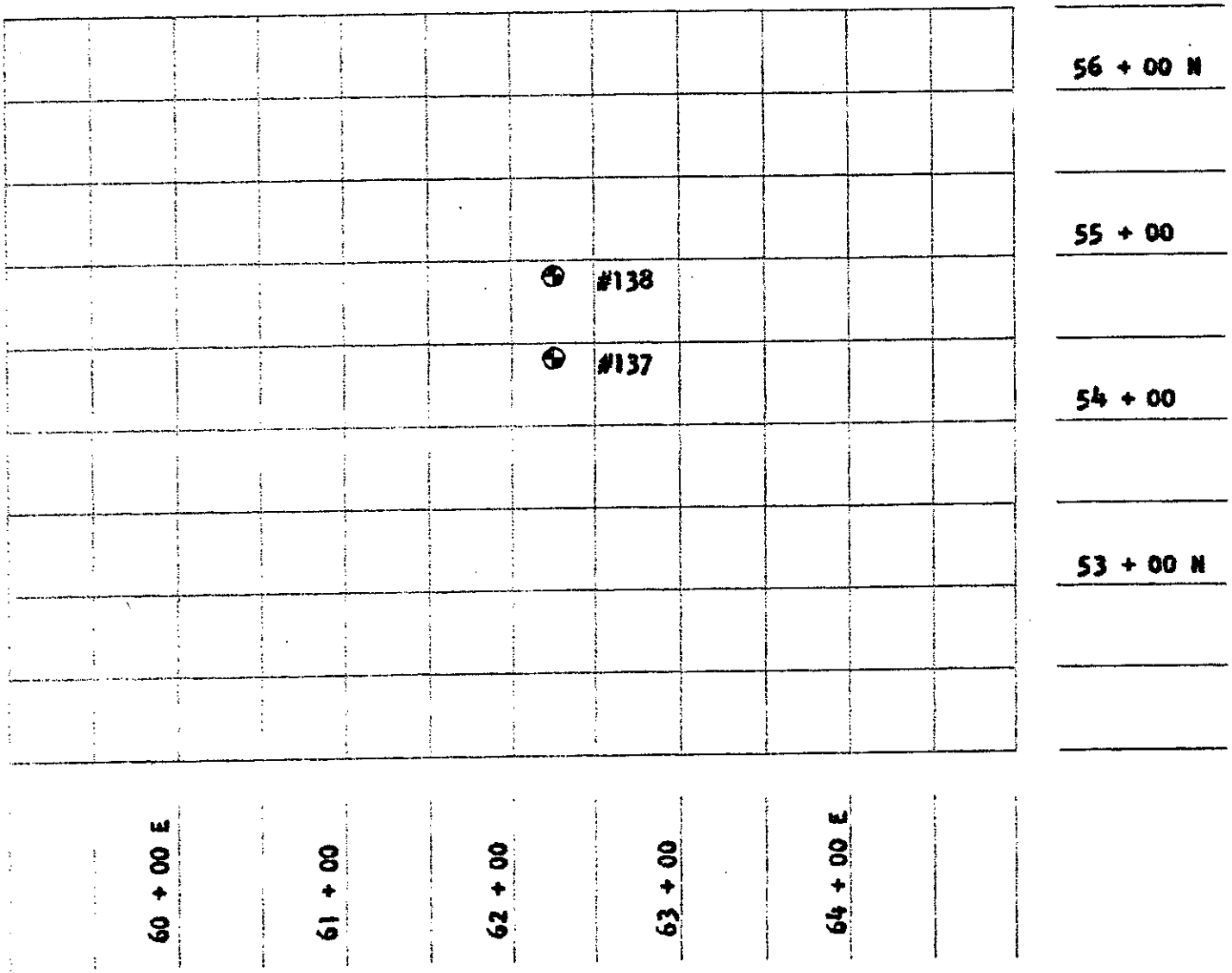
DATE **February 2, 1966** OUR REPORT NO. **8-5037**

TESTED FOR **Caterpillar Tractor Company**

PROJECT **Mapleton Foundry**

REMARKS: **Boring Locations - X-Ray Building**

LOCATION DIAGRAM



MATERIALS TESTING AH CORPORATION

2112 NORTH MARKET STREET, CHAMPAIGN, ILLINOIS
8111 NORTH UNIVERSITY ST., PEORIA, ILLINOIS 61615

Address Reply to: PEORIA

DATE February 2, 1966

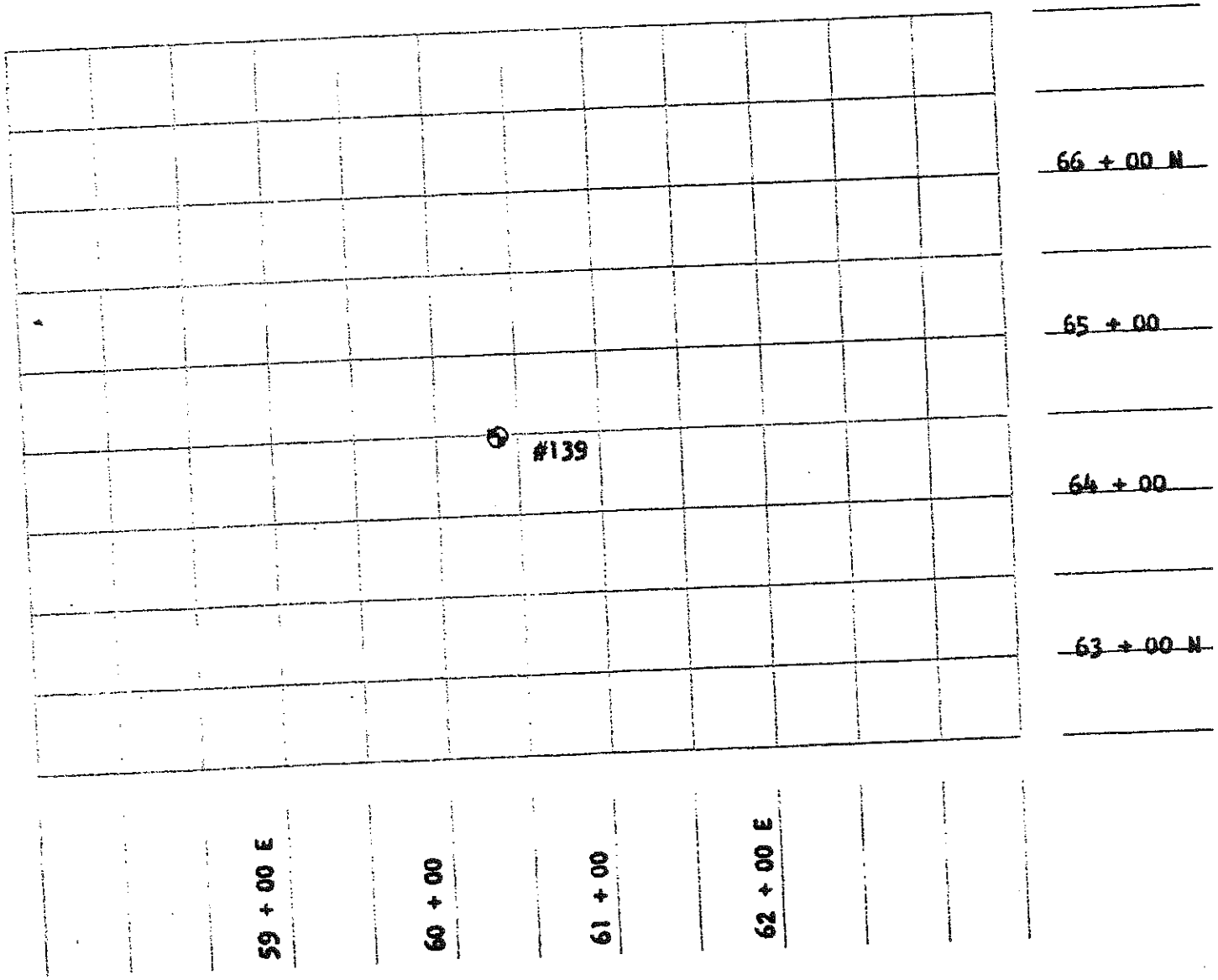
OUR REPORT NO. 8-5037

TESTED FOR Caterpillar Tractor Company

PROJECT Mapleton Foundry

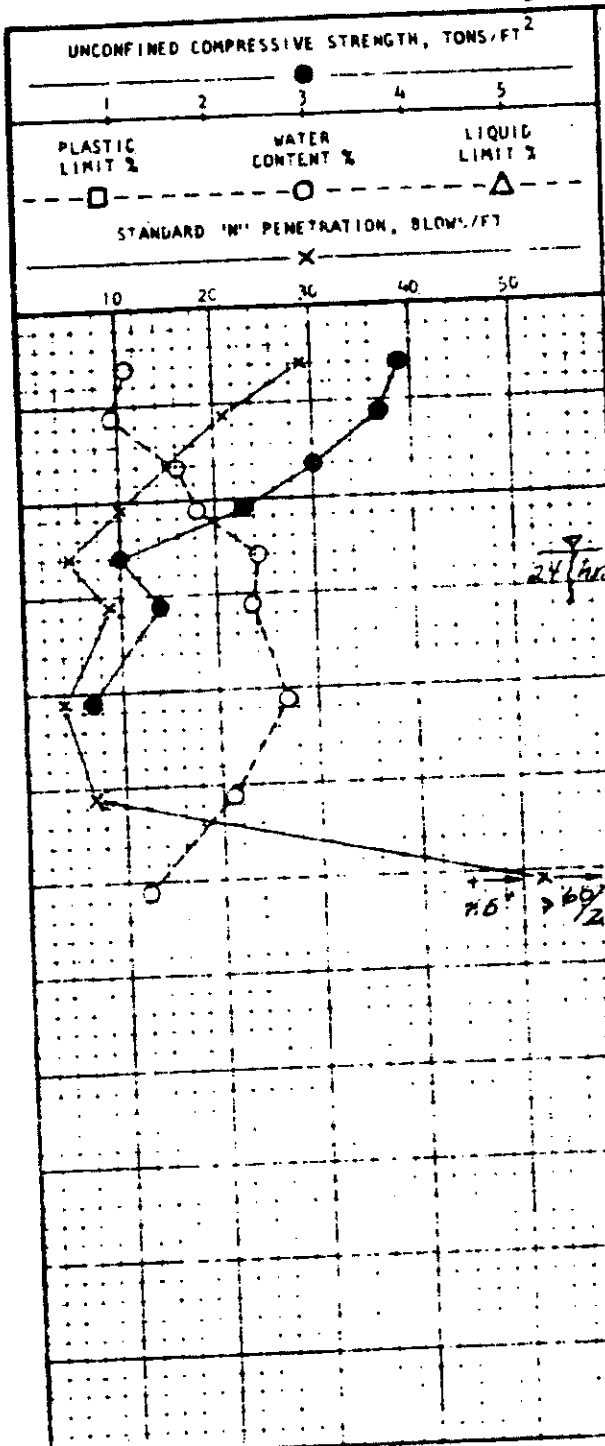
REMARKS: Boring Locations - Garage Building

LOCATION DIAGRAM



LOG OF BORING NO. 129

51 + 90 N - 44 + 40 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION → 458.8
	1	ss		Gray-brown clayey silt (ML) with numerous small pebbles
5	2	ss		
	3	ss		
10	4	ss		Reddish brown clayey silt (ML) with occasional small pebbles
	5	ss		
15	6	ss		
20	7	ss		Dark gray-brown clayey silt (ML)
	8	ss		Gray-brown medium grained sand (SP) with some gravel
30	9	ss		Blue-gray shale (upper portion weathered)
35				End of Boring

PROJECT NAME
Caterpillar Foundry

SITE
Mapleton, Illinois

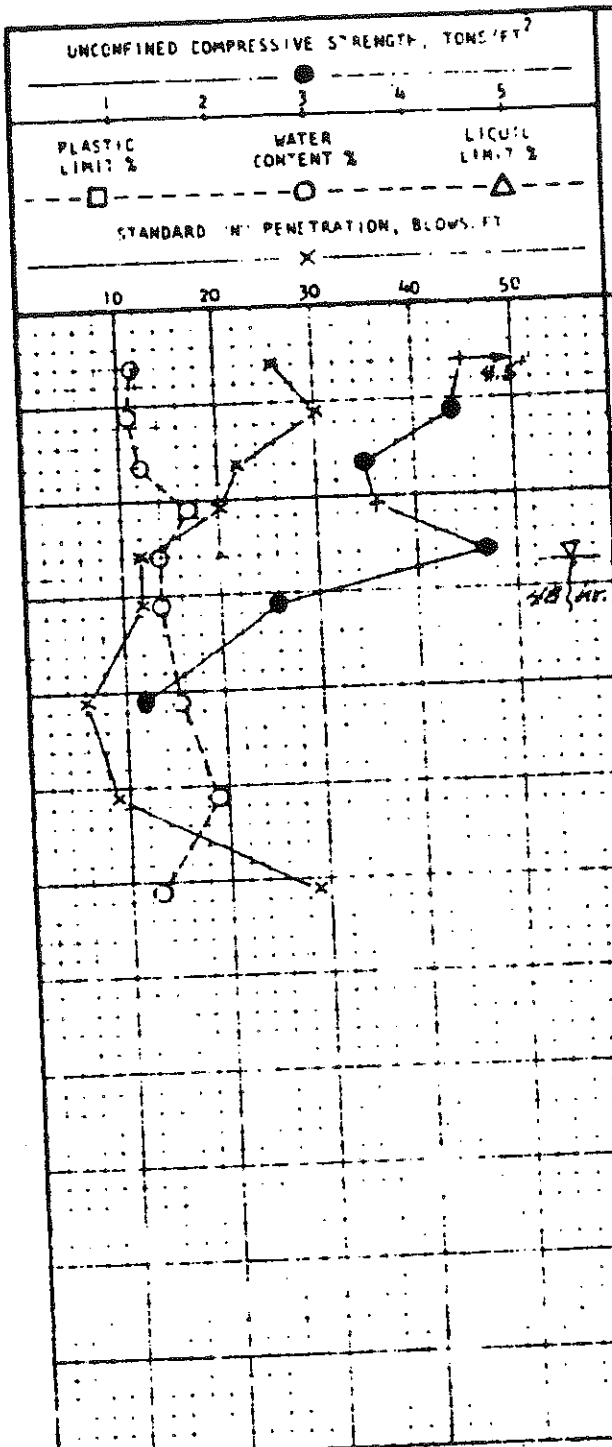
4

DATE OF BORING
January 25, 1966

PROJECT NO.
8-5037

LOG OF BORING NO. 130

52 + 50 N - 44 + 40 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION 458.8
	1	SS		Gray-brown clayey silt (ML) with numerous small pebbles
5	2	SS		
	3	SS		
10	4	SS		
	5	SS		Reddish brown clayey silt (ML) with occasional small pebbles
15	6	SS		
20	7	SS		
25	8	SS		Gray-brown medium grained sand (SP) with some gravel Blue-gray shale bottom 1 inch
30	9	SS		
35				End of Bor ng

PROJECT NAME
Caterpillar Foundry

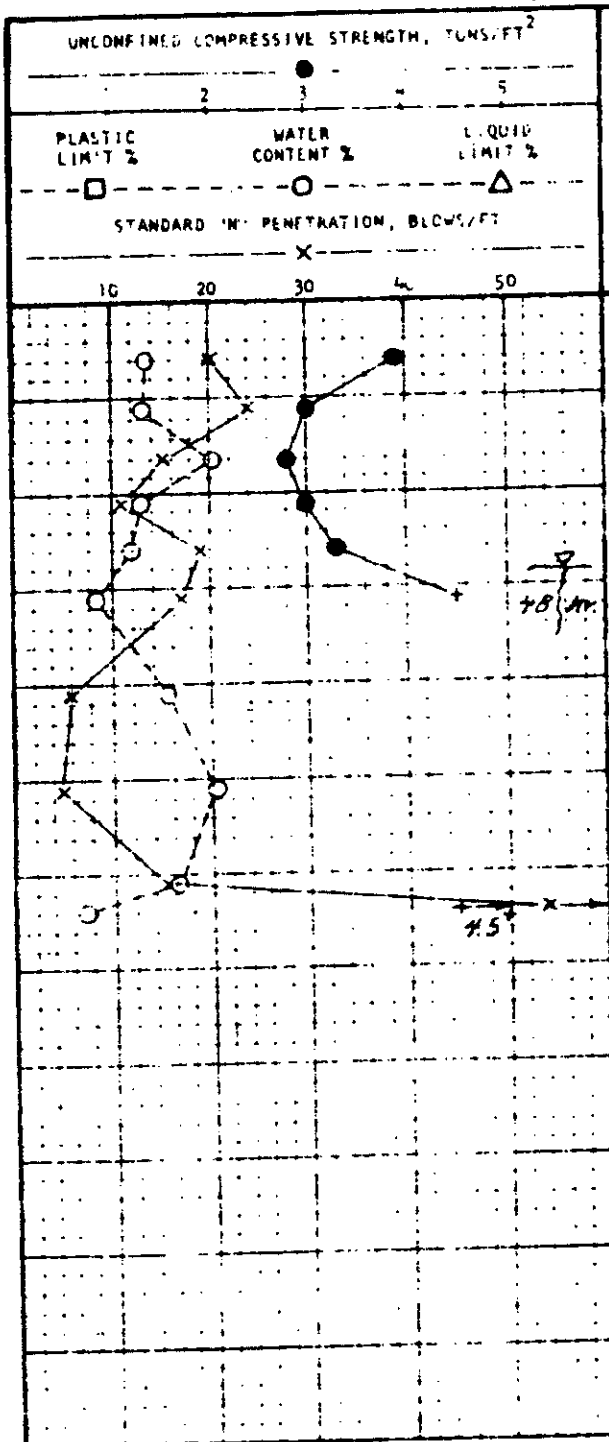
SITE
Mapleton, Illinois

DATE OF BORING
January 26, 1966

PROJECT NO.
B-5037

LOG OF BORING NO. 131

53 + 00 N - 43 + 57 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION → 458.8
5	1	SS		Gray-brown clayey silt (ML) with numerous small pebbles
	2	SS		
10	3	SS		
	4	SS		
	5	SS		
15	6	SS		
20	7	SS		Reddish-brown sand-gravel (SP) with occasional thin clay seams
25	8	SS		
30	9	SS		Blue-gray shale
	10	SS		
35				End of Boring

PROJECT NAME
Caterpillar Foundry

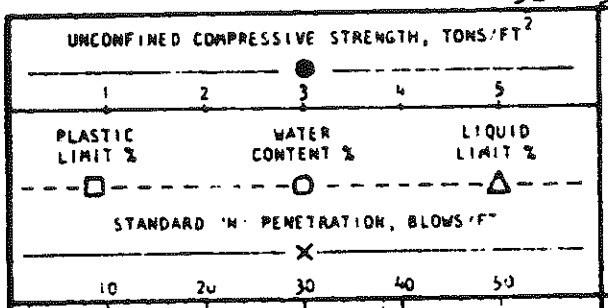
SITE
Mapleton, Illinois

DATE OF BORING
January 26, 1966

PROJECT NO.
4-5037

LOG OF BORING NO. 132

52 + 90 N - 44 + 90 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION → 458.8
	1	SS		Gray-brown clayey silt (ML) with numerous small pebbles
5	2	SS		
	3	SS		
10	4	SS		
	5	SS		
15	6	SS		Reddish brown clayey silt (ML) with occasional small pebbles
20	7	SS		
25	8	SS		Gray-black sandy silt (ML)
				Gray-brown medium grained sand (SP) with some gravel
30	9	SS		
	10	SS		Blue-gray shale
35				End of Boring

PROJECT NAME
Caterpillar Foundry

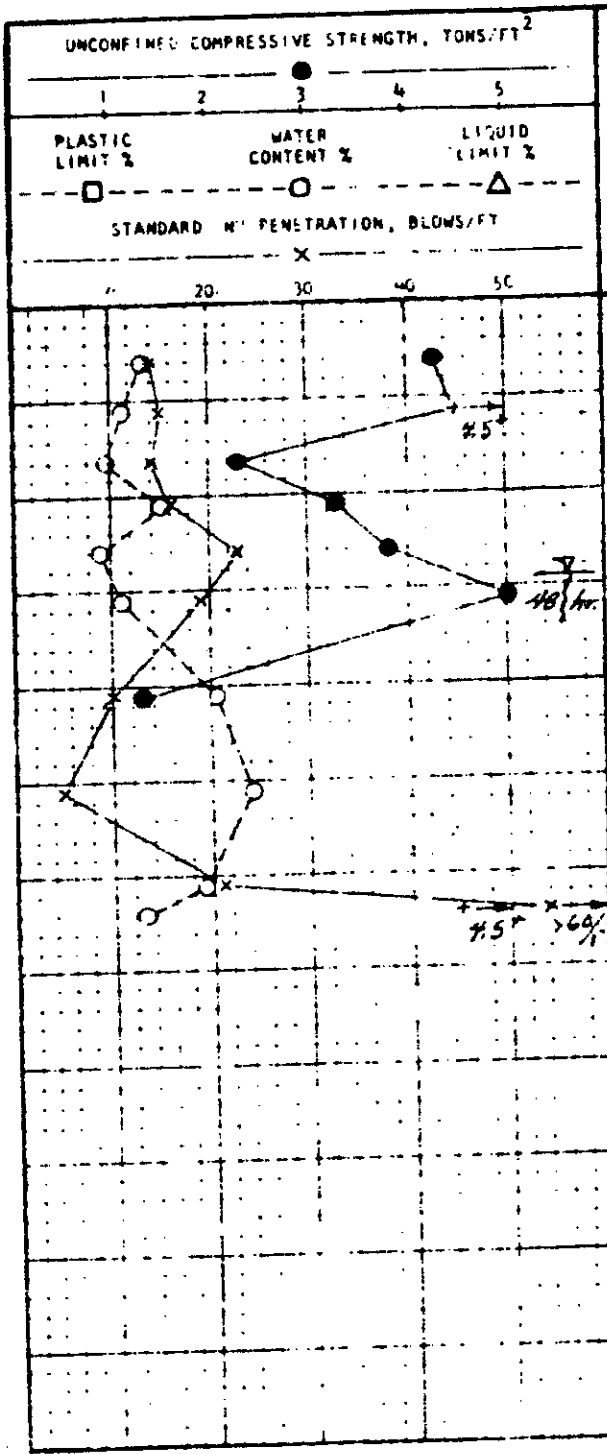
SITE
Mapleton, Illinois

DATE OF BORING
January 26, 1966

PROJECT NO.
8-5037

LOG OF BORING NO. 133

52 + 73 N - 45 + 23 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION → 453.8
	1	SS		
5	2	SS		Gray-brown clayey silt (ML) with numerous small pebbles
	3	SS		
10	4	SS		
	5	SS		
15	6	SS		
	7	SS		
20				Brown fine to coarse grained sand (SW-SP) with some gravel
25	8	SS		
	9	SS		
30	10	SS		Blue-gray shale
35				End of Boring

PROJECT NAME
Caterpillar Foundry

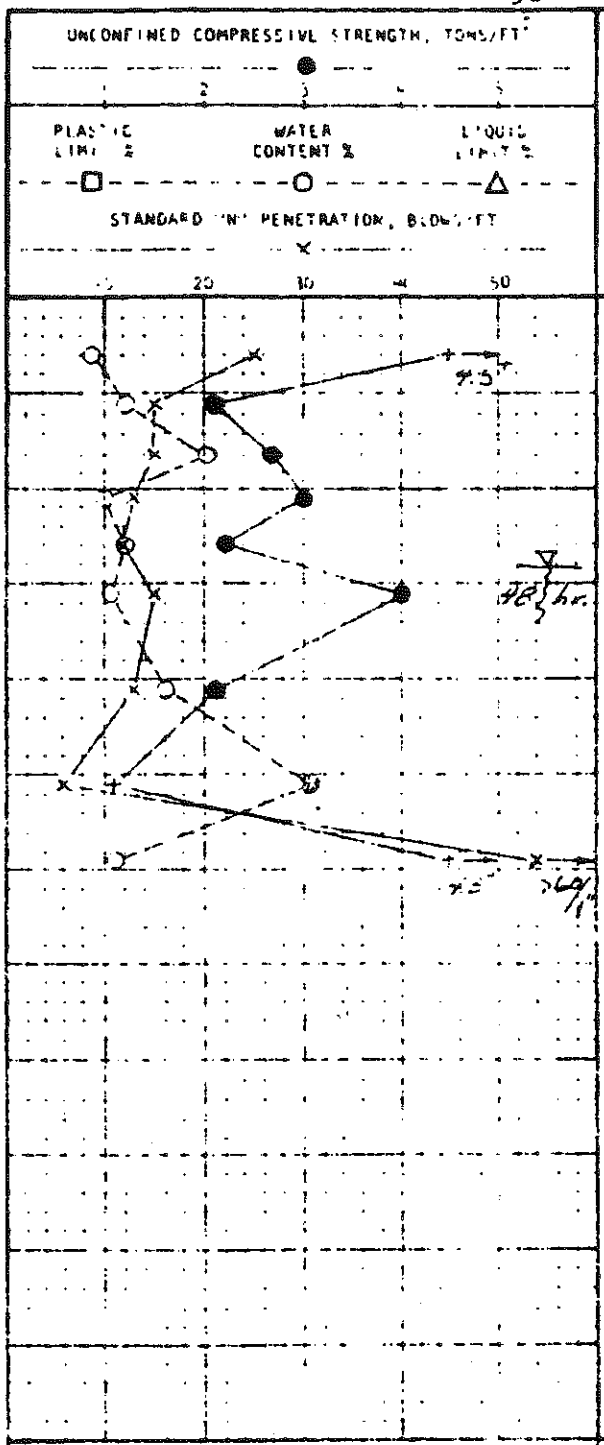
SITE
Mapleton, Illinois

DATE OF BORING
January 2[illegible], 1966

PROJECT NO.
8-5037

LOG OF BORING NO. 134

52 + 40 N - 45 + 35 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION → 458.8
	1	SS		
5	2	SS		Gray-brown clayey silt (ML) with numerous small pebbles
	3	SS		
10	4	SS		
	5	SS		
15	6	SS		
20	7	SS		
25	8	SS		Gray-black sandy silt (ML)
				Brown medium grained sand (SW)
30	9	SS		Blue-gray shale
				End of Boring
35				

PROJECT NAME
Caterpillar Foundry

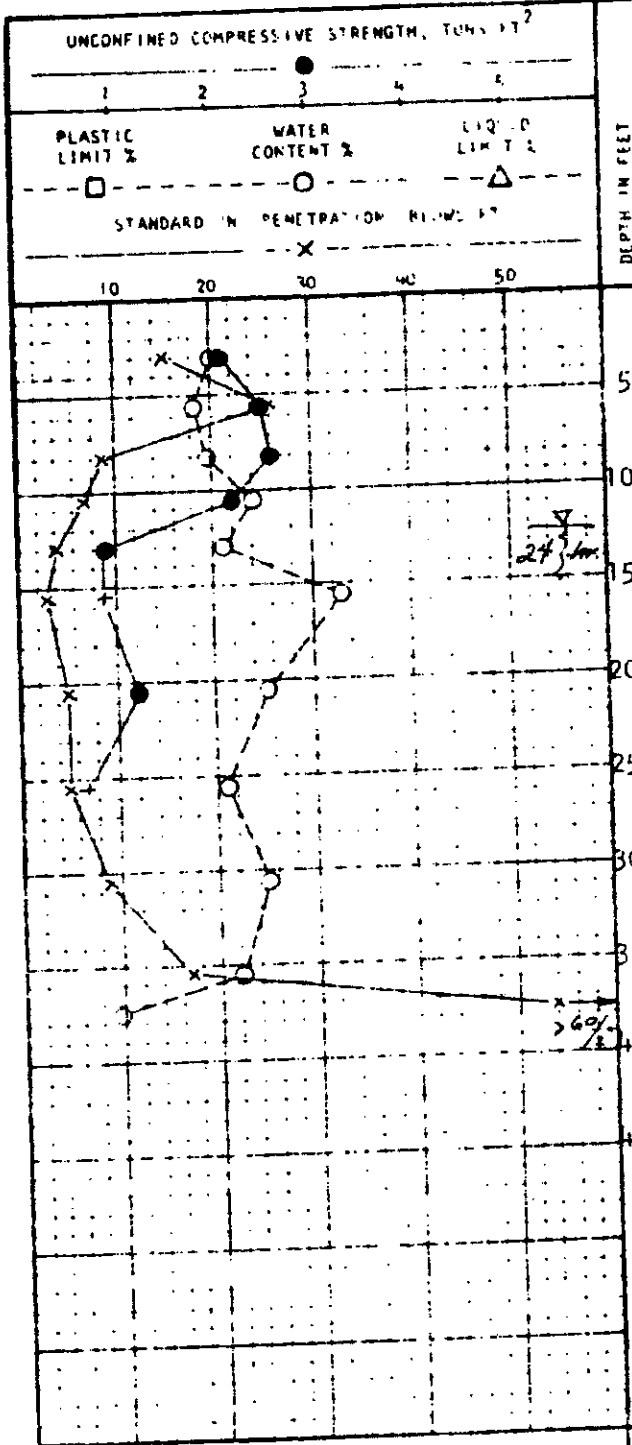
SITE
Mapleton, Illinois

DATE OF BORING
January 26, 1966

PROJECT NO.
3-5037

LOG OF BORING NO. 135

52+50 N 49+60 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION →
5	1	SS		Gray-brown clayey silt (ML) with numerous small pebbles
	2	SS		
10	3	SS		
	4	SS		
	5	SS		
15	6	SS		
20	7	SS		Gray-brown silty clay (CL)
25	8	SS		Gray-brown medium grained sand (SP) with some gravel
30	9	SS		
35	10	SS		Gray-blue shale
	11	SS		
40				End of Boring
45				

PROJECT NAME
Caterpillar Foundry

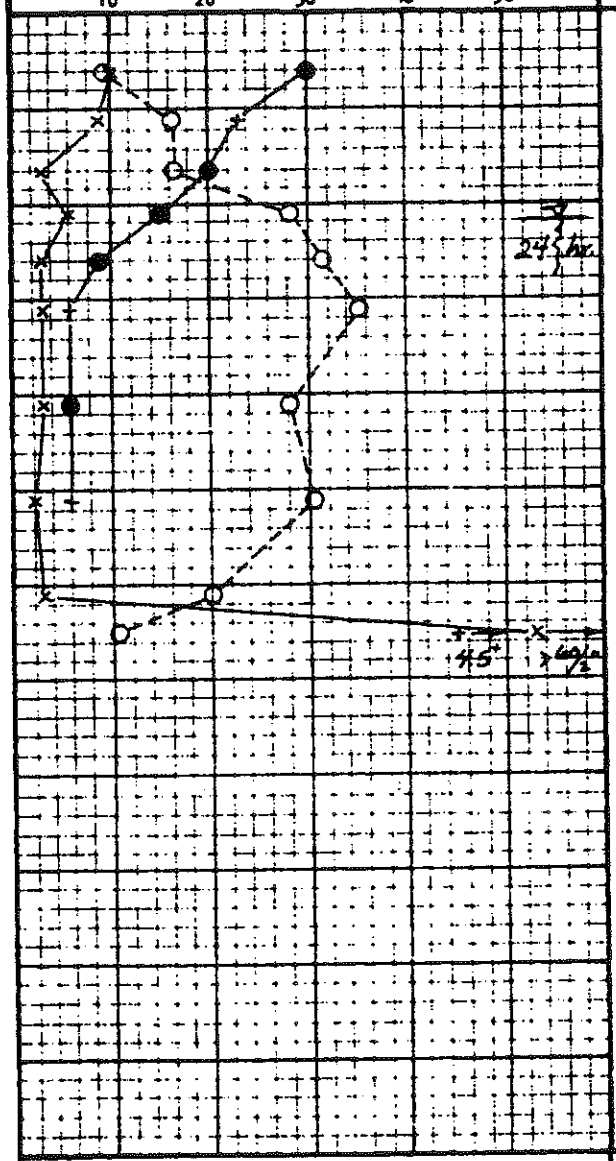
SITE
Mapleton, Illinois

DATE OF BORING
January 27, 1966

PROJECT NO.
8-5037

LOG OF BORING NO. 136

52 + 69 N - 50 + 74 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION 455.2
	1	ss		Gray-brown to brown clayey silt (ML)
5	2	ss		
	3	ss		
10	4	ss		Dark brown clayey silt (ML-OL) with occasional roots
	5	ss		
15	6	ss		
				Gray-brown clayey silt (ML) with occasional thin sand lenses
20	7	ss		
25	8	ss		
				Gray medium grained sand (SW)
30	9	ss		
	10	ss		Gray-blue shale
35				End of Boring

PROJECT NAME
Caterpillar Foundry

SITE
Mapleton, Illinois

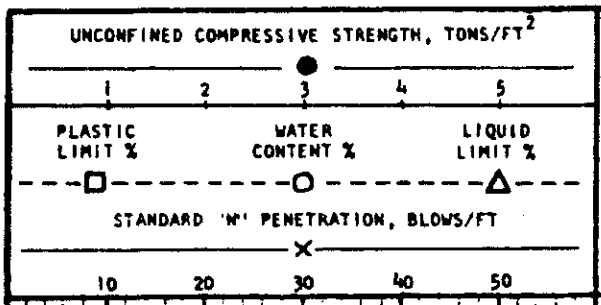
4H

DATE OF BORING
February 2, 1966

PROJECT NO.
8-5037

LOG OF BORING NO. 137

54 + 40 N - 62 + 25 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION → 457.0
	1	ss		Gray-brown clayey silt (ML) with occasional pebbles and sand particles
5	2	ss		
	3	ss		
10	4	ss		
	5	ss		
15	6	ss		Gray-brown clayey silt (ML) with occasional black organic clay streaks
20	7	ss		Gray-blue shale
25				End of Boring

PROJECT NAME
Caterpillar Foundry

SITE
Mapleton, Illinois

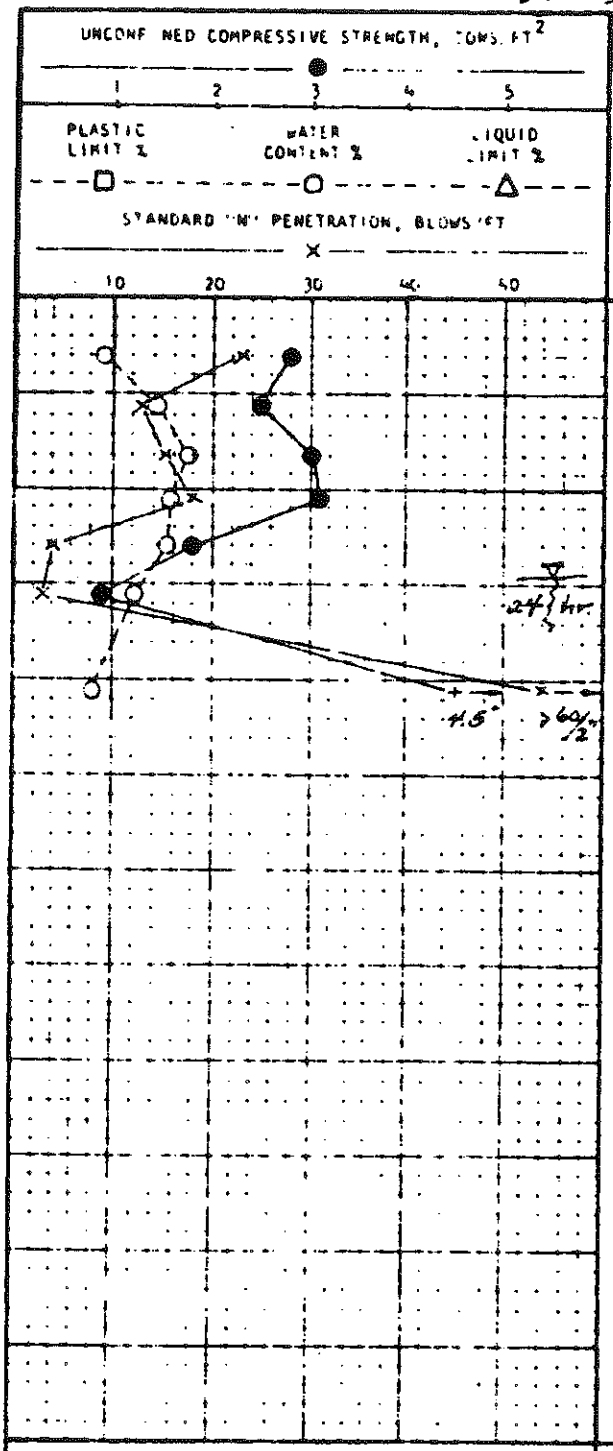
4

DATE OF BORING
February 1, 1966

PROJECT NO.
8-5037

LOG OF BORING NO. 138

54 + 90 N - 62 + 25 E



DEPTH IN FEET	SAMPLE NO.	TYPE SAMPLE	SAMPLE DISTANCE	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION → 557.0
	1	SS		Gray-brown to brown clayey silt (ML) with numerous small pebbles
5	2	SS		
	3	SS		
10	4	SS		
	5	SS		
15	6	SS		Gray brown clayey silt (ML) with considerable sand.
20	7	SS		Gray-brown to gray-blue shale
25				End of Boring

PROJECT NAME
Caterpillar Foundry

SITE
Mapleton, Illinois

DATE OF BORING
February 1, 1966

PROJECT NO.
8-5037

B

APPENDIX B

RMT SOIL BORING/MONITORING WELL STRATIGRAPHIC LOGS

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-1
SHEET NO. 1 OF 1

PROJECT NAME CATERPILLAR - MAPLETON
LOCATION MAPLETON, ILLINOIS
CONTRACTOR MES
DRILLING METHOD 4.25" HSA

PROJECT NO. 2185.22
INSTALLATION 4/25/94
SURFACE ELEV. 100.0
BOREHOLE DIA. 8 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH		
1	SS	7		M		LEAN CLAY (CL) trace sand, coarse grained, rounded, poorly graded, silty, plastic, olive 5Y 5/3, moist, stiff, root material.	
2	SS	14		M			
3	SS	9		M	5		
4	SS	9		D		LEAN CLAY (CL) silty, trace sand, fine grained, slightly plastic, greenish gray 5GY 6/1, dry, very hard.	
5	SS	8		M		LEAN CLAY with SAND (CL) fine to medium grained, some coarse grained, rounded, poorly graded, plastic, olive 5Y 5/3, change to brown 10YR 4/3 at depth, moist, stiff.	
6	SS	10		M	10		
7	SS	11		M		color changes to dark gray 5Y 4/1, increase sand content.	
8	SS	6		M		LEAN CLAY with SAND (CL) fine to medium grained, subrounded, poorly graded, silty, plastic, brown 10YR 4/3, moist, stiff.	
9	SS	7		M	15		
10	SS	7		W		LEAN CLAY (CL) trace sand, fine grained, subangular, poorly graded, silty, dark gray 5Y 4/1, moist, some organic material and decayed wood.	
11	SS	3		W	20	LEAN CLAY with SAND (CL) fine to medium grained, rounded, poorly graded, silty, plastic, brown, 10YR 4/3, stiff.	
						SILTY SAND (SM) fine to coarse grained, poorly graded, brown 10YR 4/3, moist to wet	
					25	some gravel, rounded, poorly graded, wet.	
						SAND (SP) fine to medium grained, rounded, trace silt, yellowish brown 10YR 5/4, wet.	
						End of Boring at 22 Feet	
						Install Monitoring Well at 21 Feet	

GENERAL NOTES

DATE STARTED APR 25 94
DATE COMPLETED APR 25 94
RIG Diedrich D-120
CREW CHIEF T. Bartholomew
LOGGED D. McQuade CHECKED RLW

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 16.5
AT COMPLETION ▼ 13.3
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-2
SHEET NO. 1 OF 1

PROJECT NAME CATERPILLAR - MAPLETON
LOCATION MAPLETON, ILLINOIS
CONTRACTOR MES
DRILLING METHOD 4.25" HSA

PROJECT NO. 2185.22
INSTALLATION 4-26-94
SURFACE ELEV. 99.7
BOREHOLE DIA. 8 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH		
						Concrete	
1	SS	6		M		LEAN CLAY with SAND (CL) fine to medium grained, rounded, poorly graded, silty, plastic, dark yellowish brown 10YR 4/4, moist, stiff.	
2	SS	7		M			
					5		
3	SS	15		M			
						SILTY LEAN CLAY (CL) sandy, fine to medium grained, rounded, poorly graded, slightly plastic, dark gray 5Y 4/1, moist, stiff.	
4	SS	13		M			
						LEAN CLAY with SAND (CL) fine grained, silty, plastic, dark yellowish brown 10 YR 4/6, moist, stiff.	
5	SS	10		M	10	color changes to dark gray 5Y 4/1.	
						color changes to dark yellowish brown 10YR 5/6	
6	SS	8		M			
7	SS	14		M			
					15	increased sand content.	
8	SS	10		M		sand lens at 16.5 feet, fine grained, very moist.	
9	SS	13		M			
					20		
10	SS	8		M		LEAN CLAY (CL) silty, plastic, yellowish brown 10YR 5/4, very moist, soft.	
						End of Boring at 22 Feet Install Monitoring Well at 22 Feet	

GENERAL NOTES

DATE STARTED APR 26 94
DATE COMPLETED APR 26 94
RIG Diedrich D-120
CREW CHIEF T. Bartholomew
LOGGED D. McQuade CHECKED _____

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ _____
AT COMPLETION ▽ _____
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

LOG OF TEST BORING

F-203 (R 01-97)

BORING NO. MW-3
SHEET NO. 1 OF 1
PROJECT NO. 2185.22
INSTALLATION 4-26-94
SURFACE ELEV. 100.3
BOREHOLE DIA. 8 IN.

PROJECT NAME CATERPILLAR - MAPLETON
LOCATION MAPLETON, ILLINOIS
CONTRACTOR MES
DRILLING METHOD 4.25" HSA

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL		RECOVERY		MOISTURE			
NO.	TYPE	N	IN		DEPTH		
1	SS	17		M		Topsoil	
						Foundry sand fine grained, black, 10YR 2/1, moist. (fill)	
2	SS	21		W	▼		
3	SS	5		W			
					5		
4	SS	2		W		SAND (SP) fine to medum grained, rounded, poorly graded, silty, dark gray 5Y 4/1, wet.	
5	SS	12		W			
6	SS	13		W	10		
7	SS	2		W			
8	SS	4		M		LEAN CLAY (CL) trace sand, fine to medim grained, rounded, poorly graded, silty, plastic, olive gray 5Y 4/2, moist, stiff. Note: slight sheen visible on water in spoon.	
					15		
9	SS	1		M		SILTY LEAN CLAY (CL) trace sand, fine grained, plastic, olive gray 5Y 4/2, moist, stiff.	
10	SS	1		M		SILT (ML) clayey, plastic, olive gray 5Y 4/2, moist, soft.	
					20		
11	SS	6		M		LEAN CLAY (CL) silty, very plastic, olive gray 5Y 4/2, moist, stiff.	
						End of Boring at 22 Feet.	
						Install Monitoring Well at 14 Feet.	

GENERAL NOTES

DATE STARTED APR 26 94
DATE COMPLETED APR 26 94
RIG Diedrich D-120
CREW CHIEF T. Bartholomew
LOGGED D. McQuade CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 3.0
AT COMPLETION ▼ 3.0
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-4
SHEET NO. 1 OF 1
PROJECT NAME CATERPILLAR - MAPLETON
PROJECT NO. 2185.22
LOCATION MAPLETON, ILLINOIS
INSTALLATION 4-25-94
CONTRACTOR MES
SURFACE ELEV. 101.0
DRILLING METHOD 4.25" HSA
BOREHOLE DIA. 8 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH		
1	SS	15		M		LEAN CLAY (CL) trace sand, fine grained, poorly graded, silty, slightly plastic, dark brown 10YR 3/3, hard, moist.	
2	SS	30		W		Foundry sand fine grained, black 10YR 2/1 (fill).	
3	SS	8		W	5		
4	SS	2		W			
5	SS	4		M		LEAN CLAY with SAND (CL) fine to medium grained, subangular, poorly graded, silty, olive 5Y 4/3, changing to dark yellowish brown 10YR 4/4, stiff, moist.	
6	SS	7		M	10	color changes to light olive brown 2.5Y 5/4.	
7	SS	11		D		LEAN CLAY (CL) very silty, slightly plastic, greenish gray 5GY 6/1, dry, stiff.	
8	SS	8		D	▼ 15		
9	SS	5		M		CLAYEY SILT (ML) slightly plastic, dark greenish gray 5GY 6/1, moist, stiff.	
10	SS	8		W	▽	sandy, fine grained, wet	
11	SS	4		W	20		
						End of Boring at 22 Feet Install Monitoring Well at 22 Feet	

GENERAL NOTES

DATE STARTED APR 25 94
DATE COMPLETED APR 25 94
RIG Diedrich D-120
CREW CHIEF T. Bartholomew
LOGGED D. McQuade CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 18.0
AT COMPLETION ▼ 14.3
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

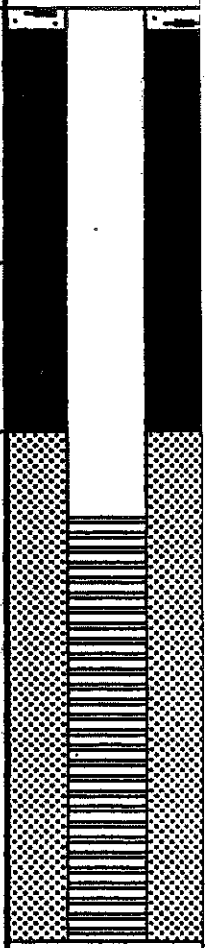
LOG OF TEST BORING

F-203 (R 01-87)

RMT

BORING NO. MW-5
SHEET NO. 1 OF 1
PROJECT NAME CATERPILLAR - MAPLETON
PROJECT NO. 2185.22
LOCATION MAPLETON, ILLINOIS
INSTALLATION 4-26-94
CONTRACTOR MES
SURFACE ELEV. 100.6
DRILLING METHOD 4.25" HSA
BOREHOLE DIA. 8 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH		
1	SS	5				LEAN CLAY with SAND (CL) fine grained, rounded, silty, plastic, brown 10YR 4/3, stiff.	
2	SS	12		M		LEAN CLAY with SAND (CL) fine to coarse grained, subangular, poorly graded, silty, plastic, dark yellowish brown 10YR 4/4, stiff, moist.	
3	SS	3		M	5		
4	SS	4		M		LEAN CLAY (CL) silty, trace sand, fine to medium grained, subangular, poorly graded, plastic, olive 5Y 5/3, stiff, moist.	
5	SS	12		M			
6	SS	12		M	10	LEAN CLAY with SAND (CL) fine to medium grained, subangular, poorly graded, silty, plastic, dark yellowish brown 10YR 4/4, stiff, moist.	
7	SS	12		M	▼		
8	SS	13		M	▽	sand lens, medium to coarsed grained, wet	
9	SS	16		M	15		
10	SS	12		M			
11	SS	3		M	20	increased sand content	
12	SS	3		M			
					25	End of Boring at 24 Feet Install Monitoring Well at 22 Feet	



GENERAL NOTES

DATE STARTED APR 25 94
DATE COMPLETED APR 26 94
RIG Diedrich D-120
CREW CHIEF T. Bartholomew
LOGGED D. McQuade CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 13.8
AT COMPLETION ▼ 11.6
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. + G-101S
SHEET NO. 1 OF 1

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 4 1/4"

PROJECT NO. 2185.05
INSTALLATION 12/12/91
SURFACE ELEV. 458.4
BOREHOLE DIA. 9 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	HNU(ppm)	DEPTH	
1	SS	14	24	M		POORLY GRADED SAND (SP), black 10YR 2/1 (Foundry Sand).
2	SS	23	18			Same as above, some red sand intermixed.
3	SS	12	13	M	5	SANDY LEAN CLAY (CL), olive gray 5Y 5/2, plastic, stiff [Pp=1.5].
4	SS	24	17			Same as above, light olive gray 5Y 6/2, rock in way of spoon shreds sample.
5	SS	19	22	W		Same as above, yellowish brown 10YR 5/6.
6	SS	8	24	M	10	Wet sand in tip of spoon.
7	SS	2	24	M		LEAN CLAY (CL), dark gray 5Y 4/1, plastic, stiff [Pp=1.75].
8	SS	4	24	M	15	Same as above.
9	SS	7	24	M		
					20	End of Boring at 19 Ft.
					25	
					30	
					35	

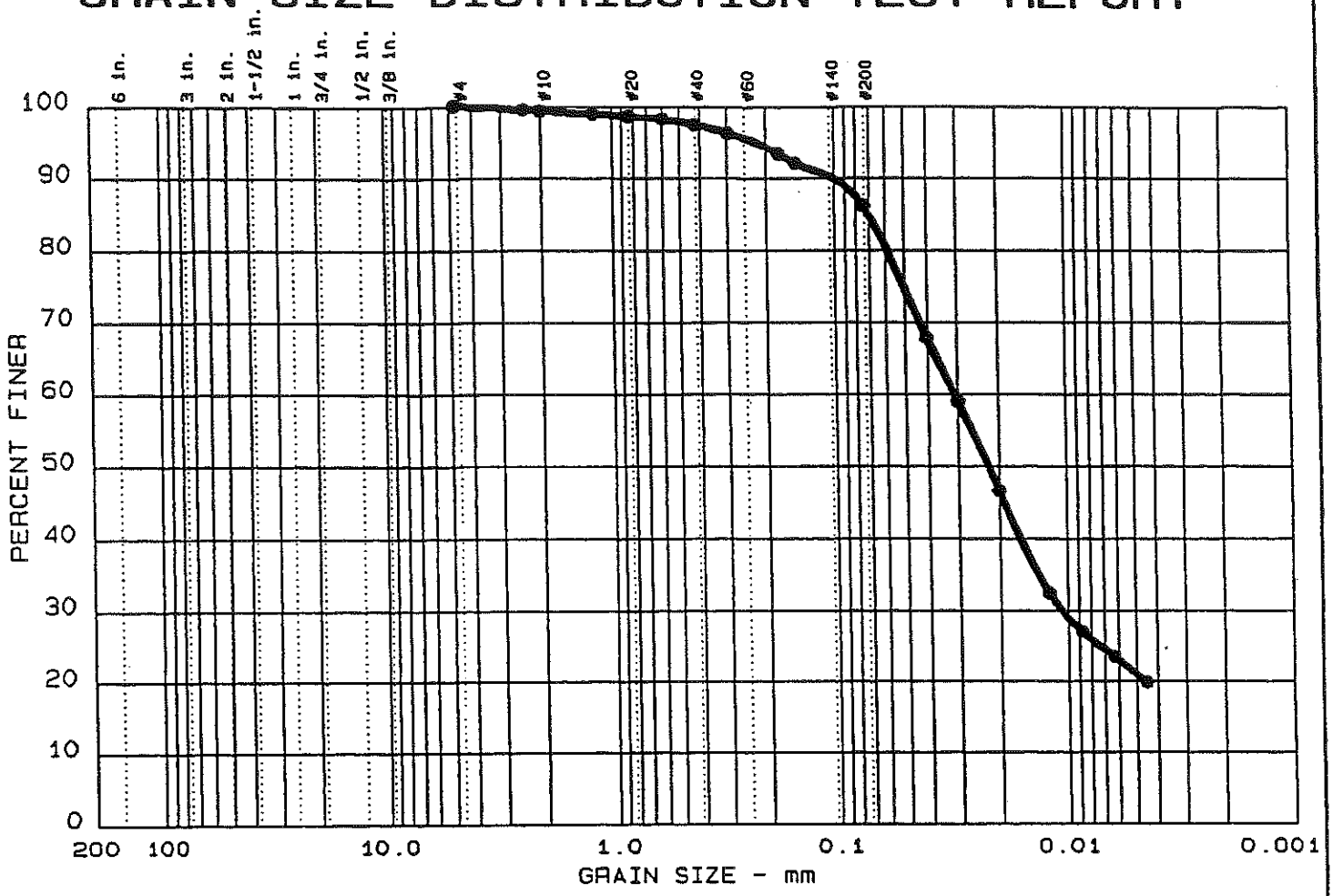
GENERAL NOTES

DATE STARTED DEC 12 91
DATE COMPLETED DEC 12 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED B. Schu

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 10.0 Ft.
AT COMPLETION ▽ 9.5 Ft.
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	13.9	65.1	21.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	28	8			0.02	0.011				

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: G101S, SS8, 14-16'

Date: 2-12-92

Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. + G-102S
SHEET NO. 1 OF 1
PROJECT NO. 2185.05
INSTALLATION 01/08/92
SURFACE ELEV. 447.0
BOREHOLE DIA. 9 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 4 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	SS					SANDY LEAN CLAY (CL), dark yellow brown 10YR 4/4, slightly plastic, stiff [Pp=2.0].
2	SS	8	12			
3	SS	8	14		5	Same with wood fragments.
4	SS	12	15	W		
5	SS	5	13	W	▽	1" sand seam, wet.
6	SS	3	16	W	10	SANDY SILTY CLAY (CL-ML), gray 10YR 5/1, slightly plastic, medium dense. Same as above, but wet.
7	SS	128	12			SHALE, bedrock.
8	SS	80	8		15	
						End of Boring at 16 Ft.
					20	
					25	
					30	
					35	

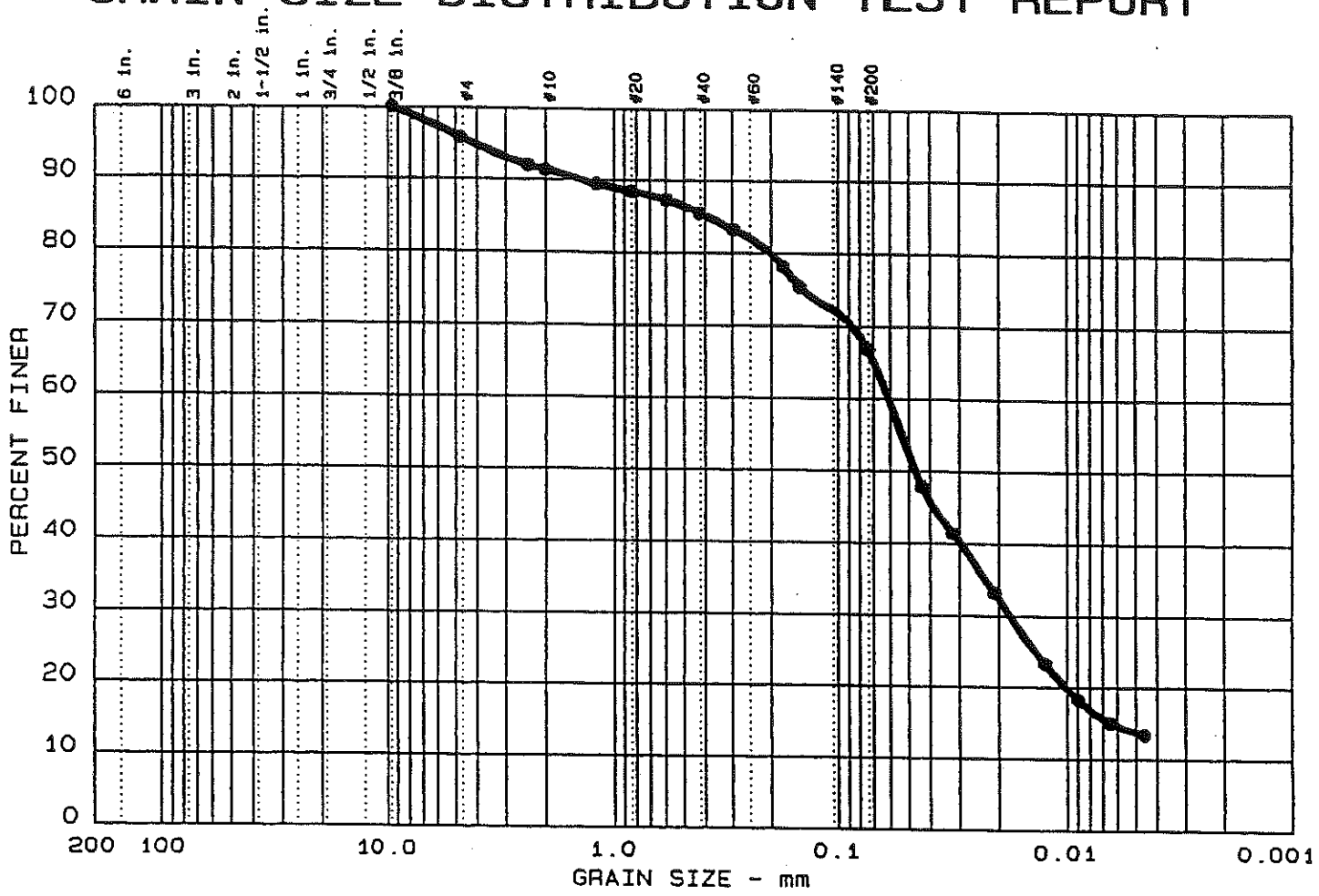
GENERAL NOTES

DATE STARTED JAN 8 92
DATE COMPLETED JAN 8 92
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED B Smith

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 8.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	4.2	29.0	53.1	13.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	23	6	0.39		0.05	0.018	0.0064			

MATERIAL DESCRIPTION	USCS	AASHTO
● Sandy silty clay	CL-ML	

Project No.: 2185.10
Project: CATERPILLAR
● Location: G102S, SS6, 8-12'

Date: 2-12-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Remarks:

Figure No. _____

Note: This data also applies to Boring +G103S, which was adjacent.

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. + G-103D
SHEET NO. 1 OF 1
PROJECT NO. 2185.05
INSTALLATION 12/20/91
SURFACE ELEV. 448.2
BOREHOLE DIA. 9 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 4 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
1	SS	10	16	M		LEAN CLAY (CL), brown 10YR 5/3, plastic, stiff [Pp=1.75] (Fill).
2	SS	15	24			
3	SS	26	14	M	5	POORLY GRADED SAND (SP), black 10YR 2/1 (Foundry Sand).
4	SS	12	16			
5	SS	4	17	M		SILTY CLAY (ML/CL), dark gray 10YR 4/1, plastic, stiff [Pp=.75-1.0].
6	SS	4	18		10	Same as above, very moist.
7	SS	7	24		▽	POORLY GRADED SAND (SP), brown 10YR 5/3, loose.
8	SS	7	22		15	
9	SS	3	20	M		LEAN CLAY (CL), gray 10YR 5/1, plastic, stiff [Pp=1.75].
10	SS	3	20			SILTY CLAY (ML-CL), dark gray 10YR 4/1, slightly plastic, medium stiff.
11	SS	2	16	W	20	
12	SS	3	18			Same as above.
13	SS	3	16		25	
14	SS	4	16			
15	SS	3	14			Same as above.
16	SS	3	16	M-W	30	LEAN CLAY (CL), gray 10YR 5/1, plastic, stiff.
17	SS	8	18			
18	SS	36	12	W	35	WELL GRADED SAND (SW), grayish brown 10YR 5/2, dense.
19	SS	6	0	M		
20	SS	13				LEAN CLAY (CL), gray 10YR 6/1, plastic, stiff.
					40	End of Boring at 40 Ft.

GENERAL NOTES

DATE STARTED DEC 19 91
DATE COMPLETED DEC 20 91
RIG CME 55
CREW CHIEF R. Burton
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 12.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

Note: This data also applies to Boring +G104S, which was adjacent.

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. + G-104D
SHEET NO. 1 OF 2
PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 01/10/92
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 445.3
DRILLING METHOD HSA 4 1/4"
BOREHOLE DIA. 9 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
	SS					Grass (Topsoil).
1	SS	11	14	M		POORLY GRADED SAND (SP), dark yellow brown 10YR 4/4, medium dense (Fluvial).
2	SS	8	14	W	▽ 5	WELL GRADED SAND (SW), dark gray 5Y 4/1, loose (Fluvial).
3	SS	7	12			Same as above, but very dark gray 10YR 3/1.
4	SS	5	18			Same as above, but dark gray 10YR 4/1.
5	SS	2	22	M	10	FAT CLAY (CH), gray 5Y 5/1, medium stiff [Pp=1.0], plastic to very plastic.
6	SS	2	14			
7	SS	2	17		15	
8	ST		24	M		
9	SS	4				
10	SS	8	14	W	20	Same as above.
11	SS	8	18			
12	SS	6	22		25	
13	SS	8	22			
14	SS	4	24			Same as above.
15	SS	4	18		30	
						Silt layer (ML), 1' thick.
16	SS	5	16			SILTY CLAY (ML/CL), gray 10YR 5/1, slightly plastic, medium stiff [Pp=.75-1.0].
17	SS	8	20		35	
18	SS	8	19			
19	SS	6	18			
					40	POORLY GRADED SAND (SP), dark gray 10YR 4/1, loose (Fluvial).

GENERAL NOTES

DATE STARTED JAN 9 92
DATE COMPLETED JAN 10 92
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 4.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

LOG OF TEST BORING

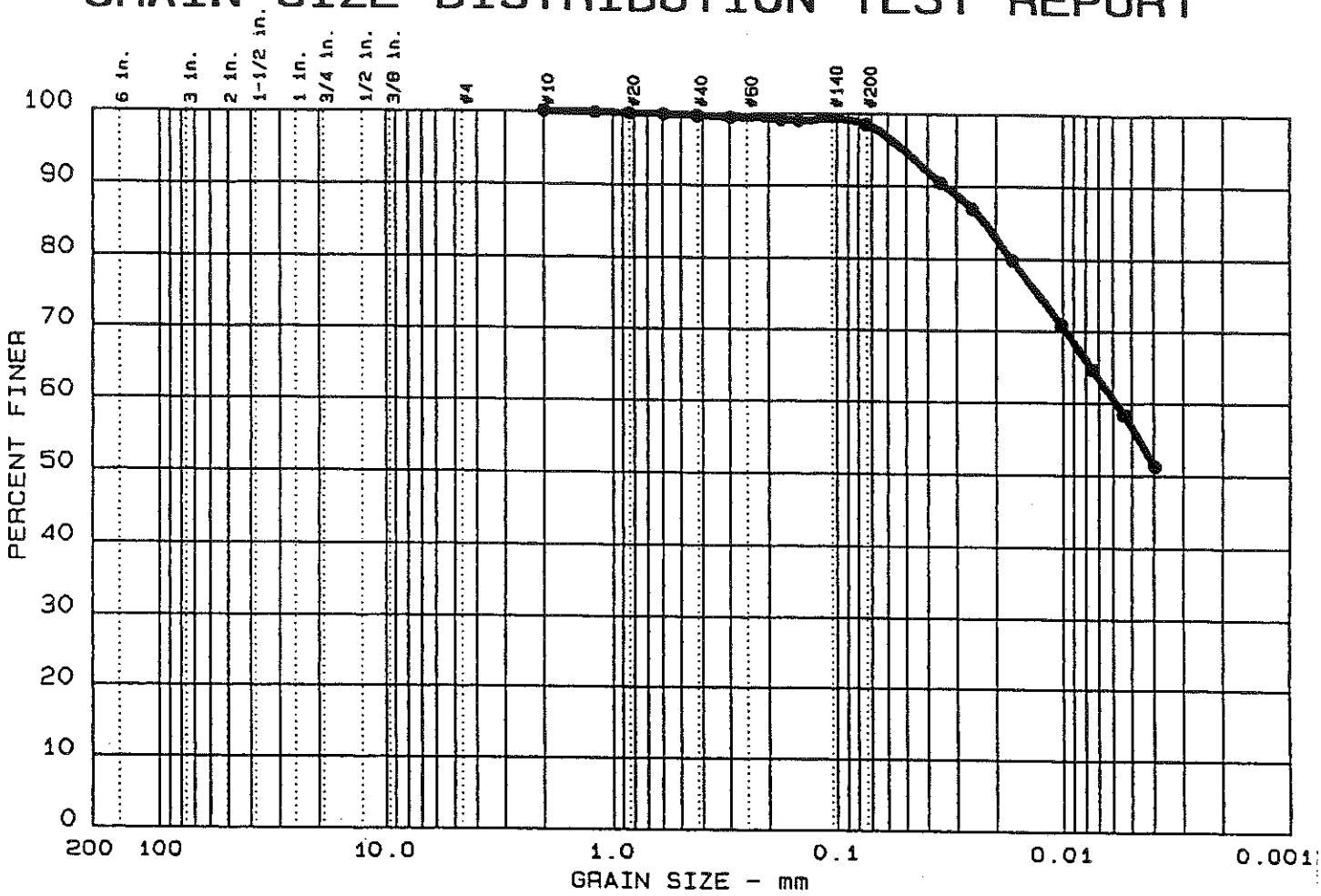
F-203 (R 01-87)

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 4 1/4"

BORING NO. + G-104D
SHEET NO. 2 OF 2
PROJECT NO. 2185.05
INSTALLATION 01/10/92
SURFACE ELEV. 445.3
BOREHOLE DIA. 9 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
20	SS	19				
21	SS	19	20			
22	SS	46	20		45	WELL GRADED SAND (SW), gray 10YR 5/1, stiff.
23	SS	15	20			Silty clay and sand layers.
24	SS	7	17			LEAN CLAY (CL), gray 5Y 5/1, plastic, medium stiff [Pp=1.0].
25	SS	6	16		50	
26	ST		16			
27	SS	7	19		55	
28	SS	6				
29	SS	6				Same as above.
					60	
						SHALE, bedrock.
						End of Boring at 62 Ft.
					65	
					70	
					75	
					80	
					85	

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	1.6	41.7	56.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	53	26								

MATERIAL DESCRIPTION	USCS	AASHTO
● Fat clay	CH	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B204, ST8, 16-18'

Date: 2-12-92

Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

✓ JPH 22792

RMT, Inc.
Falling Head Permeability Test
(Version 1.02)

Job: CATERPILLAR
Job #: 2185.10
Sample: B304, 16-18'
:
Visual Descript: GREY BROWN CLAY

Date: 27-Feb-92
Tech: HJW
File: CATP5
Cell #: 9S

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.86	2.86
Sample Ht. (in)	2.30	2.29
Tare & Wet (g)	461.1	536.7
Tare & Dry (g)	350.1	426.6
Tare (g)	0.0	76.6
Sample Wt. (g)	461.1	460.1

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.70	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

	INIT.	FINAL
MOISTURE (%)	31.7	31.4
WET DENS. (pcf)	118.9	119.2
DRY DENS. (pcf)	90.3	90.6
SATURATION (%)	98.8	98.9

MAXIMUM GRADIENT:	12.1
AVERAGE GRADIENT:	11.2
MAX. EFFECT. STRESS (psi):	6.2
MIN. EFFECT. STRESS (psi):	4.8
AVE. EFFECT. STRESS (psi):	5.4

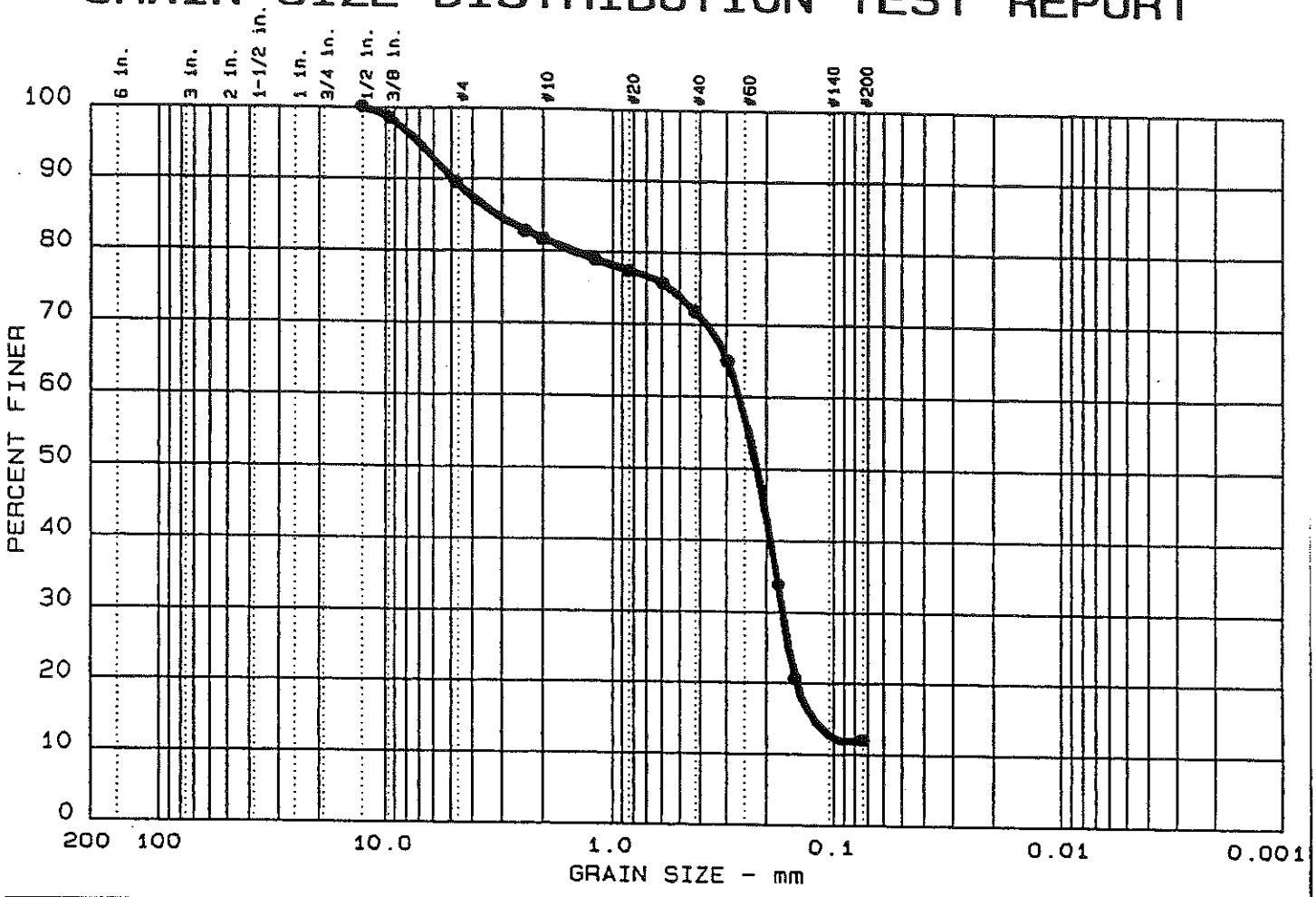
Date YY	MM	DD	Time HH	MM	Temp C°*	Press.(psi) BOT	TOP	Readings (cm) CHAM	BOT	TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92	2	14	8	7	0	95	95	19.50	2.20	100.85			
92	2	14	9	23	21	95	95	19.30	2.50	100.40	-20.0	3.6E-08	
92	2	17	7	25	22	95	95	21.80	11.80	91.90	4.5	1.7E-08	
92	2	17	16	43	22	95	95	20.40	12.80	90.90	0.0	1.6E-08	
92	2	18	8	17	22	95	95	21.80	14.45	89.35	3.1	1.6E-08	
92	2	18	16	27	22	95	95	21.30	15.25	88.50	-3.0	1.6E-08	
92	2	19	7	42	22	95	95	22.30	16.80	87.10	5.1	1.6E-08	
92	2	19	16	41	22	95	95	21.20	17.60	86.30	0.0	1.5E-08	1
92	2	20	7	32	22	95	95	22.70	19.00	85.10	7.7	1.6E-08	1
92	2	21	7	18	22	95	95	23.90	21.05	83.10	1.2	1.6E-08	1
92	2	21	16	44	22	95	95	22.40	21.85	82.40	6.7	1.6E-08	1

NOTES or COMMENTS :

Average Kv for those rows with a 1 in the Ave. column	1.6E-08 cm/sec
Termination determined by stable Kv and low flow differential	6.2E-09 in/sec

* A zero in this column starts a series of measurements
** Kv adjusted for temperature

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	10.4	77.5	12.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	NP	NP	3.13	0.26	0.22	0.169	0.1240			

MATERIAL DESCRIPTION	USCS	AASHTO
● Silty sand	SM	

Project No.: 2185.10
Project: CATERPILLAR
● Location: G104, 42-44'

Date: 2-12-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT. INC.

Remarks:

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. G-105S
SHEET NO. 1 OF 1

PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 01/13/92
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 449.0
DRILLING METHOD HSA 4 1/4"
BOREHOLE DIA. 9 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
1	SS	14	20	M		POORLY GRADED SAND (SP), light yellowish brown 10YR 6/4, medium dense (Fluvial).
2	SS	10	20		5	
3	SS	2	22			
4	SS	4	14	M		CLAYEY SILT (CL/ML), very dark gray 7.5YR N3/ (wet above clay layer, moist below), loose.
5	SS	6	16	W	10	POORLY GRADED SAND (SP), dark gray 10YR 4/1, loose (Fluvial).
6	SS	4	16			LEAN CLAY (CL), gray 10YR 5/1, plastic, medium stiff [Pp=1.0].
7	SS	5			15	
						End of Boring at 17 Ft.
					20	
					25	
					30	
					35	

GENERAL NOTES

DATE STARTED JAN 13 92
DATE COMPLETED JAN 13 92
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 10.0 Ft.
AT COMPLETION ▼ 9.2 Ft.
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

Note: This data also applies to Boring G106S, which was adjacent.

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. G-106D
SHEET NO. 1 OF 2
PROJECT NO. 2185.05
INSTALLATION 12/17/91
SURFACE ELEV. 445.6
BOREHOLE DIA. 9 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 4 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	SS	5	12	M		POORLY GRADED SAND WITH SILT (SP-SM), yellow brown 10YR 5/6 (Fluvial).
2	SS	12	14			
3	SS	14	14		5	
4	SS	13	20	M		Same as above.
5	SS	8	20		▽	
6	SS	4	20		10	SILTY CLAY (ML/CL), gray brown 10YR 5/2, stiff [Pp=1.5], plastic.
7	SS	2	22			
8	SS	6	14		15	
9	SS	3	14			Same as above.
10	SS	7	24			
11	SS	7	24		20	
12	SS	3	22			SILTY CLAY (ML/CL), light brown gray 10YR 4/2, stiff, plastic.
13	SS	4	20		25	
14	SS	4	20			Same as above.
15	SS	2	21			
16	SS	2	16		30	
17	SS	2	14			
18	SS	7	12	W	35	POORLY GRADED SAND (SP), dark brown 10YR 4/2, loose (Fluvial).
19	SS	18	14	W		
20	SS	24				

GENERAL NOTES

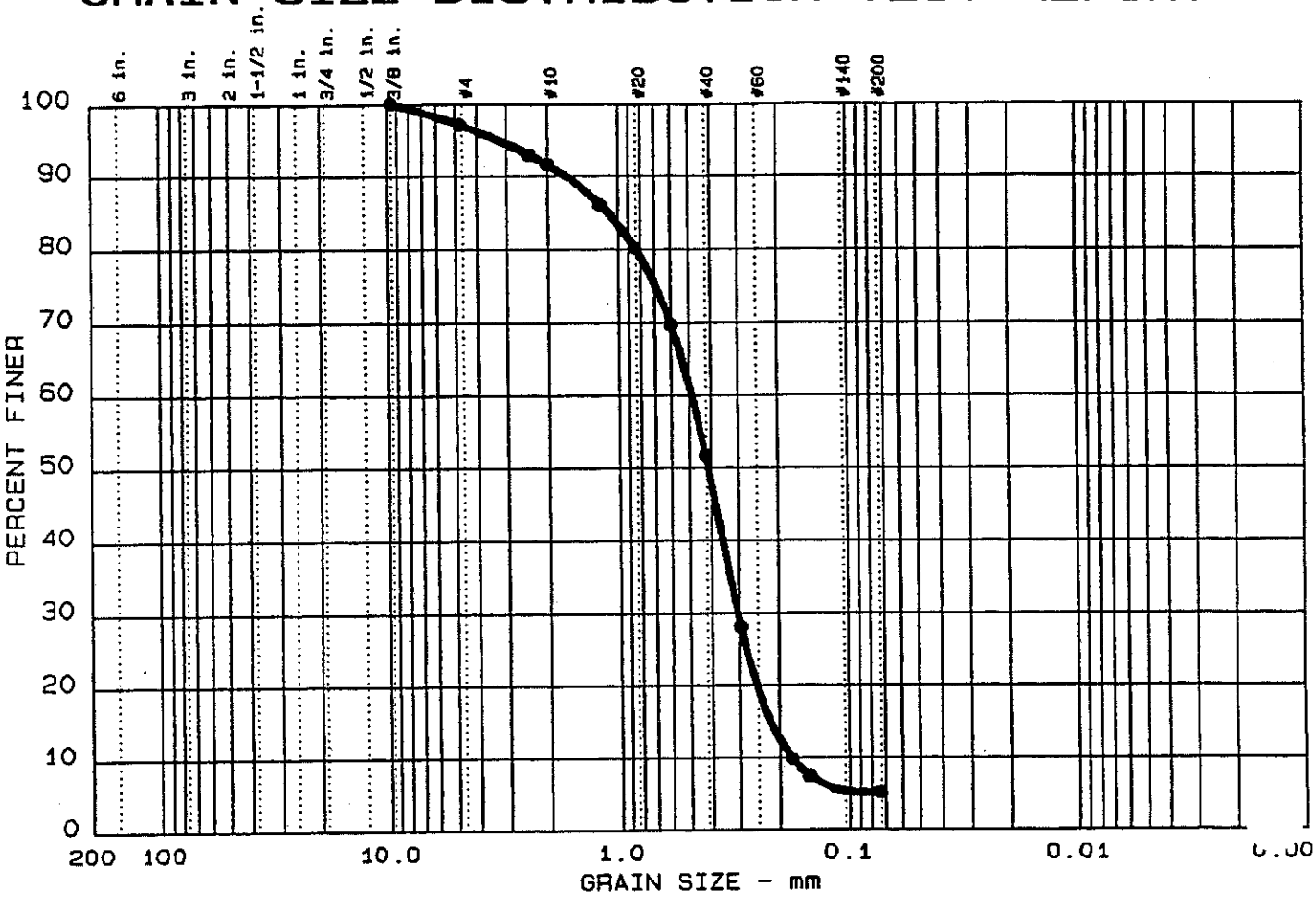
DATE STARTED DEC 17 92
DATE COMPLETED DEC 17 92
RIG D-50
CREW CHIEF R. Burton
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 8.5 Ft.
AT COMPLETION ▽
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

2/11/2-25-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	3.0	91.9	5.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	NP	NP	1.10	0.48	0.41	0.307	0.2208	0.1774	1.10	2.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Poorly graded sand with silt	SP-SM	

Project No.: 2185.10
Project: CATERPILLAR
● Location: G105, SS5, 8-10'

Date: 2-12-92

Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

LOG OF TEST BORING

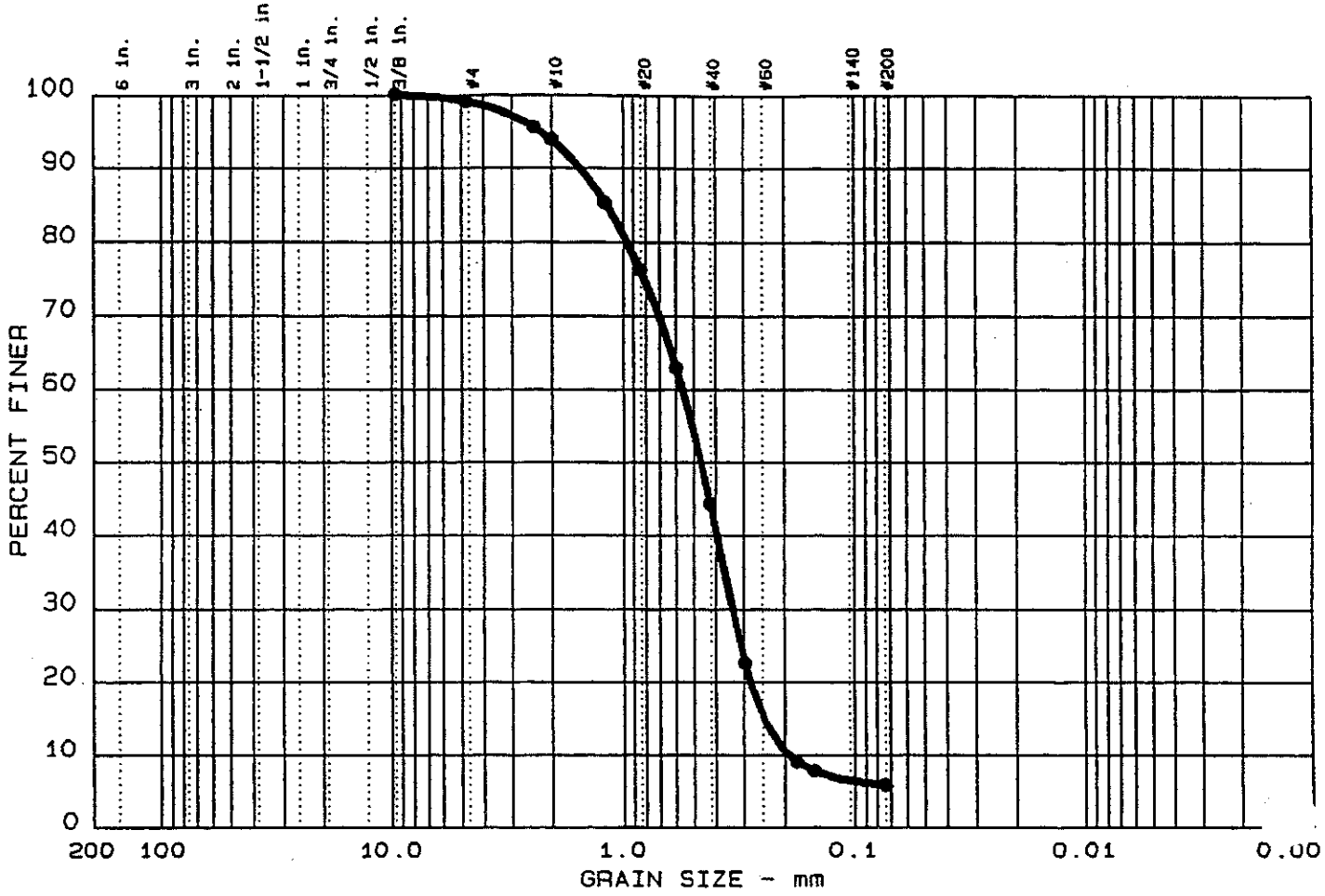
F-203 (R 01-87)

BORING NO. G-106D
SHEET NO. 2 OF 2
PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 12/17/91
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 445.6
DRILLING METHOD HSA 4 1/4"
BOREHOLE DIA. 9 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
21	SS					
22	SS	16		W		POORLY GRADED SAND (SP), brown 10YR 5/3, medium dense.
					45	
						End of Boring at 46 Ft.
					50	
					55	
					60	
					65	
					70	
					75	
					80	
					85	

JMT 2-25-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	1.0	93.1	5.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NP	NP	1.16	0.55	0.46	0.337	0.2443	0.1919	1.07	2.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Poorly graded sand with silt	SP-SM	

Project No.: 2185.10
Project: CATERPILLAR
● Location: G106, SS5, 8-10'

Date: 2-12-92

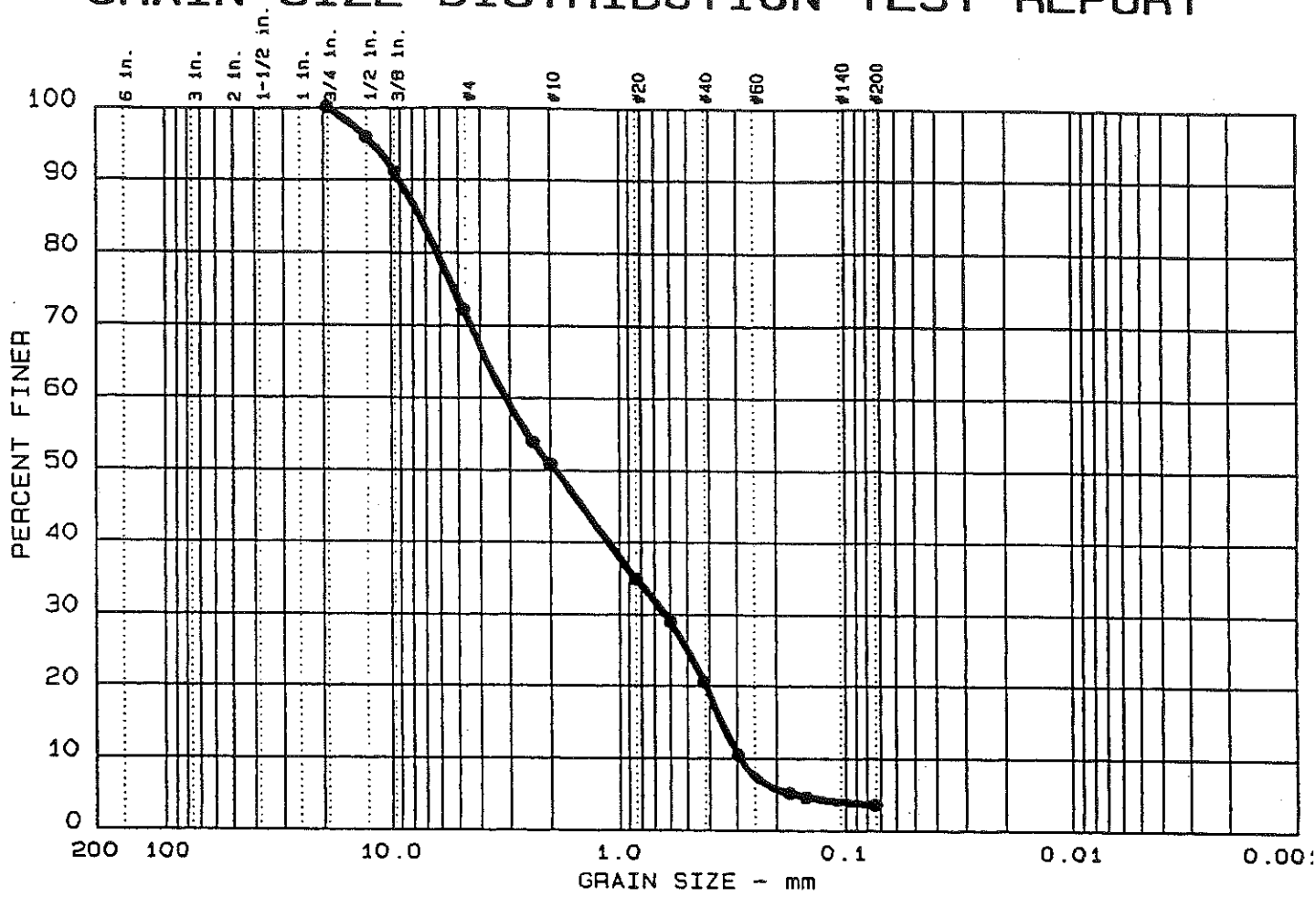
Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	27.8	68.7	3.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			7.33	3.11	1.90	0.628	0.3491	0.2904	0.44	10.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Poorly graded sand with gravel	SP	

Project No.: 2185.10
Project: CATERPILLAR
● Location: G106, SS21, 40-42'

Date: 2-12-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Remarks:

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. G-107S
SHEET NO. 1 OF 1

PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 12/17/91
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 444.5
DRILLING METHOD HSA 4 1/4"
BOREHOLE DIA. 9 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
1	SS	8	12	M		POORLY GRADED SAND (SP), yellow brown 10YR 5/4 (fluvial). 6 in. clay layer at 2.5 ft.
2	SS	9	16			
3	SS	14	24		5	
4	SS	13	24	W		LEAN CLAY (CL), dark gray 10YR 4/1, stiff, plastic, [Pp=1.0].
5	SS	4	16			
6	SS	4	24		10	
7	SS	4	24			
8	SS	5	24		15	
						End Of Boring at 16.0 ft.
					20	
					25	
					30	
					35	

GENERAL NOTES

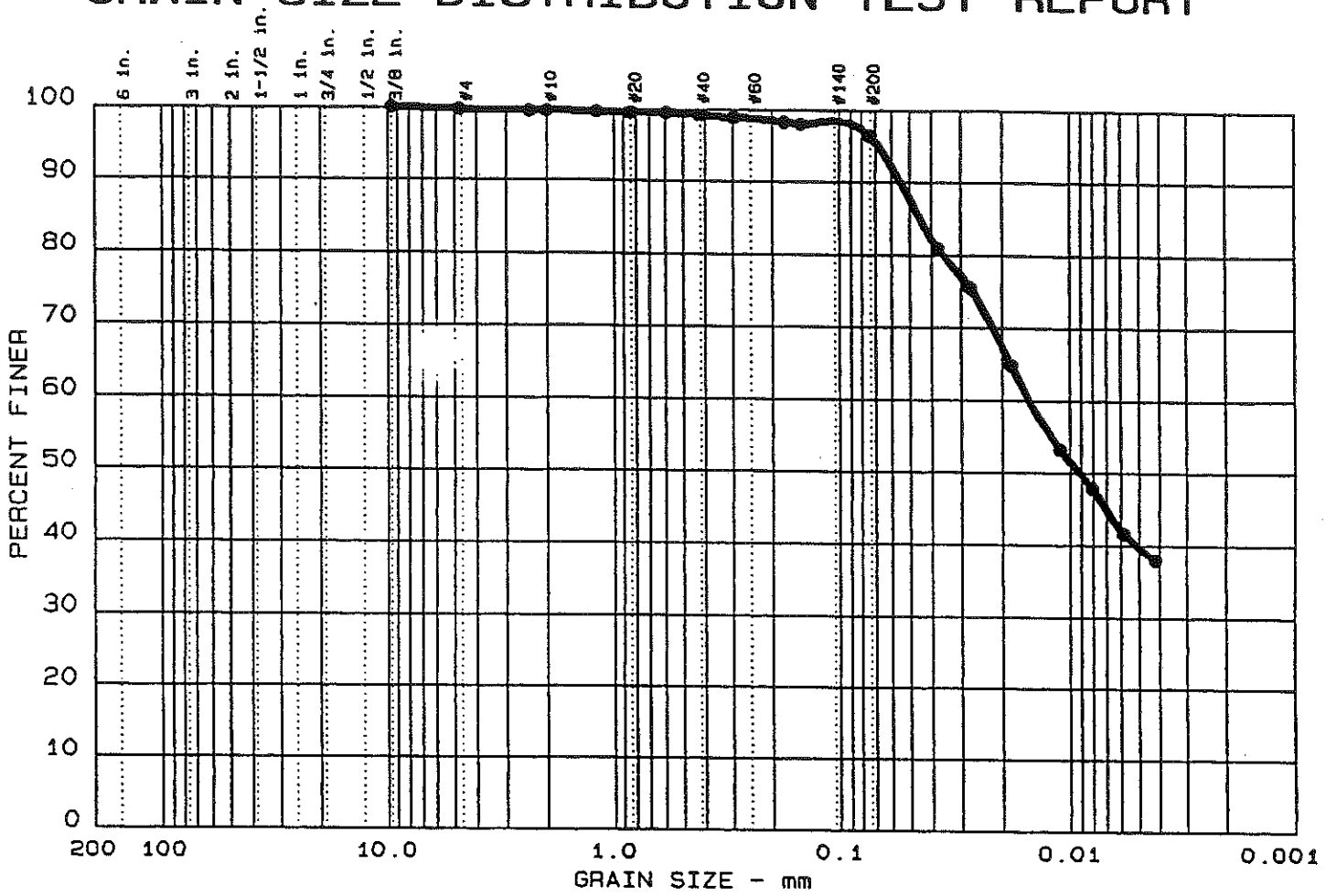
DATE STARTED DEC 17 91
DATE COMPLETED DEC 17 91
RIG D-50
CREW CHIEF R. Barton
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 10.0 Ft.
AT COMPLETION ▼ 3.5 Ft.
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

✓ JPL 2-13-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.3	3.3	56.9	39.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	43	20			0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: G107, SS8, 12-15'

Date: 2-12-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Remarks:

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. G-108S
SHEET NO. 1 OF 1

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 4 1/4"

PROJECT NO. 2185.05
INSTALLATION 01/13/92
SURFACE ELEV. 461.1
BOREHOLE DIA. 9 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	SS	24	18	M		POORLY GRADED SAND (SP), black 10YR 2/1, medium dense (Fill).
2	SS	16	19	M	5	POORLY GRADED SAND (SP), dark yellow brown 10YR 4/6, medium dense (Fluvial).
3	SS	12	24	M		LEAN CLAY (CL), gray 10YR 5/1, very stiff [Pp=4.0], slightly plastic (Fluvial).
4	SS	11	24			
5	SS	4	24		10	Same as above but sandy.
6	SS	8	24			
7	SS	15	24		15	
8	SS	9	24			
9	SS	12	24			
10	SS	7	24	M	20	LEAN CLAY (CL), dark gray 10YR 4/1, very stiff [Pp=2.0], plastic.
11	SS	8	24			
12	ST				25	
13	SS	10	2			
14	SS	4	24			Same as above.
15	SS	7	24	W	▽ 30	
16	SS	4	24			Same as above but wet.
17	SS	6			35	Same as above.
						POORLY GRADED SAND (SP), dark gray 5Y 4/1, loose (Fluvial).
					40	SILTY CLAY, dark gray 7.5YR N4/, very stiff [Pp=1.75], slightly plastic.
						End of Boring at 37 Ft.

GENERAL NOTES

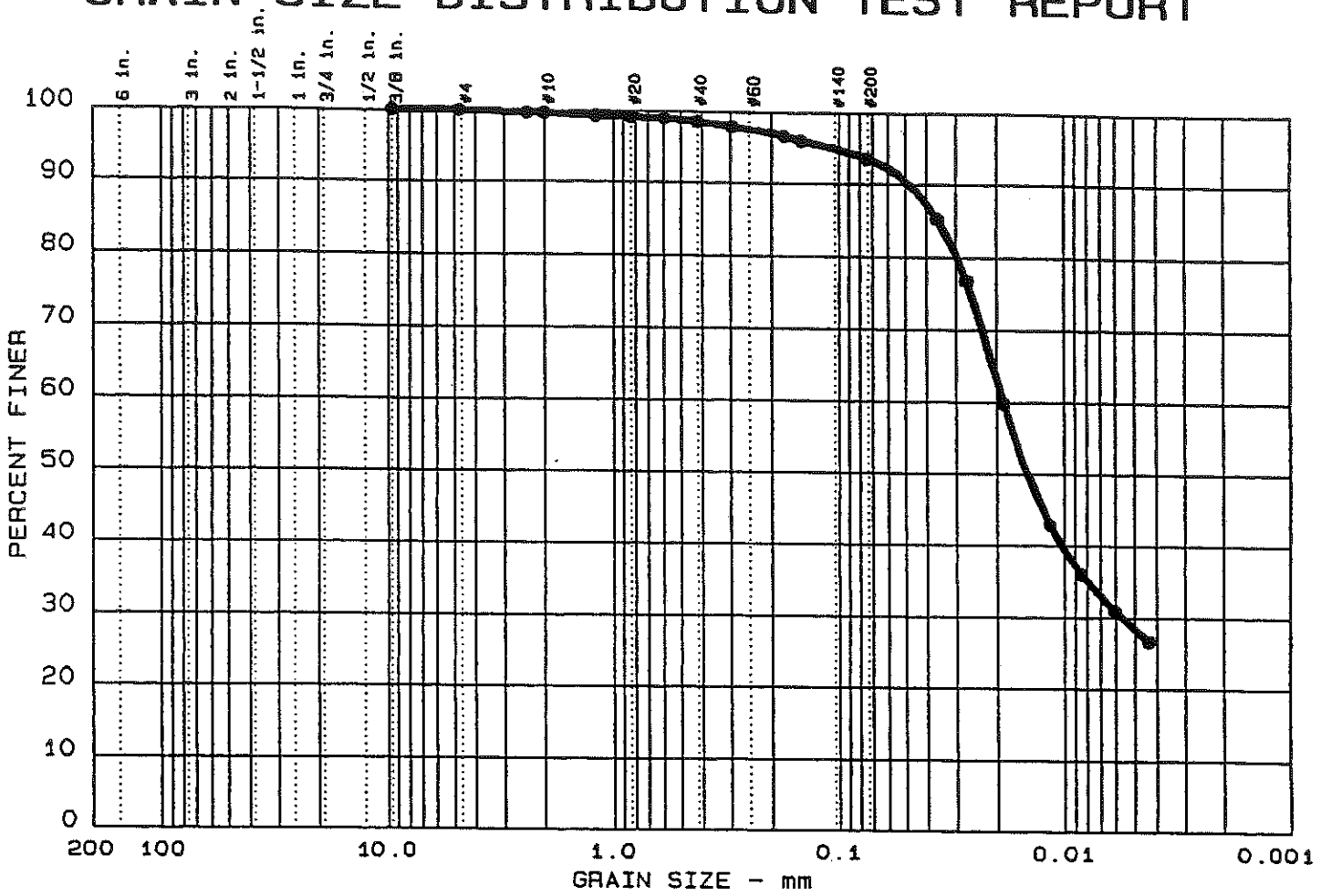
DATE STARTED JAN 13 92
DATE COMPLETED JAN 13 92
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED E. Sorber

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 30.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME ____ DEPTH ____
WATER: DATE/TIME ____ DEPTH ____

✓ #PL2-2592

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.1	6.4	65.1	28.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	32	12			0.01	0.006				

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
◆ Location: G108, ST12, 24-26'

Date: 2-12-92

Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. ____

✓ JPP 2-27-92

RMT, Inc.
Falling Head Permeability Test
(Version 1.02)

Job: CATERPILLAR
Job #: 2185.10
Sample: G108, 24-26'
:
Visual Descript: YELLOW BROWN SILTY CLAY

Date: 27-Feb-92
Tech: HJW
File: CATP6
Cell #: 7S

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.82	2.82
Sample Ht. (in)	2.31	2.28
Tare & Wet (g)	465.5	529.7
Tare & Dry (g)	381.3	431.0
Tare (g)	76.5	76.1
Sample Wt. (g)	457.5	453.5

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.70	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

	INIT.	FINAL
MOISTURE (%)	27.6	27.8
WET DENS. (pcf)	120.8	121.3
DRY DENS. (pcf)	94.7	94.9
SATURATION (%)	95.6	96.9

MAXIMUM GRADIENT:	10.6
AVERAGE GRADIENT:	8.3
MAX. EFFECT. STRESS (psi):	6.1
MIN. EFFECT. STRESS (psi):	4.7
AVE. EFFECT. STRESS (psi):	5.3

Date YY	MM	DD	Time HH	MM	Temp C°*	Press.(psi) BOT	TOP	Readings (cm) CHAM	BOT	TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92	2	14	8	2	0	95	95	19.30	2.15	99.80			
92	2	14	9	20	21	95	95	19.20	3.40	99.90	117.4	5.6E-08	
92	2	17	7	22	22	95	95	21.80	34.40	70.50	2.6	8.7E-08	
92	2	17	16	42	22	95	95	20.00	36.70	68.40	4.5	8.6E-08	
92	2	18	8	12	22	95	95	21.50	39.95	65.50	5.7	8.6E-08	
92	2	18	8	14	0	95	95	21.60	1.75	98.30			
92	2	18	16	24	22	95	95	20.80	7.80	93.15	8.0	9.3E-08	
92	2	19	7	39	22	95	95	22.00	15.95	85.45	2.8	8.3E-08	
92	2	19	16	40	22	95	95	20.50	20.10	81.60	3.7	8.4E-08	
92	2	20	7	29	22	95	95	22.20	25.80	76.30	3.6	8.2E-08	1
92	2	20	15	41	22	95	95	20.90	28.45	73.80	2.9	8.1E-08	1
92	2	21	7	20	22	95	95	23.20	32.80	69.70	3.0	8.1E-08	1

NOTES or COMMENTS :

Average Kv for those rows with a 1 in the Ave. column 8.1E-08 cm/sec
Termination determined by stable Kv and low flow differential 3.2E-08 in/sec
* A zero in this column starts a series of measurements
** Kv adjusted for temperature

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-309
SHEET NO. 1 OF 1
PROJECT NO. 2185.05
INSTALLATION 12/05/91
SURFACE ELEV. 461.1
BOREHOLE DIA. 7 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	CS		54	M		POORLY GRADED SAND (SP), black 10YR 2/1, foundry molding fragments (Foundry Sand).
2	CS		30		5	Same as above but very pale brown 10YR 7/4 with black sand intermixed.
3	CS		24		10	
4	CS		24	W	15 ▽	
5	CS		54	M	20	POORLY GRADED SAND (SP), very dark gray 10YR 3/1 (Fluvial).
6	CS		60		25	LEAN CLAY (CL), dark gray 5Y 4/1, plastic, [Pp=1.5-2.0], stiff, organic matter present. Same but sandy.
7	CS		60	W	30	POORLY GRADED SAND (SP), gray 10YR 5/1 (Fluvial).
8	CS				35	SHALE, "LEAN CLAY (CL)", green gray, cohesive, brittle, very indistinct, horizontal bedding, uniform.
					40	End of Boring at 40 Ft.

GENERAL NOTES

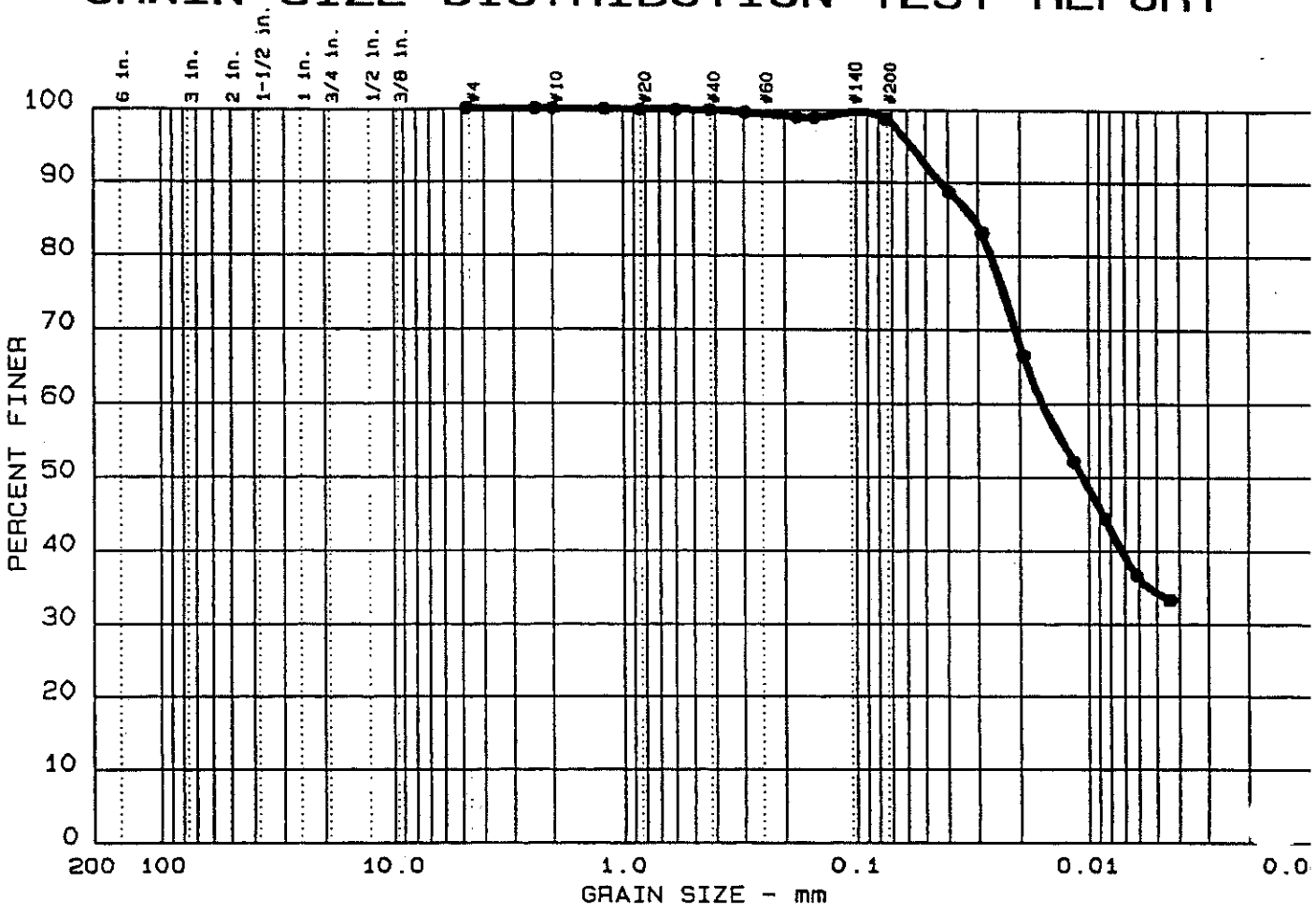
DATE STARTED DEC 4 91
DATE COMPLETED DEC 5 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 16.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

√ 2-10-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.0	1.4	64.5	34.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	37	14			0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-309, 24-26'

Date: 1-13-92

Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

✓ JHW 2-10-92

RMT, Inc.
Falling Head Permeability Test
(Version 1.02)

Job: CATERPILLAR
Job #: 2185.10
Sample: B-309, 24-26'
:
Visual Descript: GRAY SILTY CLAY

Date: 24-Jan-92
Tech: HJW
File: CATP1
Cell #: 16S

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.29	2.27
Sample Ht. (in)	2.32	2.28
Tare & Wet (g)	491.6	372.0
Tare & Dry (g)	393.5	305.6
Tare (g)	76.0	78.0
Sample Wt. (g)	299.5	294.1

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.70	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

MOISTURE (%)	30.9	29.2
WET DENS. (pcf)	119.4	121.4
DRY DENS. (pcf)	91.2	94.0
SATURATION (%)	98.5	99.4

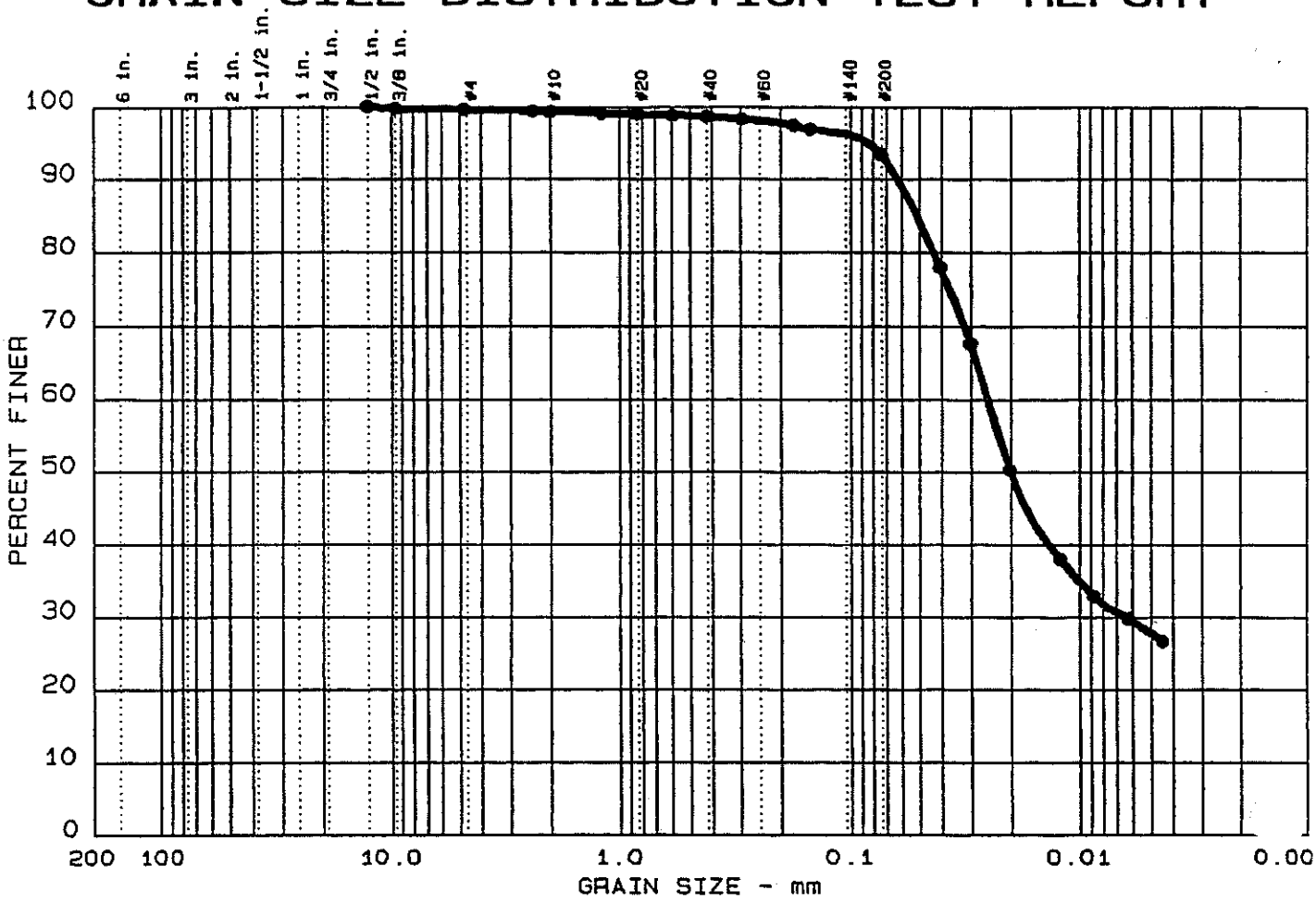
MAXIMUM GRADIENT:	14.3
AVERAGE GRADIENT:	10.7
MAX. EFFECT. STRESS (psi):	6.1
MIN. EFFECT. STRESS (psi):	4.6
AVE. EFFECT. STRESS (psi):	5.3

Date YY MM DD	Time HH MM	Temp C°*	Press.(psi) BOT	Press.(psi) TOP	Readings (cm) CHAM	Readings (cm) BOT	Readings (cm) TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92 1 14	7 35	0	95	95	21.30	3.10	97.10			
92 1 14	9 40	22	95	95	21.30	5.20	95.20	5.0	2.0E-07	
92 1 14	11 53	22	95	95	21.30	7.20	93.40	5.3	1.9E-07	
92 1 14	16 30	22	95	95	21.40	10.95	89.90	3.4	1.8E-07	
92 1 15	7 36	21	95	95	24.60	20.40	80.80	1.9	1.7E-07	
92 1 15	16 12	21	95	95	23.50	24.70	76.70	2.4	1.7E-07	
92 1 16	8 53	20	95	95	30.90	30.90	70.45	-0.4	1.6E-07	
92 1 17	7 38	21	95	95	27.00	37.05	64.65	2.9	1.5E-07	
92 1 20	8 19	0	95	95	32.60	3.55	98.30			
92 1 20	13 17	20	95	95	31.30	7.40	94.60	2.0	1.6E-07	
92 1 20	16 47	21	95	95	30.20	9.80	92.35	3.2	1.5E-07	
92 1 21	8 9	21	95	95	30.00	18.65	83.85	2.0	1.5E-07	1
92 1 21	16 42	22	95	95	27.20	22.75	79.90	1.9	1.5E-07	1
92 1 22	8 41	22	95	95	28.00	29.05	73.80	1.6	1.5E-07	1

Average Kv for those rows with a 1 in the Ave. column 1.5E-07 cm/sec
Termination determined by stable Kv and low flow differential 5.8E-08 in/sec
* A zero in this column starts a series of measurements
** Kv adjusted for temperature

✓ DLH 2-10-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.5	6.1	65.7	27.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	28	10			0.02	0.006				

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-309, 37-40'

Date: 1-13-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Remarks:

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

RMT

PROJECT NAME	CATERPILLAR	BORING NO.	B-310
LOCATION	Mapleton, IL	SHEET NO.	1 OF 1
CONTRACTOR	Midwest Eng. Svcs.	PROJECT NO.	2185.05
DRILLING METHOD	HSA 3 1/4"	INSTALLATION	12/02/91
		SURFACE ELEV.	461.9
		BOREHOLE DIA.	7 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
1	CS		48	M		POORLY-GRADED SAND (SP), black 10YR 2/1, fill, waste. 2 in. light brown seam, foundry waste.
2	CS		54	M	5	
3	CS		42	M	10	
4	CS		60	W	▽ 15	As above, but wet (foundry sand).
						LEAN CLAY (CL), brown 10YR 5/3, stiff, very plastic, [Pp=1.75 to 2.5].
5	CS		60	M	20	
6	CS		60		25	SANDY FAT CLAY (CH), dark gray brown 10YR 4/2, stiff [Pp= 1.0-1.75], very plastic.
						WELL-GRADED SAND, 28.5 ft. to 29.0 ft.
7	CS				30	CLAY as above, some brown mottling. CLAY as above, with organics.
8	CS				35	LEAN CLAY WITH SAND (CL), light brown gray 10YR 6/2, with trace organics.
					40	End Of Boring at 40.0 ft.

GENERAL NOTES

DATE STARTED DEC 2 91

DATE COMPLETED DEC 2 91

RIG CME 55

CREW CHIEF T. Bartholomew

LOGGED R. Welch CHECKED [signature]

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 15.0 Ft.

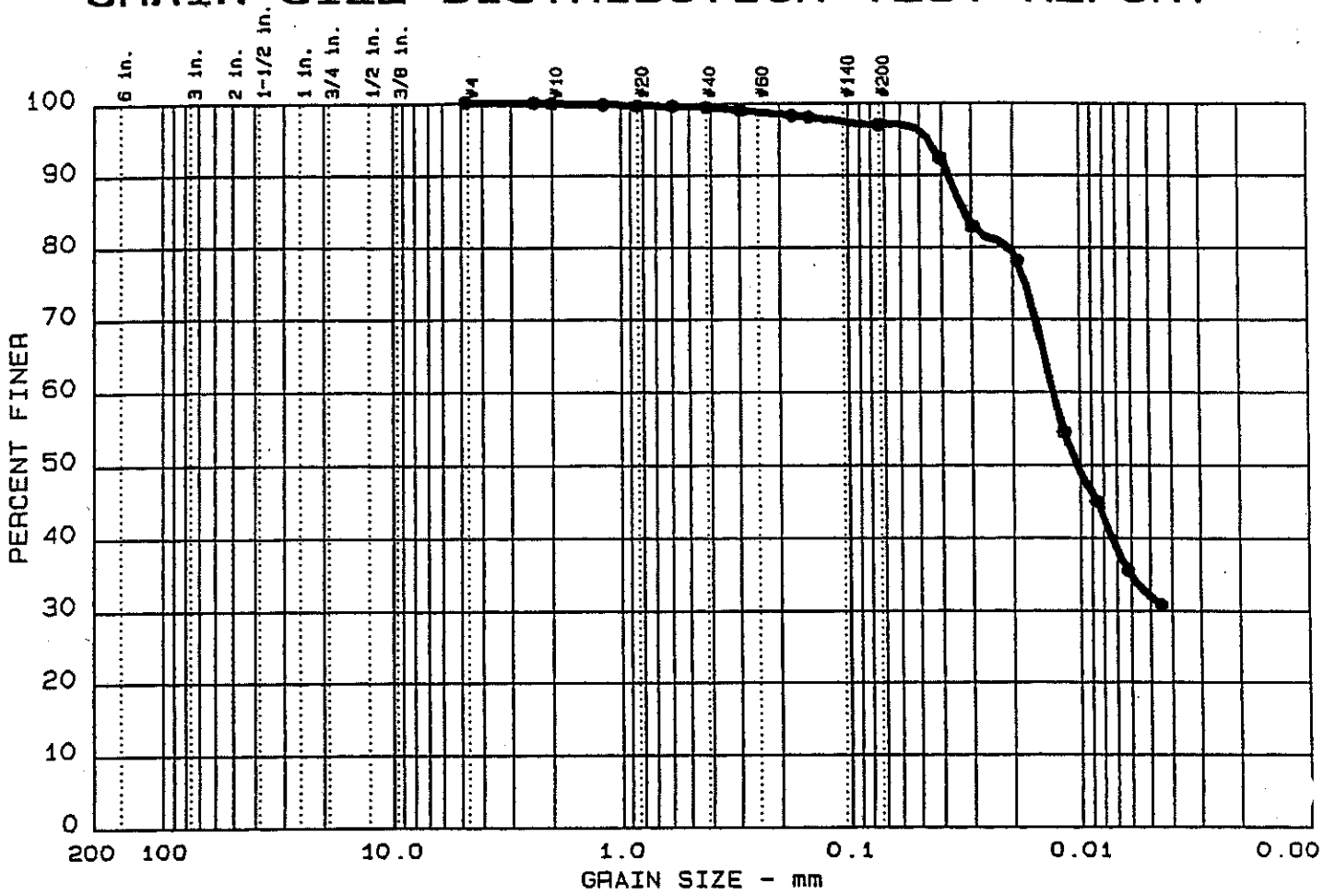
AT COMPLETION ▼

AFTER DRILLING

CAVE-IN: DATE/TIME _____ DEPTH _____

WATER: DATE/TIME _____ DEPTH _____

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	3.1	65.0	31.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	37	13			0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-310, 20-21'

Date: 1-13-92

Remarks:

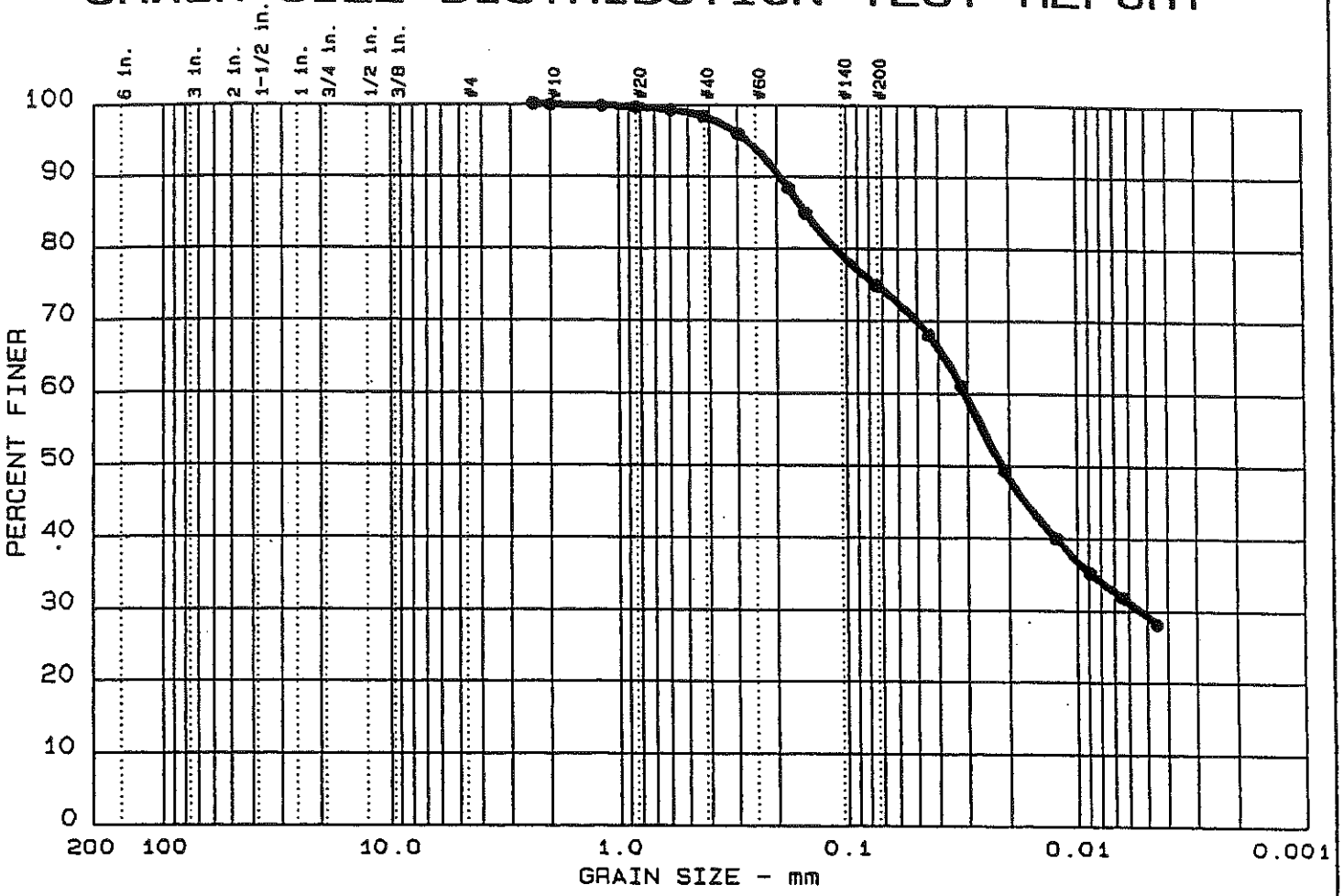
25.4 % Moisture
3.7 % Organics

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	25.1	45.7	29.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	32	15	0.15		0.02	0.005				

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay with sand	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-310, 34'

Date: 1-13-92

Remarks:

21.4 % Moisture
2.0% Organics

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT. INC.

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-311
SHEET NO. 1 OF 2
PROJECT NO. 2185.05
INSTALLATION 1/08/92
SURFACE ELEV. 444.2
BOREHOLE DIA. 7.5 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	CS		54	W		LEAN CLAY (CL), topsoil. Foundry sand.
2	CS		18		5	WELL-GRADED SAND, gray, 10YR 4/1, fluvial (SW).
3	CS		60	M	10	LEAN CLAY (CL), very dark gray, 10YR 3/1, medium stiff to very stiff [Pp=1.0-1.5], plastic.
4	CS		60		15	As above, but sandy at bottom 2 ft.
5	CS				20	SILTY CLAY (ML/CL), gray, 5Y 5/1, slightly plastic, medium stiff. Some clayey silt.
6	CS		0		25	No recovery.
7	CS		60	M	30	LEAN CLAY (CL), dark gray, 5Y 4/1, medium stiff [Pp=1.25], plastic.
8	CS		60		35	

GENERAL NOTES

DATE STARTED JAN 6 92
DATE COMPLETED JAN 8 92
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 4.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

LOG OF TEST BORING

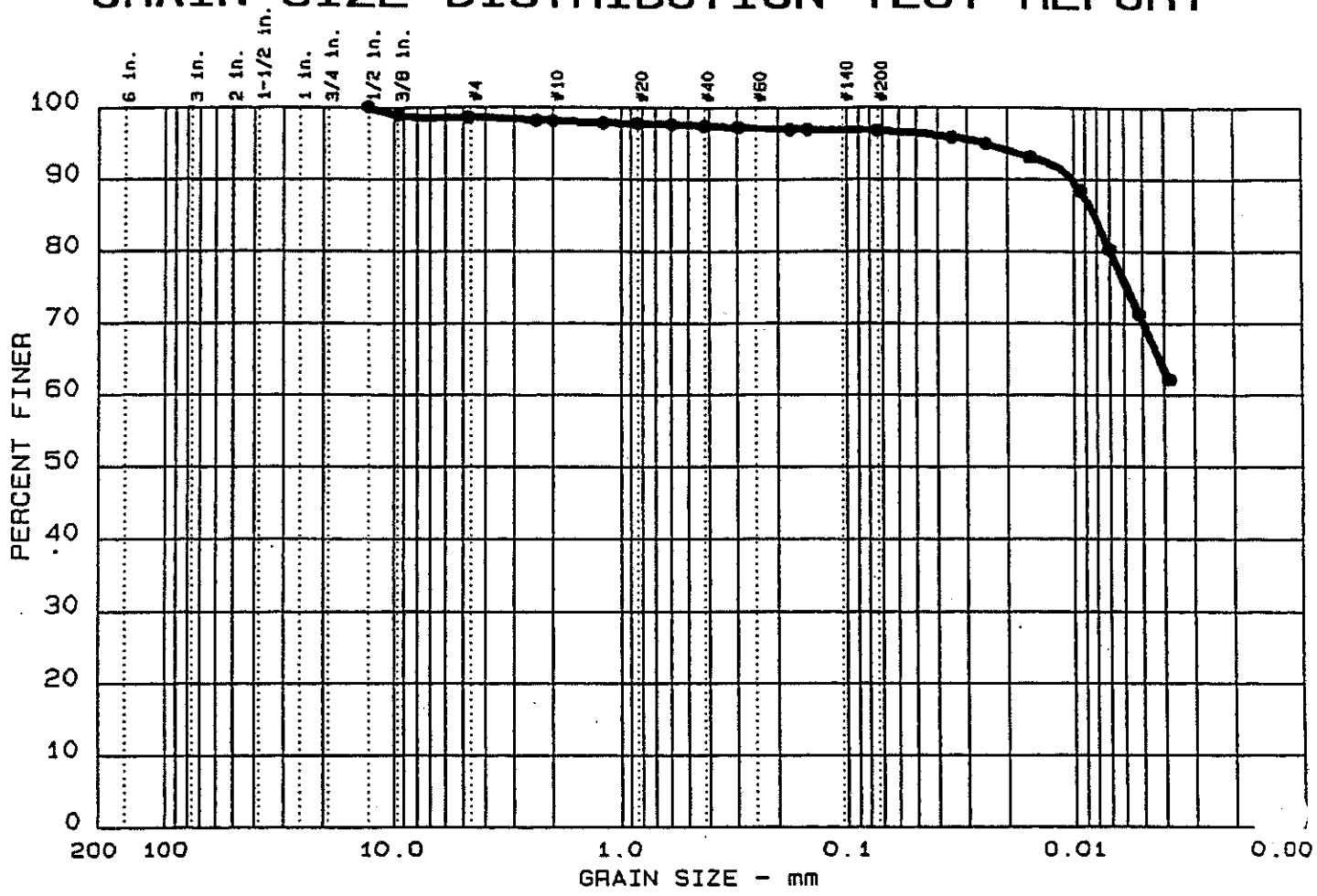
F-203 (R 01-87)

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

BORING NO. B-311
SHEET NO. 2 OF 2
PROJECT NO. 2185.05
INSTALLATION 1/08/92
SURFACE ELEV. 444.2
BOREHOLE DIA. 7.5 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
9	CS		60			
10	CS		60		45	
11	CS		60		50	
12	CS		0		55	WELL-GRADED SAND (SW), dark gray, 10YR 4/1. No recovery, 55.0 - 65.0 ft. SAND, based on drilling rate and cuttings.
13	CS		0		60	
14	SS	22	6		65	SAND from washing.
15	SS	23	6			
16	SS				70	No recovery.
17	CS					SHALE, "LEAN CLAY (CL)", gray, bedrock.
18	CS				75	
					80	End Of Boring at 79.0 ft.
					85	

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	1.5	1.8	26.5	70.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	48	22								

MATERIAL DESCRIPTION	USCS	AASHTO
● "Lean clay"	"CL"	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B311, ST, 73-74'

Date: 2-12-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Remarks:
15.3% Moisture

Figure No. _____

RMT, Inc.
Falling Head Permeability Test
(Version 1.02)

Job: CATERPILLAR
Job #: 2185.10
Sample: B311, 73-74'
:
Visual Descript:

Date: 10-Mar-92
Tech: HJW
File: CATP7
Cell #: 8S

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.27	2.27
Sample Ht. (in)	2.33	2.33
Tare & Wet (g)	547.6	425.1
Tare & Dry (g)	484.9	374.4
Tare (g)	76.3	84.1
Sample Wt. (g)	333.9	341.0

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.75	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

	INIT.	FINAL
MOISTURE (%)	15.4	17.4
WET DENS. (pcf)	134.9	137.8
DRY DENS. (pcf)	116.9	117.3
SATURATION (%)	90.3	103.6

MAXIMUM GRADIENT:	13.8
AVERAGE GRADIENT:	13.6
MAX. EFFECT. STRESS (psi):	6.2
MIN. EFFECT. STRESS (psi):	4.8
AVE. EFFECT. STRESS (psi):	5.6

Date YY	MM	DD	Time HH	MM	Temp C°*	Press.(psi) BOT	TOP	Readings (cm) CHAM	BOT	TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92	2	14	8	6	0	95	95	14.50	3.90	97.40			
92	2	14	9	22	21	95	95	14.20	4.45	97.30	69.2	5.4E-08	
92	2	17	7	23	22	95	95	13.80	9.65	97.80	121.3	7.2E-09	
92	2	17	16	43	22	95	95	12.10	10.10	97.70	63.6	6.5E-09	
92	2	18	8	16	22	95	95	13.60	10.60	97.50	42.9	5.0E-09	
92	2	18	16	26	22	95	95	13.00	10.90	97.40	50.0	5.5E-09	
92	2	19	7	41	22	95	95	14.10	11.35	97.15	28.6	5.2E-09	
92	2	19	16	40	22	95	95	12.80	11.65	97.00	33.3	5.7E-09	
92	2	20	7	30	22	95	95	14.40	12.05	96.80	33.3	4.6E-09	
92	2	20	15	42	22	95	95	13.30	12.25	96.70	33.3	4.2E-09	
92	2	21	7	19	22	95	95	15.60	12.65	96.45	23.1	4.8E-09	
92	2	21	16	43	22	95	95	13.90	12.90	96.30	25.0	5.0E-09	
92	2	24	7	22	0	95	95	16.00	13.60	96.40			
92	2	24	9	45	22	95	95	15.35	13.65	96.30	-33.3	7.4E-09	
92	2	24	17	29	22	95	95	14.30	13.80	96.20	20.0	3.8E-09	
92	2	25	7	23	22	95	95	16.20	14.15	95.95	16.7	5.1E-09	
92	2	26	7	22	22	95	95	16.60	14.65	95.55	11.1	4.5E-09	1
92	2	27	5	55	21	95	95	16.55	15.15	95.25	25.0	4.3E-09	1
92	2	27	16	34	21	95	95	14.75	15.40	95.15	42.9	4.0E-09	1
92	2	28	8	21	22	95	95	15.70	15.75	94.85	7.7	5.0E-09	1

NOTES or COMMENTS :

Average Kv for those rows with a 1 in the Ave. column	4.5E-09 cm/sec
Termination determined by stable Kv and low flow differential	1.8E-09 in/sec

* A zero in this column starts a series of measurements
** Kv adjusted for temperature

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-312
SHEET NO. 1 OF 1
PROJECT NO. 2185.05
INSTALLATION 12/03/91
SURFACE ELEV. 460.5
BOREHOLE DIA. 7 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	INTERVAL TYPE	RECOVERY N	RECOVERY IN	MOISTURE	DEPTH	
1	CS		48	M		POORLY GRADED SAND (SP), black 10YR 2/1, molding fragments (Foundry Sand).
2	CS		24		5	Same as above.
3	CS		42		10	Same as above.
4	CS		24	W	15	Same as above.
					▽	
5	CS		24		20	POORLY GRADED SAND (SP), olive gray 5Y 4/2 (Fluvial).
6	CS		30	M	25	SILTY SAND (SM), fine, olive gray 5Y 4/2, sand with organics (grass, roots, twigs) and light colored shells.
7	CS		48		30	LEAN CLAY (CL), very dark gray 10YR 3/1, very soft to soft, plastic. Same as above, very dark gray 2.5Y N3.
8	CS		60		35	
					40	End of Boring at 40 Ft.

GENERAL NOTES

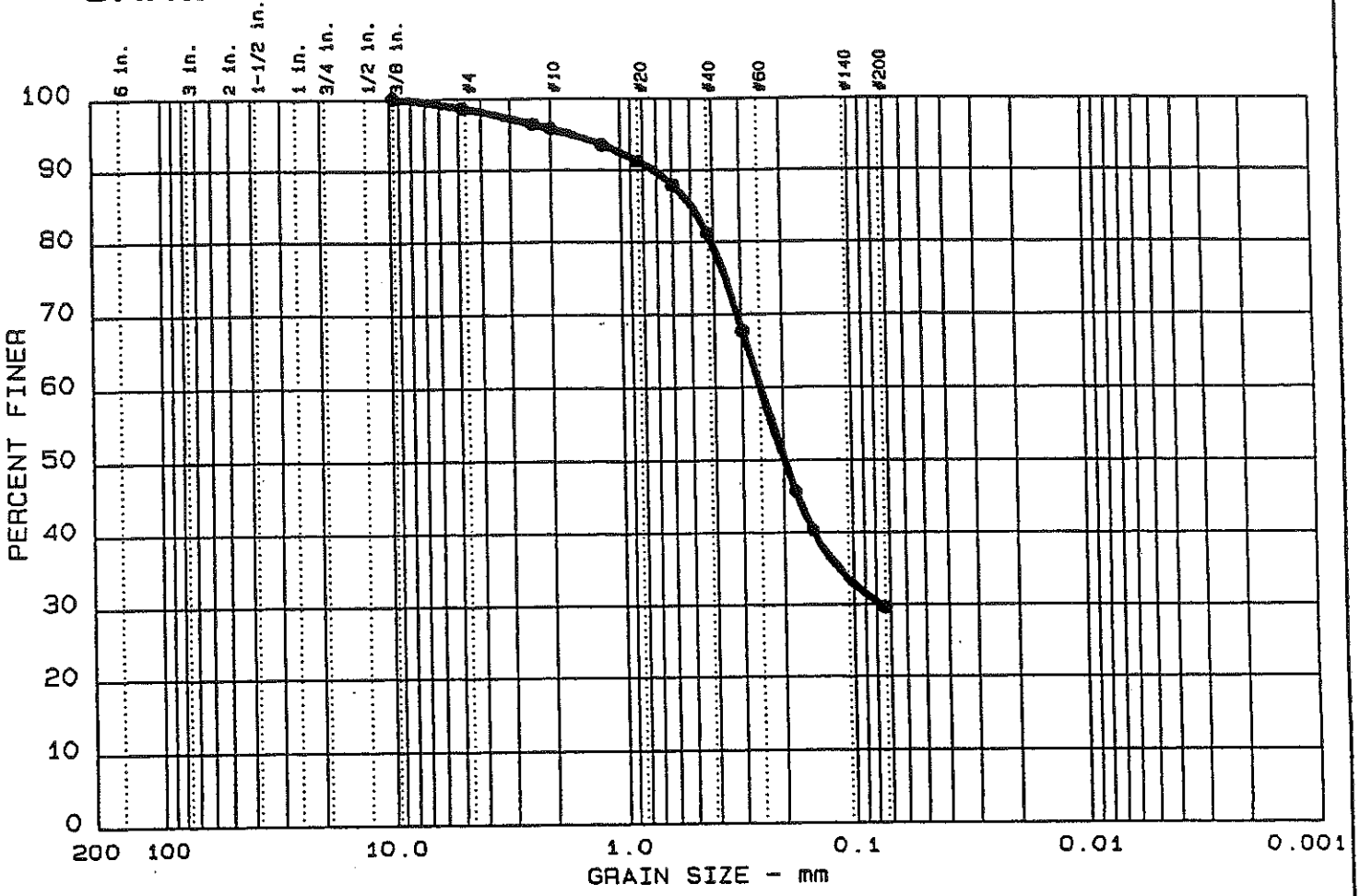
DATE STARTED DEC 3 91
DATE COMPLETED DEC 3 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED B. Soch

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 18.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

JDH 2-21-92
TMK 2-19-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	1.5	69.0	29.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.49	0.25	0.20	0.077				

MATERIAL DESCRIPTION	USCS	AASHTO
● Silty Sand	SM	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B312, CS5, 26'

Date: 2-12-92

Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-313
SHEET NO. 1 OF 2
PROJECT NO. 2185.05
INSTALLATION 12/09/91
SURFACE ELEV. 457.2
BOREHOLE DIA. 7 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
1	CS		36	M		POORLY-GRADED SAND (SP), fine, black 10YR 2/1, foundry sand.
2	CS		30	M	5	
3	CS		48	W	▽ 10	As above, wet.
4	CS		60	M	15	LEAN CLAY (CL), dark gray 10YR 4/1, stiff, plastic.
5	CS		60	M	20	
6	CS		60	M	25	
7	CS		60	M	30	As above, with brown mottles.
8	CS		60		35	
						WELL-GRADED SAND (SW).

GENERAL NOTES

DATE STARTED DEC 9 91
DATE COMPLETED DEC 9 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 10.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

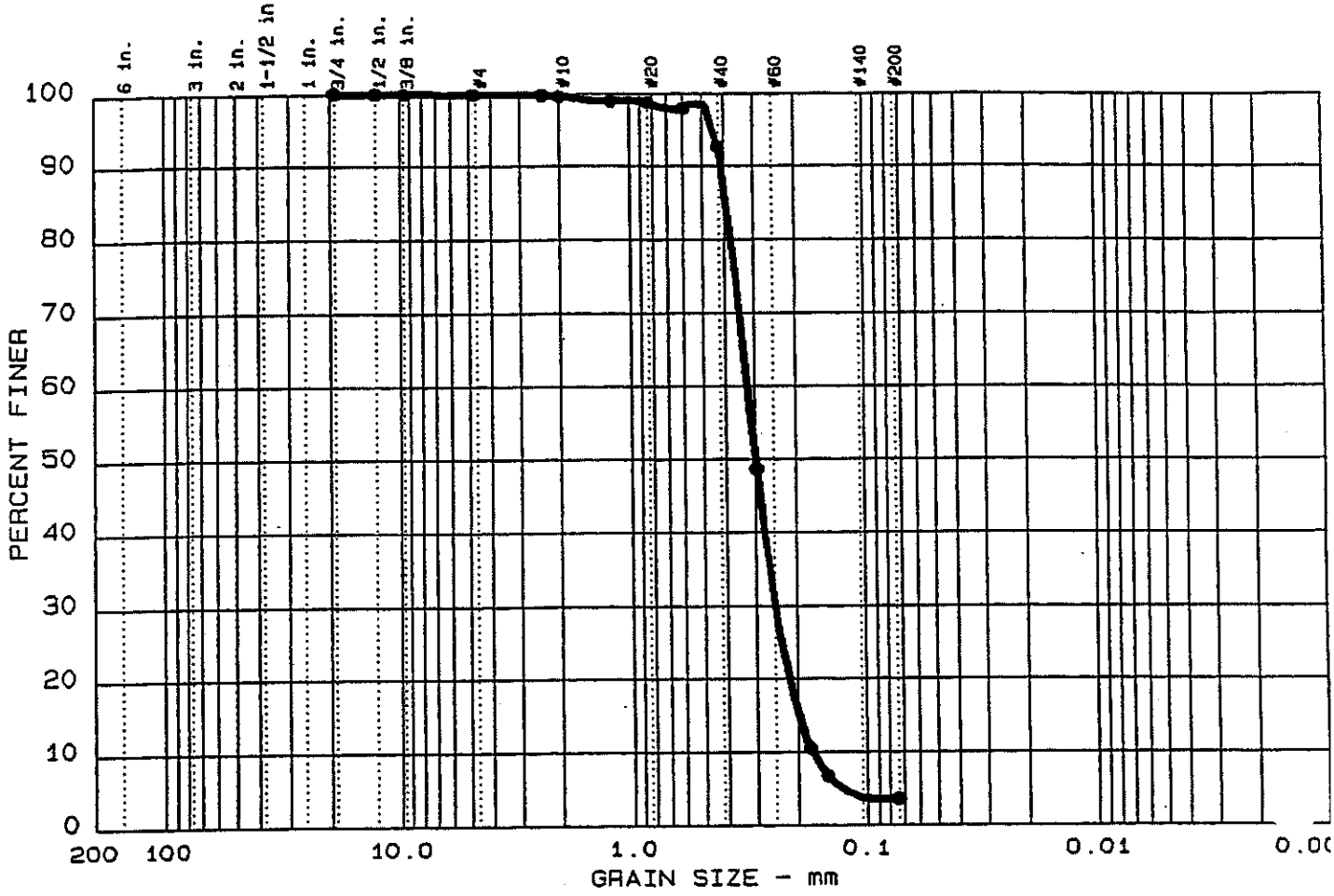
LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-313
SHEET NO. 2 OF 2
PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 12/09/91
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 457.2
DRILLING METHOD HSA 3 1/4"
BOREHOLE DIA. 7 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
9	CS		60			POORLY-GRADED SAND (SW).
10	CS		0		45	
11	CS		24		50	
12	CS		36		55	
13	CS		54		60	WEATHERED SHALE, very dark gray, 7.5YR N3/.
14	CS				65	SHALE fragments.
					70	End Of Boring at 70.0 ft.
					75	
					80	
					85	

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75 mm	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	0.2	96.2	3.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.39	0.32	0.30	0.250	0.1986	0.1730	1.12	1.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Poorly graded sand	SP	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-313, 7'

Date: 1-13-92

Remarks:

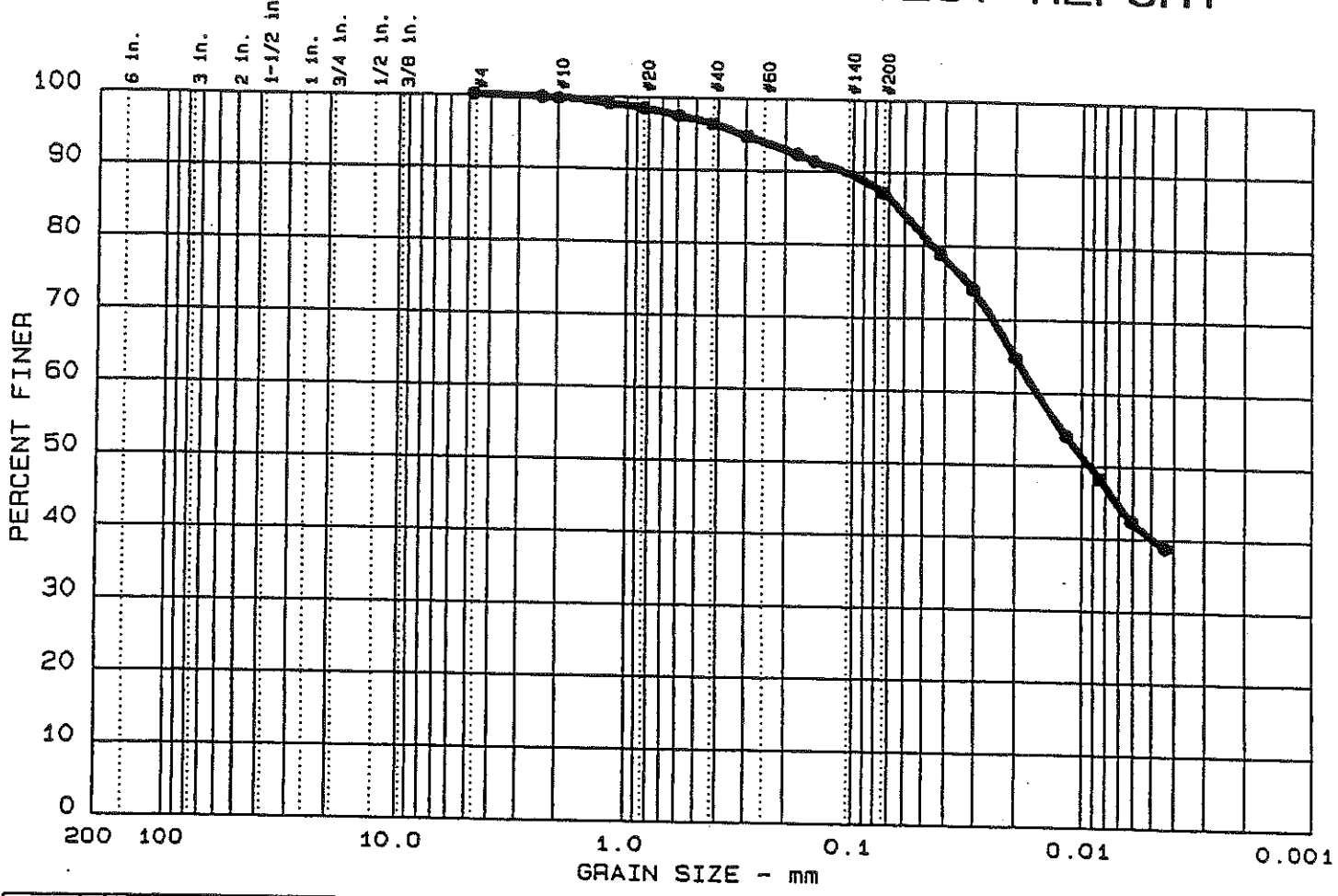
GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

✓ HH 2-10-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	0.0	12.8	47.1	40.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	46	24			0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-313, 33'

Date: 1-13-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT. INC.

Remarks:

31.3 % Moisture
3.2 % Organics

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

BORING NO. B-314
SHEET NO. 1 OF 1
PROJECT NO. 2185.05
INSTALLATION 12/05/91
SURFACE ELEV. 460.5
BOREHOLE DIA. 7 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	CS		48	M		POORLY GRADED SAND (SP), black 10YR 2/1 (Foundry Sand).
2	CS		54		5	Same as above.
3	CS		48		10	Same as above.
4	CS		60	M	15	
5	CS		54		20	LEAN CLAY WITH SAND (CL), yellowish brown 10YR 5/4, hard [Pp=4.25-4.75], slightly plastic. LEAN CLAY (CL), dark gray 5Y 4/1, stiff, plastic, plant material (Organic Debris). Same as above, 4" sand layer, [Pp=1.0-1.75].
6	CS		60		25 ▽	[Pp=0.5-1.0].
7	CS		60		30	Same as above, [Pp=1.0-1.5].
8	CS		60		35	[Pp=1.0-1.5].
					40	End of Boring at 40 Ft.

GENERAL NOTES

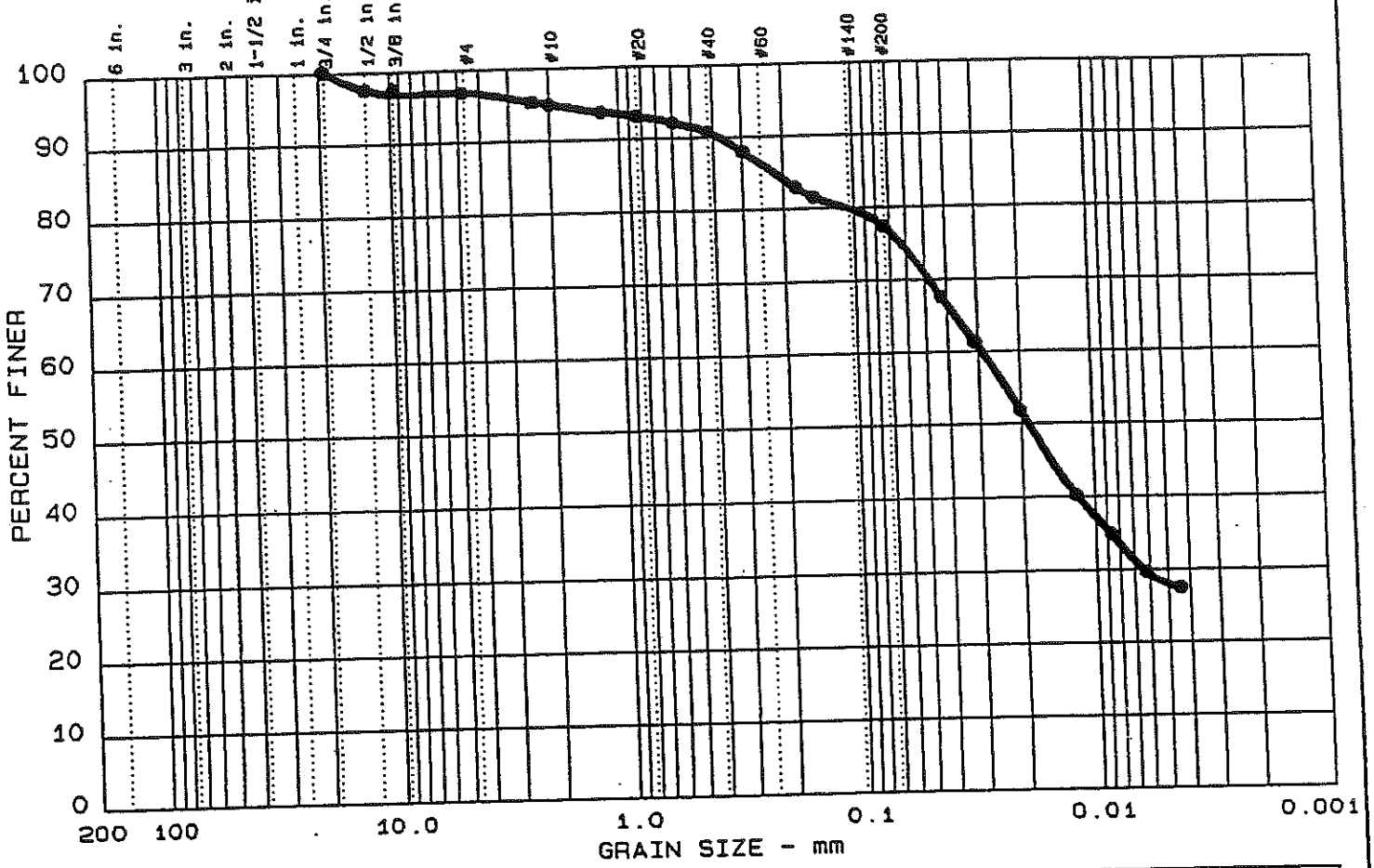
DATE STARTED DEC 5 91
DATE COMPLETED DEC 5 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 24.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

JM 2-10-92

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75 mm	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	3.2	19.5	49.4	27.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	32	14	0.22		0.02	0.006				

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay with sand	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-314, 17'

Date: 1-13-92

Remarks:

16.9% Moisture

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

RMT, Inc.

Falling Head Permeability Test

(Version 1.02)

Job: CATERPILLAR — Date: 10-Feb-92
Job #: 2185.10 — Tech: HJW
Sample: B-314, 17' — File: CATP3
: — Cell #: 14S
Visual Descript: LT. BROWN SILTY CLAY TRACE GRAVEL

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.19	2.19
Sample Ht. (in)	2.29	2.27
Tare & Wet (g)	411.2	376.2
Tare & Dry (g)	365.3	333.3
Tare (g)	77.1	76.7
Sample Wt. (g)	299.0	299.5

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.70	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

MOISTURE (%)	15.9	16.7
WET DENS. (pcf)	132.0	133.4
DRY DENS. (pcf)	113.9	114.3
SATURATION (%)	89.8	95.3

MAXIMUM GRADIENT:	ERR
AVERAGE GRADIENT:	ERR
MAX. EFFECT. STRESS (psi):	6.1
MIN. EFFECT. STRESS (psi):	4.7
AVE. EFFECT. STRESS (psi):	5.3

YY	MM	DD	HH	MM	Temp C°*	Press.(psi) BOT	Press.(psi) TOP	Readings (cm) CHAM	Readings (cm) BOT	Readings (cm) TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92	1	14	7	33	0	95	95	19.55	3.85	97.20			
92	1	14	9	38	22	95	95	19.40	4.30	96.70	-5.3	5.0E-08	
92	1	14	11	51	22	95	95	19.40	4.70	96.40	14.3	3.5E-08	
92	1	14	16	29	22	95	95	19.30	5.20	96.00	11.1	2.2E-08	
92	1	15	7	29	21	95	95	22.50	6.20	95.00	0.0	1.5E-08	
92	1	15	16	5	21	95	95	21.40	6.65	94.60	5.9	1.1E-08	
92	1	16	8	51	20	95	95	28.90	7.25	94.00	0.0	8.6E-09	
92	1	16	15	21	21	95	95	26.20	7.70	93.80	38.5	1.2E-08	
92	1	17	7	37	21	95	95	25.40	8.25	93.20	-4.3	8.4E-09	
92	1	20	7	52	21	95	95	31.40	10.74	91.30	13.4	7.5E-09	
92	1	20	16	45	21	95	95	28.40	11.05	91.10	21.6	7.3E-09	
92	1	21	8	6	21	95	95	28.40	11.50	90.80	20.0	6.2E-09	
92	1	21	16	40	22	95	95	25.60	11.80	90.60	20.0	7.5E-09	
92	1	22	8	39	22	95	95	26.50	12.30	90.20	11.1	7.3E-09	
92	1	22	17	20	22	95	95	25.30	12.50	90.00	-0.0	5.9E-09	
92	1	23	7	53	22	95	95	27.10	13.00	89.60	11.1	8.2E-09	
92	1	23	16	59	22	95	95	26.30	13.20	89.35	-11.1	6.6E-09	
92	1	24	7	58	21	95	95	30.50	13.50	89.00	-7.7	5.8E-09	
92	1	25	7	45	21	95	95	30.50	14.25	88.55	25.0	6.9E-09	
92	1	25	14	20	21	95	95	29.05	14.50	88.45	42.9	7.3E-09	

Average Kv for those rows with a 1 in the Ave. column — ERR cm/sec
Termination determined by stable Kv and low flow differential — ERR in/sec
* A zero in this column starts a series of measurements
** Kv adjusted for temperature

RMT, Inc.
Falling Head Permeability Test
(Version 1.02)

Job: CATERPILLAR
Job #: 2185.10
Sample: B-314, 17'
:
Visual Descript: LT. BROWN SILTY CLAY TRACE GRAVEL

Date: 12-Feb-92
Tech: HJW
File: CATP3A
Cell #: 14S

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.19	2.19
Sample Ht. (in)	2.29	2.27
Tare & Wet (g)	411.2	376.2
Tare & Dry (g)	365.3	333.3
Tare (g)	77.1	76.7
Sample Wt. (g)	299.0	299.5

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.70	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

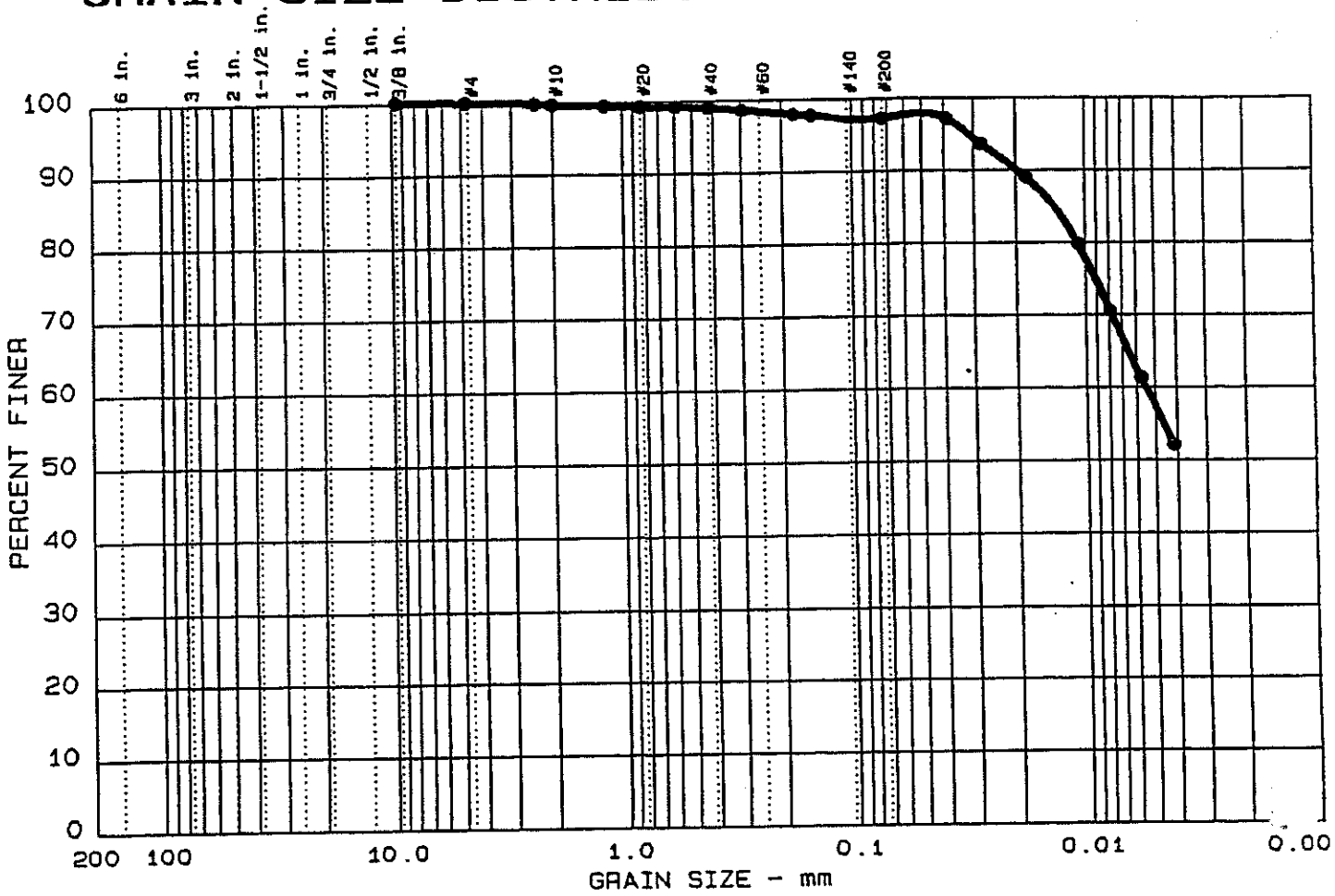
MOISTURE (%)	15.9	16.7
WET DENS. (pcf)	132.0	133.4
DRY DENS. (pcf)	113.9	114.3
SATURATION (%)	89.8	95.3

MAXIMUM GRADIENT:	11.1
AVERAGE GRADIENT:	10.9
MAX. EFFECT. STRESS (psi):	5.8
MIN. EFFECT. STRESS (psi):	4.8
AVE. EFFECT. STRESS (psi):	5.3

Y	Date MM	DD	Time HH	MM	Temp C°*	Press.(psi) BOT	TOP	Readings (cm) CHAM	BOT	TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92	1	27	6	11	0	95	95	32.00	15.40	87.55			
92	1	27	16	16	22	95	95	29.40	15.75	87.35	27.3	7.7E-09	
92	1	28	6	26	21	95	95	30.80	16.10	87.05	7.7	6.6E-09	
92	1	28	16	25	22	95	95	30.30	16.40	86.90	33.3	6.5E-09	
92	1	29	6	19	20	95	95	31.90	16.65	86.55	-16.7	6.4E-09	
92	1	29	16	48	22	95	95	29.50	17.00	86.40	40.0	7.0E-09	
92	1	30	6	27	21	95	95	31.25	17.30	86.10	-0.0	6.5E-09	
92	1	30	16	8	22	95	95	29.60	17.60	86.00	50.0	6.0E-09	
92	1	31	7	30	22	95	95	31.00	18.00	85.60	-0.0	7.8E-09	
92	1	31	16	45	22	95	95	30.20	18.20	85.45	14.3	5.6E-09	
92	2	3	8	51	22	95	95	31.90	19.70	84.20	9.1	6.5E-09	
92	2	3	16	5	23	95	95	29.00	20.00	84.20	100.0	6.4E-09	
92	2	4	7	40	22	95	95	31.00	20.20	83.80	-33.3	6.1E-09	1
92	2	4	16	38	22	95	95	29.90	20.40	83.70	33.3	5.4E-09	1
92	2	5	7	47	21	95	95	32.50	20.70	83.30	-14.3	7.5E-09	1
92	2	6	7	40	22	95	95	33.20	21.30	82.90	20.0	6.9E-09	1

Average Kv for those rows with a 1 in the Ave. column 6.5E-09 cm/sec
Termination determined by stable Kv and low flow differential 2.5E-09 in/sec
* A zero in this column starts a series of measurements
** Kv adjusted for temperature

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.2	2.7	39.9	57.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	43	18								

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-314, 26-27'

Date: 1-13-92

Remarks:
40.1 % Moisture

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

✓ HPH 2-10-92

RMT, Inc.
Falling Head Permeability Test
(Version 1.02)

Job: CATERPILLAR
Job #: 2185.10
Sample: B-314, 26-27'
:
Visual Descript: GRAY SILTY CLAY

Date: 24-Jan-92
Tech: HJW
File: CATP2
Cell #: 15S

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.27	2.23
Sample Ht. (in)	2.30	2.26
Tare & Wet (g)	413.9	349.3
Tare & Dry (g)	317.9	279.1
Tare (g)	78.7	77.3
Sample Wt. (g)	276.7	272.1

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.70	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

MOISTURE (%)	40.2	34.8
WET DENS. (pcf)	113.2	117.4
DRY DENS. (pcf)	80.8	87.1
SATURATION (%)	99.9	100.6

MAXIMUM GRADIENT:	15.6
AVERAGE GRADIENT:	12.6
MAX. EFFECT. STRESS (psi):	6.2
MIN. EFFECT. STRESS (psi):	4.7
AVE. EFFECT. STRESS (psi):	5.4

Date YY	MM	DD	Time HH	MM	Temp C°*	Press.(psi) BOT	TOP	Readings (cm) CHAM	BOT	TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92	1	14	7	34	0	95	95	16.80	3.65	98.30			
92	1	14	9	39	22	95	95	16.60	5.35	96.75	4.6	1.6E-07	
92	1	14	11	52	22	95	95	16.50	6.95	95.20	1.6	1.5E-07	
92	1	14	16	30	22	95	95	16.30	9.90	92.30	0.9	1.4E-07	
92	1	15	7	35	21	95	95	19.40	18.00	84.40	1.3	1.4E-07	
92	1	15	16	6	21	95	95	18.30	21.40	81.00	-0.0	1.2E-07	
92	1	16	8	52	20	95	95	25.40	27.10	75.40	0.9	1.3E-07	
92	1	16	15	22	21	95	95	22.70	28.90	73.80	5.9	1.1E-07	
92	1	17	7	38	21	95	95	21.70	32.70	70.00	0.0	1.1E-07	
92	1	20	13	16	0	95	95	25.20	3.70	96.70			
92	1	20	16	46	21	95	95	23.80	5.65	95.10	9.9	1.1E-07	
92	1	21	8	8	21	95	95	23.50	12.70	88.25	1.4	1.1E-07	1
92	1	21	16	41	22	95	95	20.70	16.10	84.90	0.7	1.1E-07	1
92	1	22	8	40	22	95	95	21.35	21.65	79.40	0.5	1.1E-07	1

Average Kv for those rows with a 1 in the Ave. column 1.1E-07 cm/sec
Termination determined by stable Kv and low flow differential 4.2E-08 in/sec
* A zero in this column starts a series of measurements
** Kv adjusted for temperature

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-315
SHEET NO. 1 OF 1
PROJECT NO. 2185.05
INSTALLATION 12/05/91
SURFACE ELEV. 457.7
BOREHOLE DIA. 7 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	CS		48	M		POORLY GRADED SAND (SP), black 10YR 2/1 (Foundry Sand).
2	CS		54		5	
3	CS		54		10	Same as above.
4	CS		48		15	
5	CS		36	W	▽ 20	POORLY GRADED SAND (SP), (Fluvial).
6	CS		60	M	25	SANDY LEAN CLAY (CL), dark gray 2.5Y N4/, stiff [Pp=1.0-1.75], plastic.
						LEAN CLAY (CL), dark gray brown 10YR 4/2, stiff [Pp=1.5], plastic.
7	CS		60	M	30	
8	CS			M	35	LEAN CLAY (CL), gray brown 2.5Y 5/2, stiff [Pp=1.25-1.5], plastic (Lacustrine).
						LEAN CLAY (CL), olive gray 5Y 5/2, stiff, plastic.
					40	End of Boring at 40 Ft.

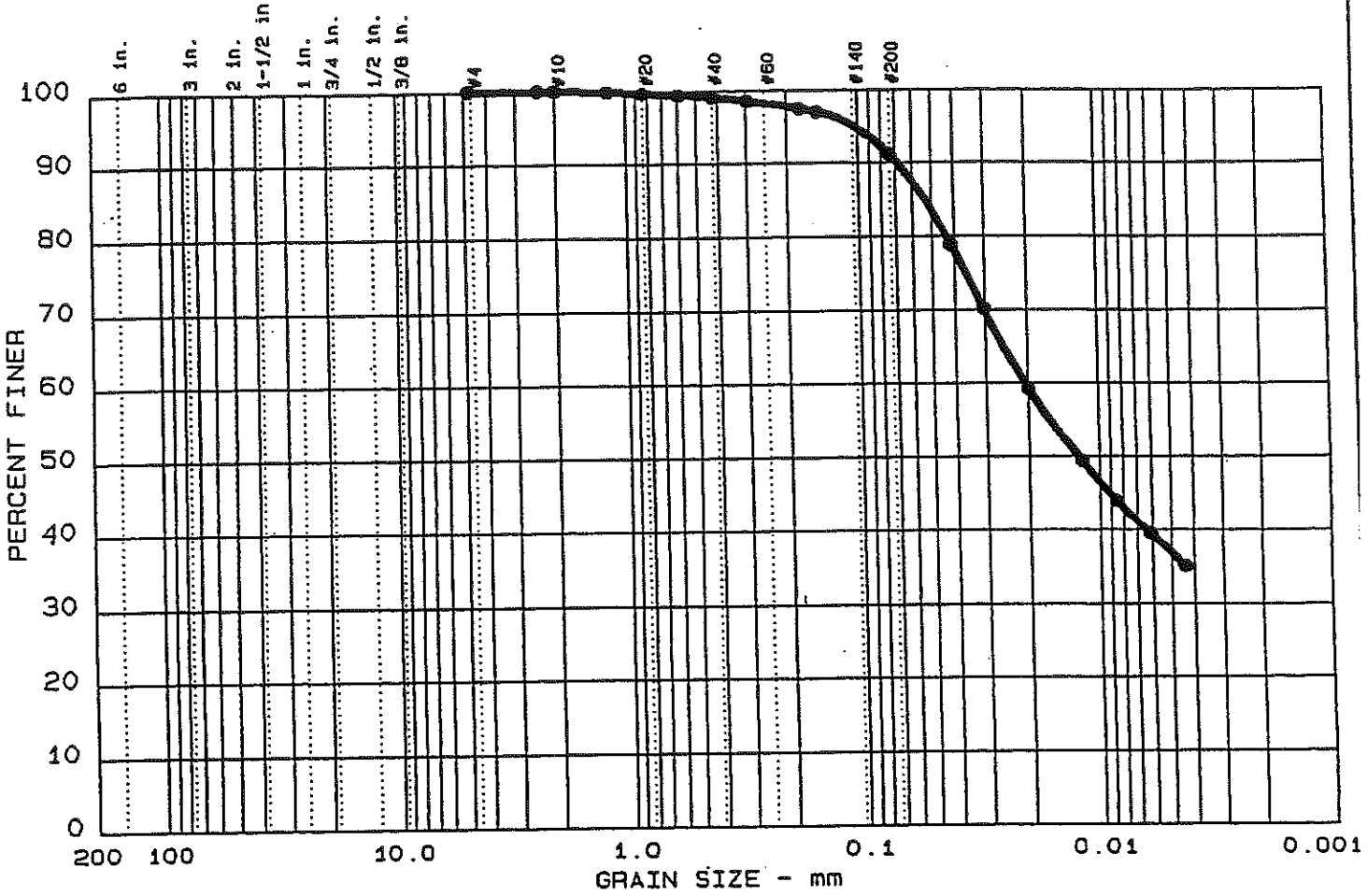
GENERAL NOTES

DATE STARTED DEC 5 91
DATE COMPLETED DEC 5 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 19.5 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	B	0.0	0.0	8.9	54.3	36.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	43	21			0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Lean clay	CL	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-315, 26-27'

Date: 1-13-92

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Remarks:
29.1% Moisture

Figure No. _____

RMT, Inc.
Falling Head Permeability Test
(Version 1.02)

JPH 2-10-92

Job: CATERPILLAR
Job #: 2185.10
Sample: B-315, 26-27'
:
Visual Descript: GRAY SILTY CLAY

Date: 24-Jan-92
Tech: HJW
File: CATP4
Cell #: 13S

INPUT VALUES

	INIT.	FINAL
Sample Dia. (in)	2.25	2.23
Sample Ht. (in)	2.30	2.27
Tare & Wet (g)	464.9	360.8
Tare & Dry (g)	377.4	298.6
Tare (g)	76.7	76.4
Sample Wt. (g)	290.1	284.5

Permeant:	WATER	
Permeant Specific Gravity:	1.00	
Sample Specific Gravity:	2.70	EST.
Confining Pressure (psi):	100.0	
Burette Diameter (in):	0.250	
Burette Zero (cm):	100.0	

CALCULATED VALUES

	INIT.	FINAL
MOISTURE (%)	29.1	28.0
WET DENS. (pcf)	120.8	122.2
DRY DENS. (pcf)	93.6	95.5
SATURATION (%)	98.2	98.9

MAXIMUM GRADIENT:	7.5
AVERAGE GRADIENT:	6.9
MAX. EFFECT. STRESS (psi):	6.2
MIN. EFFECT. STRESS (psi):	4.5
AVE. EFFECT. STRESS (psi):	4.9

Date YY	MM	DD	Time HH	MM	Temp C°*	Press.(psi) BOT	TOP	Readings (cm) CHAM	BOT	TOP	Flow Dif. %	Kv ** cm/sec	Ave. 0,1
92	1	14	7	25	0	95	95	11.90	3.10	97.80			
92	1	14	9	37	22	95	95	13.30	3.60	97.20	-9.1	5.2E-08	
92	1	14	11	50	22	95	95	14.60	4.10	96.65	-4.8	5.0E-08	
92	1	14	16	28	22	95	95	17.20	5.20	95.60	2.3	5.0E-08	
92	1	15	7	28	21	95	95	27.30	8.05	92.70	-0.9	4.3E-08	
92	1	15	16	4	21	95	95	29.35	9.60	91.20	1.6	4.2E-08	
92	1	16	8	49	20	95	95	42.30	14.55	88.45	28.6	6.0E-08	
92	1	16	15	20	21	95	95	42.60	15.80	87.65	22.0	4.2E-08	
92	1	17	7	35	21	95	95	45.40	18.20	85.30	1.1	4.1E-08	
92	1	20	7	51	21	95	95	67.30	33.10	77.80	33.0	5.5E-08	
92	1	20	16	44	21	95	95	66.20	34.00	77.10	12.5	4.0E-08	
92	1	21	8	1	21	95	95	68.40	35.30	76.00	8.3	3.7E-08	1
92	1	21	16	39	22	95	95	67.20	36.10	75.30	6.7	4.3E-08	1
92	1	22	8	38	22	95	95	70.40	37.35	74.20	6.4	3.8E-08	1

Average Kv for those rows with a 1 in the Ave. column 3.9E-08 cm/sec
Termination determined by stable Kv and low flow differential 1.5E-08 in/sec
* A zero in this column starts a series of measurements
** Kv adjusted for temperature

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-316
SHEET NO. 1 OF 1

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

PROJECT NO. 2185.05
INSTALLATION 12/03/91
SURFACE ELEV. 460.2
BOREHOLE DIA. 7 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	CS		48	M		POORLY GRADED SAND (SP), black 10YR 2/1, molding fragments (Foundry Sand).
2	CS		54	M	5	Same as above.
3	CS		48	M	10	Same as above.
4	CS		36	M	15	Same as above.
5	CS		24	W	▽ 20	POORLY GRADED SAND WITH SILT (SP-SM), fine, olive gray 5Y 4/2, some mollusk shell fragments (Fluvial).
6	CS		60	M	25	FAT CLAY (CH), dark gray 10YR 4/1, very plastic, stiff [Pp=1.0-1.5], backwater sediments.
7	CS		60	M	30	LEAN CLAY (CL), dark gray 10YR 4/1, plastic, stiff [Pp=1.5].
8	CS		60	W	35	Same as above but dark gray brown 2.5Y 4/2. Coarse, wet, sand layer at 33.5 to 34 ft.
					40	Coarse, wet, well graded sand at 38 to 39 ft.
						End of Boring at 40 Ft.

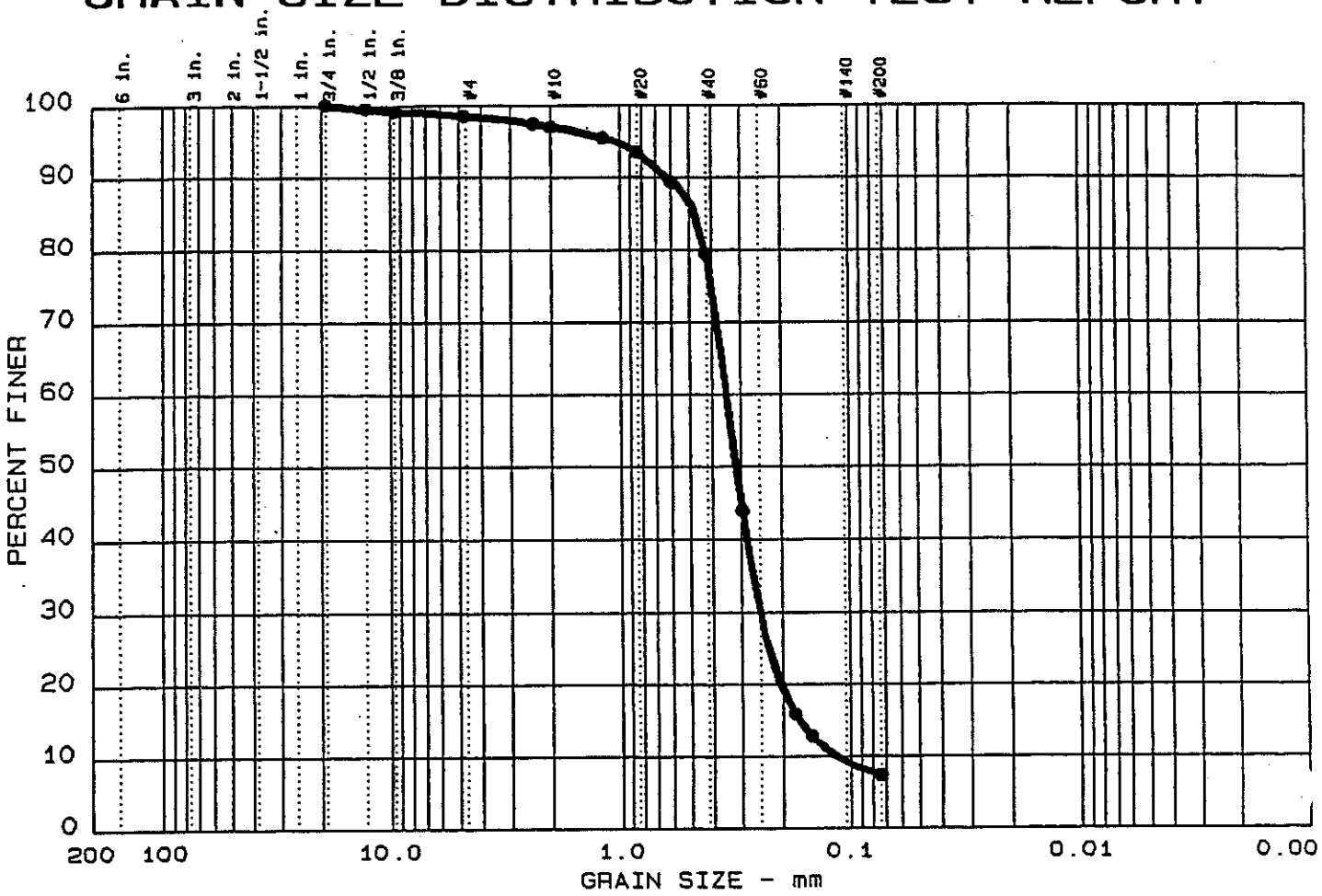
GENERAL NOTES

DATE STARTED DEC 3 91
DATE COMPLETED DEC 3 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 20.0 Ft.
AT COMPLETION ▽
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	%+75mm	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	1.6	91.1	7.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NP	NP	0.47	0.34	0.32	0.250	0.1692	0.1171	1.55	2.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Poorly graded sand with silt	SP-SM	

Project No.: 2185.10
Project: CATERPILLAR
● Location: B-316, 23-25'

Date: 1-13-92

Remarks:

GRAIN SIZE DISTRIBUTION TEST REPORT

RMT, INC.

Figure No. _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-317
SHEET NO. 1 OF 2
PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 12/10/91
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 447.4
DRILLING METHOD HSA 3 1/4"
BOREHOLE DIA. 7 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
1	CS		36	M		POORLY-GRADED SAND (SP), yellow brown, 10YR 5/6, (Fluvial).
						POORLY-GRADED SAND (SP), 10YR 2/1, black, foundry sand.
2	CS		42	M	5	
						POORLY-GRADED SAND (SP), yellow brown, 10YR 5/6, (Fluvial).
3	CS		12	W	▽ 10	POORLY-GRADED SAND (SP), very dark gray 10YR 3/1, (Fluvial).
4	CS			M	15	LEAN CLAY (CL), very dark gray 10YR 3/1, stiff [Pp=1.0-1.5], plastic.
						As above, but dark gray brown 10YR 4/2, some brown mottling, [Pp=1.0-1.25].
5	CS				20	
6	CS			M	25	SILTY CLAY (ML/CL), gray 5Y 5/1, medium stiff [Pp=0.75-1.0], plastic.
7	CS				30	
8	CS			W	35	WELL-GRADED SAND (SW), gray 10YR 5/1, fossil rich.

GENERAL NOTES

DATE STARTED DEC 10 92
DATE COMPLETED DEC 10 92
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED G Sodue

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 9.5 Ft.
AT COMPLETION ▽
AFTER DRILLING
CAVE-IN: DATE/TIME _____ DEPTH _____
WATER: DATE/TIME _____ DEPTH _____

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-317
SHEET NO. 2 OF 2
PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 12/10/91
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 447.4
DRILLING METHOD HSA 3 1/4"
BOREHOLE DIA. 7 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
9	CS		24			
10	CS		36		45	
11	CS		0		50	
12	CS		25		55	
13	CS		60		60	WEATHERED SHALE, red, almost clay, determinable bedding planes.
14	CS		60		65	SHALE, soft gray.
					70	End Of Boring at 70.0 ft.
					75	
					80	
					85	

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-318
SHEET NO. 1 OF 2
PROJECT NO. 2185.05
INSTALLATION 12/13/91
SURFACE ELEV. 444.0
BOREHOLE DIA. 7 IN.

PROJECT NAME CATERPILLAR
LOCATION Mapleton, IL
CONTRACTOR Midwest Eng. Svcs.
DRILLING METHOD HSA 3 1/4"

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH	
1	CS		60	M		POORLY-GRADED SAND (SP), brown yellow 10YR 6/6, (Fluvial).
2	CS		48	W	▽ 5	SILTY CLAY (ML/CL), dark gray brown 10YR 4/2, medium stiff [Pp=.75], plastic.
						SILTY CLAY (ML/CL), dark brown 10YR 3/3.
3	CS		48	W	10	
4	CS		60	M	15	SILTY CLAY (ML/CL), yellow brown 10YR 5/4, stiff [Pp=1.0], plastic.
5	CS		60		20	
6	CS		60		25	SILTY CLAY (ML/CL), dark gray 5Y 4/1, medium stiff [Pp=.75], plastic.
7	CS		54		30	As above, with layers of silt to very fine sand, little clay.
8	CS		0	W	35	WELL-GRADED SAND (SW), dark gray 10YR 4/1, fluvial. Blows up in augers had to wash.

GENERAL NOTES

DATE STARTED DEC 13 91
DATE COMPLETED DEC 13 91
RIG CME 55
CREW CHIEF T. Bartholomew
LOGGED R. Welch CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 5.0 Ft.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. B-318
SHEET NO. 2 OF 2
PROJECT NAME CATERPILLAR
PROJECT NO. 2185.05
LOCATION Mapleton, IL
INSTALLATION 12/13/91
CONTRACTOR Midwest Eng. Svcs.
SURFACE ELEV. 444.0
DRILLING METHOD HSA 3 1/4"
BOREHOLE DIA. 7 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS
INTERVAL		RECOVERY		MOISTURE		
NO.	TYPE	N	IN		DEPTH	
9	CS		0			No recovery.
10	CS		60		45	LEAN CLAY (CL), dark gray brown, 10YR 4/2, stiff [Pp=1.75], plastic, moist.
11	CS		60		50	
12	CS		60		55	
13	CS		60		60	
14	CS		60		65	SHALE, bedrock, soft gray, determinable bedding planes, some hard fragments.
					70	End Of Boring at 70.0 ft.
					75	
					80	
					85	

RMT Soils Laboratory - Moisture Content Determination

PROJECT: CATERPILLAR

JOB #: 2185.10

		by	date
Tech:	PAZ 02/12/92	QC	2/18/92
Input:	TMK 02/14/92	QA	2/18/92

BORING	SAMPLE	DEPTH	TARE	WET WT	DRY WT	% MOISTURE
G101S	SS8	14-16'	78.69	329.14	279.40	24.8
G102S	SS6	8-12'	80.05	319.67	280.60	19.5
G107	SS8	12-16'	79.34	287.20	238.80	30.4
G108	ST12	24-26'	76.54	465.50	381.31	27.6
B311	ST	73-74'	76.30	547.40	484.90	15.3
~~B304~~ G104	ST8	16-18'	77.22	489.10	386.90	33.0

RMT Soils Laboratory - Moisture Content Determination

PROJECT: CATERPILLAR

JOB #: 2185.10

		by	date
Tech:	HJW 01/13/92	QC	1/15/92
Input:	TMK 01/15/92	QA	1/15/92

BORING	SAMPLE	DEPTH	TARE	WET WT	DRY WT	% MOISTURE
B-315		26-27'	76.72	464.85	377.40	29.1
B-314		17'	77.05	411.18	365.27	15.9
B-314		26-27'	78.73	413.89	317.92	40.1
B-309		24-26'	76.03	491.56	393.54	30.9
B-309		37-40'	76.58	585.44	531.50	11.9
B-313		33'	87.21	206.94	178.41	31.3
B-310		34'	87.18	197.94	178.42	21.4
B-310		20-21'	87.28	277.44	238.96	25.4

RMT Soils Laboratory - Organic Content Determination

JOB NAME: CATERPILLAR

JOB #: 2185.10

Tech: PAZ
Input: TMK

		by	date
02/12/92	QC	[illegible]	2/21/92
02/17/92	QA	[illegible]	2/21/92

BORING #	G101S	G102S	G107S	G108
SAMPLE #	SS8	SS6	SS8	ST12
DEPTH	14-16'	8-12'	12-16'	24-26'
TARE WT	16.77	17.07	18.74	17.78
WET WT+TARE	36.29	34.08	33.55	37.50
DRY WT+TARE	36.29	34.08	33.55	37.50
FIRED WT+TARE	35.70	33.65	32.89	36.86
% ORGANICS	3.0	2.5	4.5	3.2

RMT Soils Laboratory - Organic Content Determination

JOB NAME: CATERPILLAR

JOB #: 2185.10

Tech: HJW 01/17/92 QC by TMK date 1-22-92
Input: TMK 01/21/92 QA by Jeff date 1-22-92

BORING #	B-313	B-310	B-310
SAMPLE #			
DEPTH	33'	34'	20-21'
TARE WT	17.51	18.72	17.77
WET WT+TARE	36.37	36.88	38.35
DRY WT+TARE	36.37	36.88	38.35
FIRED WT+TARE	35.76	36.51	37.59
% ORGANICS	3.2 -	2.0 -	3.7 -

RMT Soils Laboratory - Atterberg Limit Determination

PROJECT: CATERPILLAR

JOB #: 2185.10

			By	Date
Tech :	PAZ	02/12/92	QC	2/21/92
Input:	TMK	02/20/92	QA	2/21/92

BORING: G101S, SS8 DEPTH: 14-16'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.88	115.33		114.61
BLOWS	26	27		
WET WT	137.59	138.00		170.36
DRY WT	132.85	133.07		160.89
% WATER	28.1	28.0		20.5

BORING	G101S, SS8
DEPTH	14-16'
LL	28
PL	20
PI	8
CLASS	CL

BORING: G102S, SS6 DEPTH: 8-12'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.42	115.30		115.21
BLOWS	24	24		
WET WT	139.74	137.05		172.03
DRY WT	135.09	132.90		163.63
% WATER	23.5	23.5		17.3

BORING	G102S, SS6
DEPTH	8-12'
LL	23
PL	17
PI	6
CLASS	CL-ML

BORING: G107, SS8 DEPTH: 12-16'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.05	115.35		115.17
BLOWS	22	22		
WET WT	138.03	137.39		155.82
DRY WT	131.08	130.76		148.23
% WATER	42.7	42.4		23.0

BORING	G107, SS8
DEPTH	12-16'
LL	43
PL	23
PI	20
CLASS	CL

RMT Soils Laboratory - Atterberg Limit Determination

PROJECT: CATERPILLAR

JOB #: 2185.10

		By	Date
Tech :	PAZ 02/12/92	QC	2/21/92
Input:	TMK 02/19/92	QA	2/21/92

BORING: G108, ST12 DEPTH: 24-26'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.16	115.17		116.23
BLOWS	27	27		
WET WT	137.31	137.90		164.33
DRY WT	131.99	132.44		156.34
% WATER	31.9	31.9		19.9

BORING	G108, ST12
DEPTH	24-26'
LL	32
PL	20
PI	12
CLASS	CL

BORING: B311, ST DEPTH: 73-74'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.02	115.26		115.17
BLOWS	23	24		
WET WT	140.82	139.44		151.21
DRY WT	132.44	131.58		143.76
% WATER	47.6	47.9		26.1

BORING	B311, ST
DEPTH	73-74'
LL	48
PL	26
PI	22
CLASS	CL

BORING: G104 B15 ~~B304~~, ST8 DEPTH: 16-18'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	113.69	116.20		115.84
BLOWS	25	26		
WET WT	136.03	137.47		160.23
DRY WT	128.27	130.09		150.79
% WATER	53.2	53.4		27.0

BORING	B304, ST8
DEPTH	16-18'
LL	53
PL	27
PI	26
CLASS	CH

RMT Soils Laboratory - Atterberg Limit Determination

PROJECT: CATERPILLAR

JOB #: 2185.10

			By	Date
Tech :	HJW	01/13/92	QC	
Input:	TMK	02/05/92	QA	

BORING: B-309 DEPTH: 24-26'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	116.21	114.17		116.27
BLOWS	21	22		
WET WT	141.34	138.44		167.08
DRY WT	134.52	131.84		157.48
% WATER	36.5	36.8		23.3

BORING	B-309
DEPTH	24-26'
LL	37
PL	23
PI	14
CLASS	CL

BORING: B-309 DEPTH: 37-40'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.15	115.97		116.05
BLOWS	25	26		
WET WT	136.95	141.01		167.14
DRY WT	132.13	135.52		159.36
% WATER	28.4	28.2		18.0

BORING	B-309
DEPTH	37-40'
LL	28
PL	18
PI	10
CLASS	CL

BORING: B-313 DEPTH: 33'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	114.18	115.87		116.26
BLOWS	26	27		
WET WT	137.93	138.06		156.25
DRY WT	130.43	131.08		148.99
% WATER	46.4	46.3		22.2

BORING	B-313
DEPTH	33'
LL	46
PL	22
PI	24
CLASS	CL

RMT Soils Laboratory - Atterberg Limit Determination

PROJECT: CATERPILLAR

JOB #: 2185.10

				By	Date
Tech :	HJW	01/13/92	QC	JPK	2/7/92
Input:	TMK	02/05/92	QA	JPK	2/7/92

BORING: B-315 DEPTH: 26-27'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	114.23	115.43		115.08
BLOWS	22	22		
WET WT	136.66	139.77		159.51
DRY WT	129.86	132.42		151.58
% WATER	42.8	42.6		21.7

BORING	B-315
DEPTH	26-27'
LL	43
PL	22
PI	21
CLASS	CL

BORING: B-314 DEPTH: 17'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.67	115.30		114.75
BLOWS	24	24		
WET WT	140.51	139.05		165.70
DRY WT	134.50	133.32		157.92
% WATER	31.8	31.6		18.0

BORING	B-314
DEPTH	17'
LL	32
PL	18
PI	14
CLASS	CL

BORING: B-314 DEPTH: 26-27'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	114.68	115.91		116.07
BLOWS	22	23		
WET WT	140.16	137.40		164.49
DRY WT	132.45	130.93		154.70
% WATER	42.7	42.6		25.3

BORING	B-314
DEPTH	26-27'
LL	43
PL	25
PI	18
CLASS	CL

RMT Soils Laboratory - Atterberg Limit Determination

PROJECT: CATERPILLAR

JOB #: 2185.10

			By	Date
Tech :	HJW	01/13/92	QC	2/7/92
Input:	TMK	02/05/92	QA	2/7/92

BORING: B-310 DEPTH: 34'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	114.34	116.45		115.71
BLOWS	27	27		
WET WT	135.69	139.25		156.36
DRY WT	130.50	133.74		150.48
% WATER	32.4	32.2		16.9

BORING	B-310
DEPTH	34'
LL	32
PL	17
PI	15
CLASS	CL

BORING: B-310 DEPTH: 20-21'

	LIQUID LIMIT		OVEN LL	PLASTIC LIMIT
TARE	115.78	115.22		114.41
BLOWS	23	23		
WET WT	137.88	138.24		156.56
DRY WT	131.88	132.00		148.46
% WATER	36.9	36.8		23.8

BORING	B-310
DEPTH	20-21'
LL	37
PL	24
PI	13
CLASS	CL

Illinois Environmental Pro .ction Agency — .ll Completion Report

Site #: 1438050004 County Peoria Well # TG1015

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 4984.03 Easting 4454.12

Drilling Contractor: Midwest Engineering Services Inc. Date Drilled Start: 12-17-91

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 12-17-91

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite Chips

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 1 lbs. per bag 50

Type of Bentonite Seal (~~Granular~~ Pellet): Pure Gold

Amount of bentonite: # of Bags 0.5 lbs. per bag 50

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

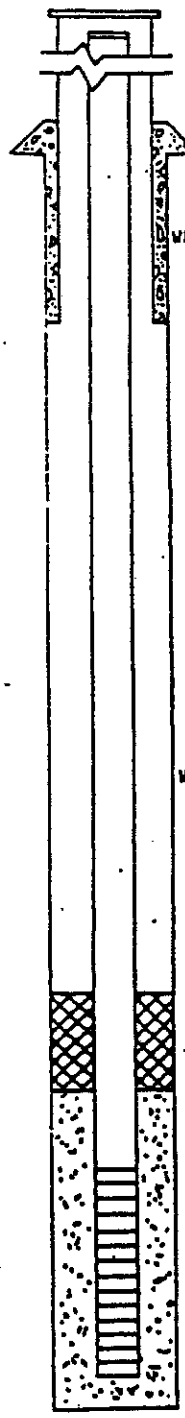
Amount of Sand: # of bags 7.5 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements to .01 ft. (where applicable)

Riser pipe length	10 ft
Protective casing length	4 ft
Screen length	10 ft
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	30 ft
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

____ . ____ MSL Top of Protective Casing

460 . 52 MSL Top of Riser Pipe

2 . 1 ft. Casing Stickup

458 . 4 MSL Ground Surface

457 . 4 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 30gal. ADDED None

DURATION OR VOLUME PUMPED: 45 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/TURBID/(OPAQUE)

AFTER DEVELOPMENT CLEAR/TURBID/(OPAQUE)

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT ____ FT. OR (DRY)

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME Feb. 4, 1992 DEPTH 11.8 FT
3/14/92 11.5

455 . 4 ft. Top of Seal

2 . 5 ft. Total Seal Interval

452 . 9 ft. Top of Sand

450 . 9 ft. Top of Screen

____ 10 ft. Total Screen Interval

440 . 9 ft. Bottom of Screen

440 . 4 ft. Bottom of Borehole

Completed by: B. Socha (CRMT, Inc.) Surveyed by: Daily + Associates Ill. registration # 9628
Douglas E. Mullen

Illinois Environmental Prot. .ion Agency — W. . Completion Report

Site #: 1438050004 County Peoria Well # TG102S

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 5162.54 Easting 6279.321

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 1-8-92

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 1-8-92

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite Chips

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 1 lbs. per bag 50

Type of Bentonite Seal (~~Granular~~, Pellet): Volclay

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

Amount of Sand: # of bags 6 lbs. per bag 50

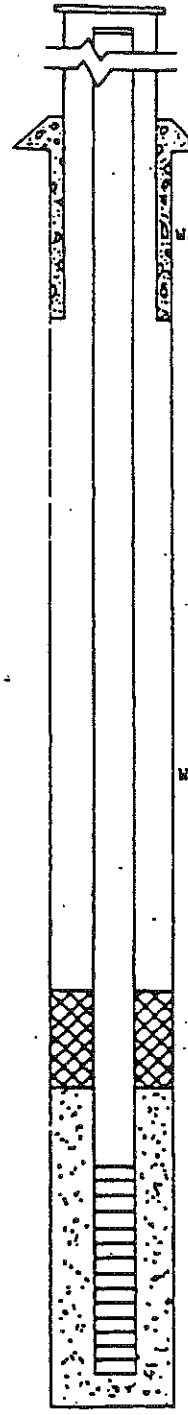
Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements

to .01 ft. (where applicable)

Riser pipe length	7.6 ft
Protective casing length	4 ft
Screen length	10 ft
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	17.6 ft
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
D of riser pipe (in)	2 inches



Elevations — .01 ft.

449.59 MSL Top of Protective Casing
449.59 MSL Top of Riser Pipe
2.6 ft. Casing Stickup
447.0 MSL Ground Surface
446.0 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 30gal. ADDED None

DURATION OR VOLUME PUMPED: 45 min

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/TURBID/(OPAQUE)

AFTER DEVELOPMENT CLEAR/TURBID/(OPAQUE)

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT? 8.2 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME 3/16/92 DEPTH 6.2 FT

446.0 ft. Top of Seal

2.0 ft. Total Seal Interval

444.0 ft. Top of Sand

442.0 ft. Top of Screen

10.0 ft. Total Screen Interval

432.0 ft. Bottom of Screen

432.0 ft. Bottom of Borehole

Completed by: B Socha (CRMT, Inc.) Surveyed by: Daily + Associates, Douglas E. Mullen Ill. registration # 2628

Illinois Environmental Prot. ion Agency — W. Completion Report

Site #: 1438050004 County Peoria Well # TG103S

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 4497.28 Easting 6276.93

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 1-8-92

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 1-8-92

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite Chips

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 2 lbs. per bag 50

Type of Bentonite Seal (~~Granular~~ Pellet): Volclay

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

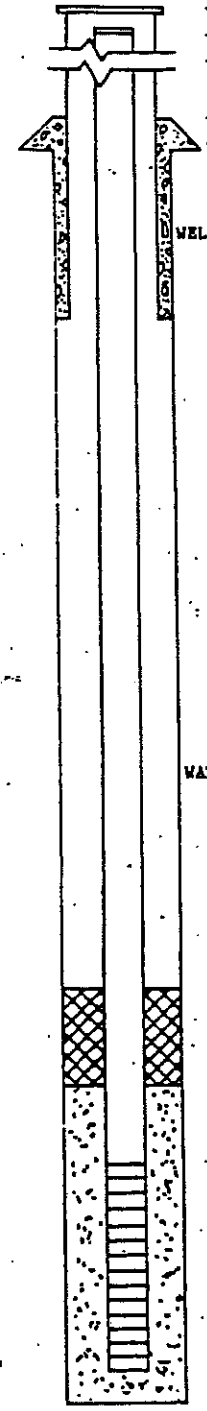
Amount of Sand: # of bags 6 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements to .01 ft. (where applicable)

Riser pipe length	13 ft.
Protective casing length	4 ft.
Screen length	10 ft.
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	20 ft.
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

____ ____ MSL Top of Protective Casing
450.07 MSL Top of Riser Pipe
2.3 ft. Casing Stickup
447.8 MSL Ground Surface
445.5 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING), PUMPING, (SURGING), COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 30gal. ADDED None

DURATION OR VOLUME PUMPED: 45 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/(TURBID)/OPAQUE

AFTER DEVELOPMENT CLEAR/(TURBID)/OPAQUE

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT? 8.2 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME Before development 3/16/92 DEPTH 6.4 / 4.6 FT

441.3 ft. Top of Seal

2.0 ft. Total Seal Interval

439.3 ft. Top of Sand

437.8 ft. Top of Screen

10.0 ft. Total Screen Interval

427.8 ft. Bottom of Screen

427.8 ft. Bottom of Borehole

Completed by: B. Socha (CRMT, Inc.) Surveyed by: Daily + Associates Ill. registration # 2628

Douglas E. Mullen

Illinois Environmental Prot .on Agency — W Completion Report

Site #: 1438050004 County Peoria Well # +G103D

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 4569.51 Easting 6279.58

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 12-20-91

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 12-20-91

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite slurry

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 3 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Very thick slurry

Amount of bentonite: # of Bags — lbs. per bag —

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

Amount of Sand: # of bags 4 lbs. per bag 50

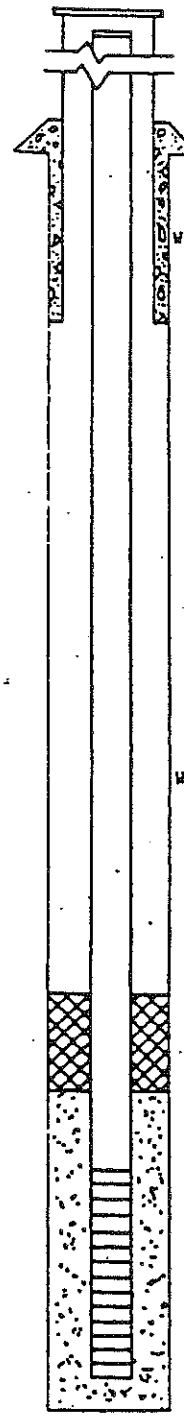
Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements

to .01 ft. (where applicable)

Riser pipe length	33.5 ft
Protective casing length	4 ft
Screen length	5 ft
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	38.5 ft.
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
Diameter of riser pipe (in)	2 inches



Elevations — .01 ft.

____ ____ MSL Top of Protective Casing
450.66 MSL Top of Riser Pipe
2.5 ft. Casing Stickup
448.2 MSL Ground Surface
446.2 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 50 gal. ADDED None

DURATION OR VOLUME PUMPED: 75 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/TURBID/(OPAQUE)

AFTER DEVELOPMENT CLEAR/TURBID/(OPAQUE)

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT?
28.3 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME 3/16/92 DEPTH 11.6 FT

421.2 ft. Top of Seal

2.0 ft. Total Seal Interval

419.2 ft. Top of Sand

417.2 ft. Top of Screen

5.0 ft. Total Screen Interval

412.2 ft. Bottom of Screen

410.2 ft. Bottom of Borehole

Completed by: B Socha (CRMT, Inc.) Surveyed by: Daily + Associates Ill. registration # 2628

Douglas E. Mullen

Illinois Environmental Prot .ion Agency W . Completion Report

Site #: 1438050004 County Peoria Well # +G104S

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 3755.84 Easting 6300.99

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 1-10-92

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 1-10-92

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite pellets

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags — lbs. per bag —

Type of Bentonite Seal ~~(Granular~~ Pellet): Volclay

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: #30

Source of Sand: "Red Flint"

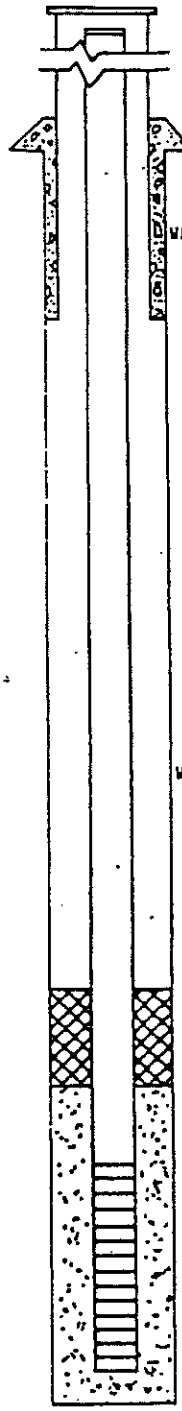
Amount of Sand: # of bags 6 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements to .01 ft. (where applicable)

Riser pipe length	7.5 ft.
Protective casing length	4 ft
Screen length	10 ft.
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	15 ft.
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations -- .01 ft.

____ . ____ MSL Top of Protective Casing
447 . 57 MSL Top of Riser Pipe
3 . 5 ft. Casing Stickup

445 . 1 MSL Ground Surface
443 . 1 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 30 gal. ADDED None

DURATION OR VOLUME PUMPED: 40 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/(TURBID)/OPAQUE

AFTER DEVELOPMENT CLEAR/(TURBID)/OPAQUE

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT? 9.4 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME Before development 3/16/92 DEPTH 6.1 7.1 FT

443 . 1 ft. Top of Seal

2 . 0 ft. Total Seal Interval

442 . 1 ft. Top of Sand

440 . 1 ft. Top of Screen

10 . 0 ft. Total Screen Interval

430 . 1 ft. Bottom of Screen
430 . 1 ft. Bottom of Borehole

Completed by: B Socha (CRMT, Inc.) Surveyed by: Daily + Associates Douglas E. Mullen Ill. registration # 2628

Illinois Environmental Prote .on Agency — We . Completion Report

Site #: 1438050004 County Peoria Well # + G104D

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 3762.03 Easting 6300.02

illing Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 1-10-92

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 1-10-92

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite slurry

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 3 lbs. per bag 50

Type of Bentonite Seal (~~Granular~~, Pellet): Volclay

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

Amount of Sand: # of bags 4 lbs. per bag 50

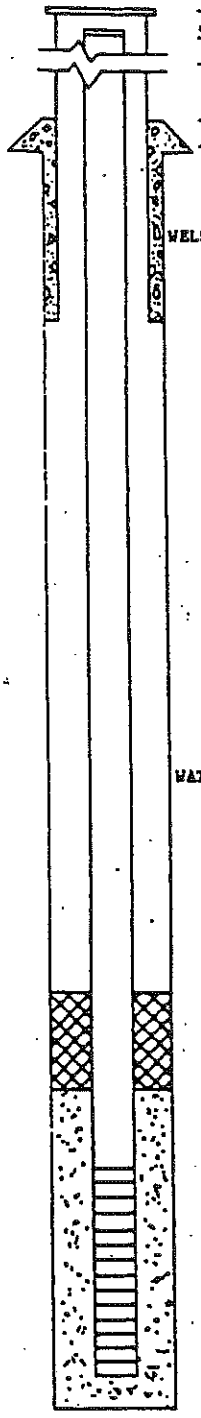
Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements

to .01 ft. (where applicable)

Riser pipe length	43 ft.
Protective casing length	4 ft.
Screen length	5 ft.
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	48 ft.
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

___ ___ MSL Top of Protective Casing
447 . 36 MSL Top of Riser Pipe
2 . 1 ft. Casing Stickup
445 . 3 MSL Ground Surface
443 . 3 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 60 gal. ADDED None

DURATION OR VOLUME PUMPED: 90 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR (TURBID) OPAQUE

AFTER DEVELOPMENT CLEAR (TURBID) OPAQUE

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT
19.5 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME Before development 3/12/92 DEPTH 11.2 FT 9.6

407 . 3 ft. Top of Seal

2 . 0 ft. Total Seal Interval

405 . 3 ft. Top of Sand

403 . 3 ft. Top of Screen

5 . 0 ft. Total Screen Interval

398 . 3 ft. Bottom of Screen

397 . 3 ft. Bottom of Borehole

Completed by: B. Socha (CRMT, Inc.) Surveyed by: Daily + Associates Douglas E. Mullen Ill. registration # 2628

Illinois Environmental Prot. ion Agency — W. Completion Report

Site #: 1438050004 County Peoria Well # G105 S

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 3352.31 Easting 5710.69

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 1-13-92

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 1-13-92

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite chips

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 1 lbs. per bag 50

Type of Bentonite Seal (~~Granular~~, Pellet): Volclay

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

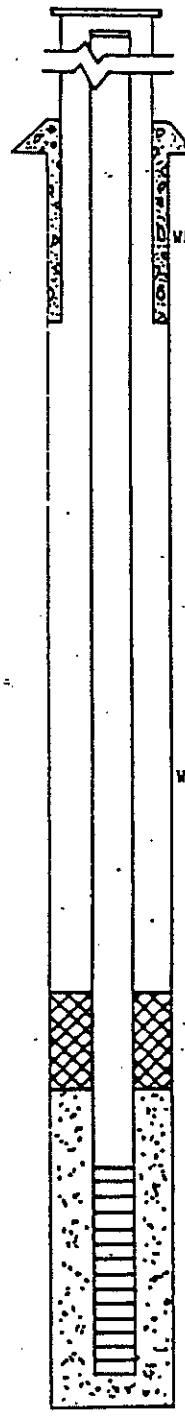
Amount of Sand: # of bags 6 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements to .01 ft. (where applicable)

Riser pipe length	10 ft.
Protective casing length	4 ft.
Screen length	10 ft.
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	20.5 ft.
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

____ MSL Top of Protective Casing

452.40 MSL Top of Riser Pipe

3.5 ft. Casing Stickup

449.0 MSL Ground Surface

447.0 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 9 gal. ADDED None

DURATION OR VOLUME PUMPED: 30 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/(TURBID)/OPAQUE

AFTER DEVELOPMENT CLEAR/(TURBID)/OPAQUE

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT? ____ FT. OR (DRY)

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME 3/16/92 DEPTH 12.4 FT

446.0 ft. Top of Seal

2.0 ft. Total Seal Interval

444.0 ft. Top of Sand

442.0 ft. Top of Screen

10.0 ft. Total Screen Interval

432.0 ft. Bottom of Screen

432.0 ft. Bottom of Borehole

Completed by: B Socha (CRMT, Inc.) Surveyed by: Daily + Associates Ill. registration # 2678

Douglas E. Mullen

Illinois Environmental Pro. .ion Agency — Completion Report

Site #: 1438050004 County Peoria Well # G106 S

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 3152.46 Easting 5001.47

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 12-15-91

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 12-18-91

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite chips

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 1 lbs. per bag 50

Type of Bentonite Seal (~~Granular~~, Pellet): Volclay

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

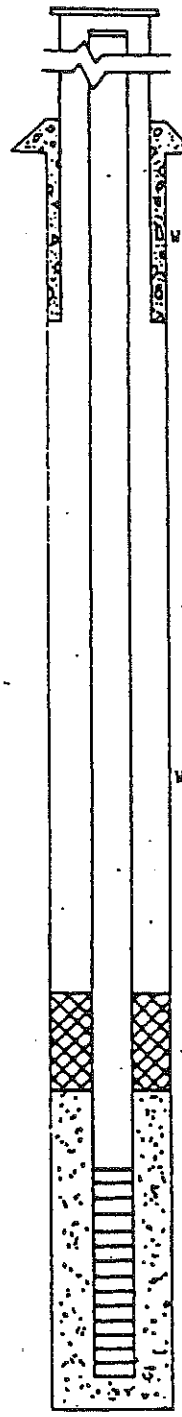
Amount of Sand: # of bags 6.5 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements to .01 ft. (where applicable)

Riser pipe length	8 ft.
Protective casing length	4 ft
Screen length	10 ft.
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	8 ft
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

____ ____ MSL Top of Protective Casing
448 . 26 MSL Top of Riser Pipe
3.0 ft. Casing Stickup

445 . 3 MSL Ground Surface
444 . 3 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 30 gal. ADDED None

DURATION OR VOLUME PUMPED: 45 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/(TURBID)/OPAQUE

AFTER DEVELOPMENT CLEAR/(TURBID)/OPAQUE

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT: 8.2 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME 3/16/92 DEPTH 9.4 FT

444 . 3 ft. Top of Seal

2.0 ft. Total Seal Interval

442 . 3 ft. Top of Sand

440 . 3 ft. Top of Screen

10 . 0 ft. Total Screen Interval

430 . 3 ft. Bottom of Screen
430 . 3 ft. Bottom of Borehole

Completed by: B. Socha (CRMT, Inc.) Surveyed by: Daily + Associates Ill. registration # 2628

Douglas E. Mullen

Illinois Environmental Prot. .ion Agency — W.. Completion Report

Site #: 1438050004 County Peoria Well # G106D

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 3,41.35 Easting 5003 11

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 12-18-91

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 12-18-91

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite slurry

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 5 lbs. per bag 50

Type of Bentonite Seal ~~(Granular, Pellet):~~ Very thick slurry

Amount of bentonite: # of Bags — lbs. per bag —

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

Amount of Sand: # of bags 4 lbs. per bag 50

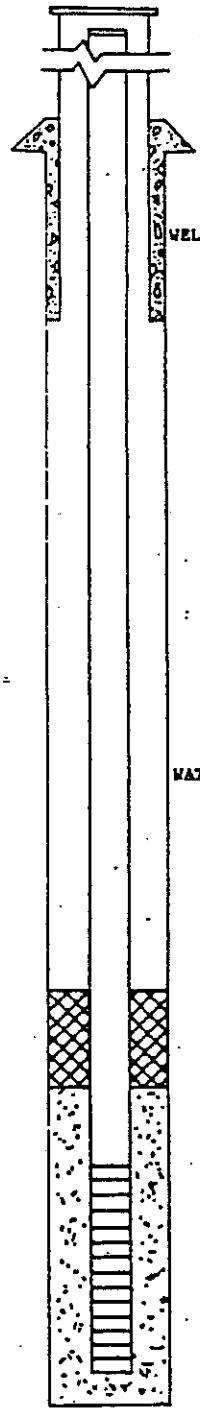
Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements

to .01 ft. (where applicable)

Riser pipe length	41.6 ft
Protective casing length	4 ft.
Screen length	5 ft
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	46.6 ft
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

448.24 MSL Top of Protective Casing
MSL Top of Riser Pipe
2.6 ft. Casing Stickup

445.6 MSL Ground Surface
444.6 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING), PUMPING, (SURGING), COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 60gal. ADDED ____

DURATION OR VOLUME PUMPED: 90 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/TURBID/(OPAQUE)

AFTER DEVELOPMENT CLEAR/TURBID/(OPAQUE)

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT? 12.2 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME 3/16/92 DEPTH 10.5 FT

410.6 ft. Top of Seal

2.0 ft. Total Seal Interval

408.6 ft. Top of Sand

406.6 ft. Top of Screen

5.0 ft. Total Screen Interval

401.6 ft. Bottom of Screen

401.6 ft. Bottom of Borehole

Completed by: B Socha (CRMT, Inc.) Surveyed by: Daily + Associates — Douglas E. Mullen Ill. registration # 2628

Illinois Environmental Protection Agency — Water Well Completion Report

Site #: 1438050004 County: Peoria Well #: G107S

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 2992.10 Easting 4369.21

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 12-17-91

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 12-17-91

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite pellets

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags ____ lbs. per bag ____

Type of Bentonite Seal (~~Granular~~, Pellet): Volclay

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

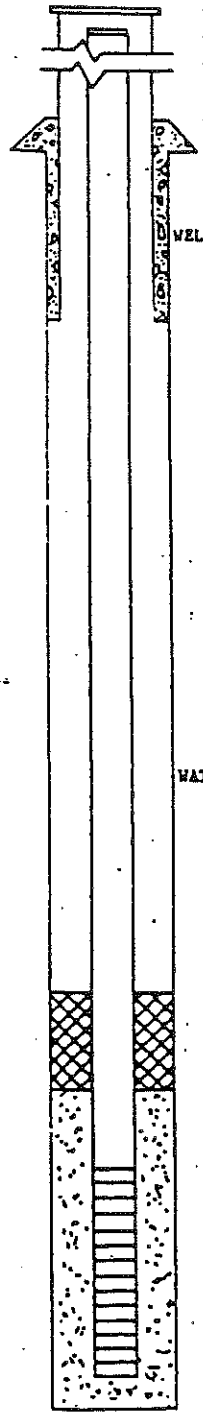
Amount of Sand: # of bags 6 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	Type	Type
			G107S	
Riser coupling joint	—		REPLACED	
Riser pipe above w.t.	304		BY	
Riser pipe below w.t.	304		R107S	
Screen	304		SEE ATTACH	
Coupling joint screen to riser	—		LOG	
Protective casing	—			

Measurements to .01 ft. (where applicable)

Riser pipe length	8 ft.
Protective casing length	4 ft.
Screen length	10 ft.
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	18 ft.
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

____ MSL Top of Protective Casing

447.36 MSL Top of Riser Pipe

2.9 ft. Casing Stickup

444.5 MSL Ground Surface

443.5 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 30 gal. ADDED ____

DURATION OR VOLUME PUMPED: 40 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/TURBID/(OPAQUE)

AFTER DEVELOPMENT CLEAR/TURBID/(OPAQUE)

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT? 6.5 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME 3/16/92 DEPTH 7.4 FT

443.5 ft. Top of Seal

2.0 ft. Total Seal Interval

441.5 ft. Top of Sand

439.5 ft. Top of Screen

10.0 ft. Total Screen Interval

429.5 ft. Bottom of Screen

429.2 ft. Bottom of Borehole

Completed by: B. Socha (CRMT, Inc.) Surveyed by: Daily + Associates, Douglas E. Mullen Ill. registration # 2628

Illinois Environmental Prote. .ion Agency — We . Completion Report

Site #: 1438050004 County Peoria Well # G 108 S

Site Name: Caterpillar, Inc. Mapleton Plant Grid Coordinate: Northing 3854.16 Easting 3349.06

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start: 1-14-92

Driller: T. Bartholemew Geologist: R. Welch (CRMT, Inc.) Date Completed: 1-14-92

Drilling Method: Hollow-stem augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite slurry

Amount of cement: # of bags ____ lbs. per bag ____

Amount of bentonite: # of bags 35 lbs. per bag 50

Type of Bentonite Seal (Granular, Pellet): Very thick slurry

Amount of bentonite: # of Bags — lbs. per bag —

Type of Sand Pack: # 30

Source of Sand: "Red Flint"

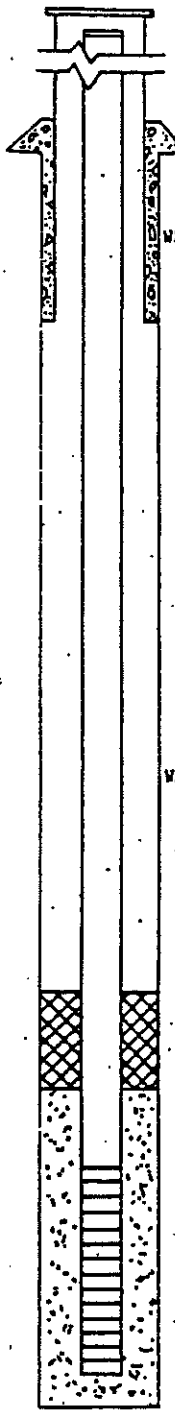
Amount of Sand: # of bags 6 lbs. per bag 50

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements to .01 ft. (where applicable)

Riser pipe length	30 ft.
Protective casing length	4 ft
Screen length	10 ft.
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	40 ft.
Screen slot size	0.010 inches
% of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

464.04 MSL Top of Protective Casing
464.04 MSL Top of Riser Pipe
2.9 ft. Casing Stickup

461.1 MSL Ground Surface
460.1 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING (SURGING) COMPRESSED AIR

OTHER ____

APPROXIMATE WATER VOLUME:

REMOVED 45 gal. ADDED ____

DURATION OR VOLUME PUMPED: 60 min.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR (TURBID) OPAQUE

AFTER DEVELOPMENT CLEAR (TURBID) OPAQUE

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT?
27.9 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME Before development 3/16/92 DEPTH 23.9 FT 23.9

438.2 ft. Top of Seal

2.0 ft. Total Seal Interval

436.2 ft. Top of Sand

434.1 ft. Top of Screen

10.0 ft. Total Screen Interval

424.1 ft. Bottom of Screen

424.1 ft. Bottom of Borehole

Completed by: B. Socha (CRMT, Inc.) Surveyed by: Daily + Associates, Douglas E. Mullen Ill. registration # 9628

Illinois Environmental Protection Agency

Well Completion Report

Site #: 1438050004 County Peoria Well # P109S

Site Name: Caterpillar, Inc., Mapleton Plant Grid Coordinate: Northing 4649.20 Easting 4088.58

Drilling Contractor: Midwest Engineering Services, Inc. Date Drilled Start:

Driller: T. Bartholomew Geologist: R. Welch (RMT, Inc.) Date Completed 6-29-92

Drilling Method: Hollow-stem Augers Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Bentonite Chips - Med.

Type of Annular Sealant: Bentonite Chips - Med.

Amount of cement: # of bags — lbs. per bag —

Amount of bentonite: # of bags — lbs. per bag —

Type of Bentonite Seal (Granular, Pellet): American Colloid Co. - Pure Gold Bentonite Chips

Amount of bentonite: # of Bags 1 lbs. per bag 50

Type of Sand Pack: #30

Source of Sand: "Red Flint"

Amount of Sand: # of bags 4 lbs. per bag 50

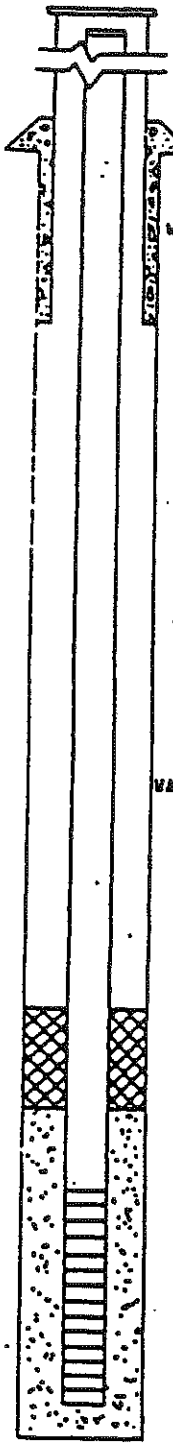
Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint	—			
Riser pipe above w.t.	304			
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	—			
Protective casing	—			Steel

Measurements

to .01 ft. (where applicable)

Riser pipe length	10 feet
Protective casing length	4 feet
Screen length	10 feet
Bottom of screen to end cap	—
Top of screen to first joint	—
Total length of casing	20 feet
Screen slot size	0.010 inches
# of openings in screen	—
Diameter of borehole (in)	9 inches
ID of riser pipe (in)	2 inches



Elevations — .01 ft.

452.09 MSL Top of Protective Casing

~2.0 MSL Top of Riser Pipe ft. Casing Stickup

~450.0 MSL Ground Surface

449.0 ft. Top of annular sealant

WELL DEVELOPMENT

METHODS

(BAILING) PUMPING, (SURGING) COMPRESSED AIR

OTHER

APPROXIMATE WATER VOLUME:

REMOVED 45 gal. ADDED

DURATION OR VOLUME PUMPED:

1 hr.

WATER CLARITY:

BEFORE DEVELOPMENT CLEAR/TURBID/(OPAQUE)

AFTER DEVELOPMENT CLEAR/(TURBID)/OPAQUE

ODOR: YES or (NO)

WATER LEVEL SUMMARY

DEPTH FROM TOP OF CASING AFTER DEVELOPMENT: 12.05 FT. OR DRY

OTHER MEASUREMENTS (T.O.C.):

DATE/TIME 6-30-92 DEPTH 9.94 FT.

447.0 ft. Top of Seal

2.0 ft. Total Seal Interval

445.5 ft. Top of Sand

443.0 ft. Top of Screen

10.0 ft. Total Screen Interval

433.0 ft. Bottom of Screen

433.0 ft. Bottom of Borehole

Completed by: B. Socha (RMT, Inc.) Surveyed by: Daily + Associates Ill. registration # 2628

Douglas E. Mullen

C

APPENDIX C

TEST WELL STRATIGRAPHIC LOG

February 16, 1965
GEJaeger:mcw

MEMO TO FILE

13307 Client-supplied Drawing

Foundry Site
Test Wells

Log of Test Well -- 37 + 50 E and 38 + 00 N

0 - 9'	Brown soft clay
9 - 10'	Coarse gravel and driftwood
10 - 35'	Gray clay
35 - 40'	Sand & clay (50%) 1-1/2" mud loss 10 lb.
40 - 41'	Lime ledge or boulder
41 - 61'	Blue shale, few lime ledges
61 - 75'	Very hard black shale - 4 min/ft.
75 - 77'	Black lime
77 - 80'	Coal
80 - 93'	Gray shale
93 - 95'	Gray sandstone - hard
95 - 110'	Gray shale, few streaks of coal
110 - 114'	Coal
114 - 130'	Gray shale, few lime lenes
130 - 138'	Coal
138 - 155'	Gray shale
155 - 163'	White shale, few sandstone lenes
163 - 175'	Sandstone 2 min./ft.
175 - 190'	Shale with sandstone lenes
190 - 205'	Shale
205 - 208'	Coal with some shale
208 - 220'	Shale
220 - 239'	Light and dark shale
239 - 255'	Lime
255 - 260'	Limestone
260 - 290'	Silty, dirty, sandstone
290 - 310'	Sandy gray shale

(final depth)

D

APPENDIX D

CRA SOIL BORING STRATIGRAPHIC LOGS

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

(CL-01)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-1
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	459.2					
	SP-SAND, fine, brown/black, dry			1GP			
		457.2					
2.5	CL-CLAY, low plasticity, brown, dry		NATIVE CUTTINGS	2GP			
		455.2					
	SP-SAND, fine, black, dry			3GP			
5.0			1.25" Ø GEOPROBE				
				4GP			
7.5							
	- water table	451.2					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-02)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-2
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	459.0					
	SW-SAND, some fine gravel, fine to medium, light brown, dry			1GP			
		457.0					
2.5	SP-SAND, fine, black, dry		NATIVE CUTTINGS	2GP			
5.0			1.25" Ø GEOPROBE	3GP			
				4GP			
7.5	SP-SAND, coarse, white, moist	451.5					
	- water table	451.0					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-3
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	459.2					
	TOPSOIL and GRAVEL						
	SP-SAND, fine, brown, dry	458.2		1GP			
	GW-GRAVEL, coarse, gray, dry	457.2					
2.5							
	SW-SAND, some fine gravel, medium to fine, brown, dry	456.2	NATIVE CUTTINGS	2GP			
5.0							
	SP-SAND, fine to medium, brown with several small (3-inches) layers of clay, dry	454.2	1.25" Ø GEOPROBE	3GP			
7.5				4GP			
	CL-CLAY, trace fine sand, trace fine gravel, medium plasticity, damp	450.2					
10.0				5GP			
	- water table						
				6GP			
12.5							
	END OF HOLE @ 13.0ft BGS	446.2					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-04)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-4
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.8					
	SP-SAND, fine, black, dry			1GP			
2.5			NATIVE CUTTINGS	2GP			
	CL-CLAY, trace fine sand, gray/brown, dry	455.3					
5.0			1.25" Ø GEOPROBE	3GP			
	SW-SAND, trace fine gravel, fine to medium, gray, dry	452.6		4GP			
7.5							
				5GP			
10.0	- water table			6GP			
	END OF HOLE @ 12.0ft BGS	446.8					
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▼ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-5
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	461.9					
	SP-SAND, trace fine gravel, fine, black, dry			1GP			
		459.9					
2.5	SP-SAND, fine, black, dry		NATIVE CUTTINGS	2GP			
5.0				3GP			
			1.25" Ø GEOPROBE				
7.5				4GP			
	– water table			5GP			
10.0	END OF HOLE @ 10.0ft BGS	*451.9*					
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-06)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-6
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.7					
	TOPSOIL						
	CL-CLAY, brown, dry	457.7		1GP			
	SP-SAND, fine, black, dry	456.7					
2.5			NATIVE CUTTINGS	2GP			
5.0				3GP			
			1.25" Ø GEOPROBE				
7.5				4GP			
	– water table	450.7					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-07)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-7
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.9					
	SP-SAND, fine, black, dry			1GP			
2.5			NATIVE CUTTINGS	2GP			
5.0				3GP			
			1.25" Ø GEOPROBE				
7.5				4GP			
	– water table	450.9					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ⊽ STATIC WATER LEVEL ⊽
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-08)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-8
DATE COMPLETED: DECEMBER 1, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	459.2					
	CL-CLAY, some medium to coarse gravel, brown, dry			1GP			
2.5							
	SP-SAND, fine, gray/black, dry	456.2	NATIVE CUTTINGS	2GP			
5.0			1.25" Ø GEOPROBE	3GP			
7.5	– water table			4GP			
	END OF HOLE @ 9.0ft BGS	450.2					
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-9
DATE COMPLETED: DECEMBER 2, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.4					
	CL-CLAY, trace fine gravel, trace fine sand/brown, dry			1GP			
2.5	SP-SAND, fine, dark red/black, dry	455.9	NATIVE CUTTINGS	2GP			
5.0				3GP			
			1.25" Ø GEOPROBE				
7.5	END OF HOLE @ 8.0ft BGS	450.4		4GP			
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-10)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-10
DATE COMPLETED: DECEMBER 2, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	463.2					
	GW-GRAVEL, some medium to fine sand, fine to medium, gray/brown, dry						
	SP-SAND, fine, black, dry	462.2		1GP			
2.5			NATIVE CUTTINGS	2GP			
5.0				3GP			
			1.25" Ø GEOPROBE				
				4GP			
7.5	- water table	455.2					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

(CL-11)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-11
DATE COMPLETED: DECEMBER 2, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	462.5					
	CL-CLAY, some medium gravel, brown, dry			1GP			
2.5							
	SP-SAND, fine, black, dry	459.5	NATIVE CUTTINGS	2GP			
5.0				3GP			
			1.25" Ø GEOPROBE				
7.5				4GP			
	~ water table			5GP			
10.0				6GP			
	END OF HOLE @ 11.0ft BGS	451.5					
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-12)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-12
DATE COMPLETED: DECEMBER 2, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	459.3					
	SP-SAND, fine, dark brown, dry			1GP			
2.5	- black		NATIVE CUTTINGS	2GP			
5.0	CL-CLAY, trace fine sand, brown, dry	454.3		3GP			
	- no sand		1.25" Ø GEOPROBE	4GP			
7.5	- water table	451.3					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-13
DATE COMPLETED: DECEMBER 2, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	461.5					
	CL-CLAY with some fine sand, trace fine gravel, brown, dry						
	SP-SAND, fine, black	460.5		1GP			
2.5			NATIVE CUTTINGS	2GP			
5.0				3GP			
			1.25" Ø GEOPROBE				
7.5				4GP			
	– water table	453.5					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-14)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-14
DATE COMPLETED: DECEMBER 2, 1998
DRILLING METHOD: 3 1/4" HSA/GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: JEFF FLAMINIO

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.2					
	CL-CLAY, low plasticity, brown, dry			1GP			
2.5			NATIVE CUTTINGS	2GP			
5.0	- some fine sand		1.25" Ø GEOPROBE	3GP			
7.5				4GP			
				5GP			
10.0	- water table	448.2					
	END OF HOLE @ 10.0ft BGS						
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ⧩ STATIC WATER LEVEL ⧩
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-15
DATE COMPLETED: FEBRUARY 23, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: RANDY RADKE

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.9					
	SP-SAND, medium dense, fine to medium grained, black, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
7.5				4GP			N/A
	– wet	*450.9*					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-16
DATE COMPLETED: FEBRUARY 23, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: RANDY RADKE

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	461.9					
	SP-SAND, medium dense, fine to medium grained, black, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0			1.25" Ø GEOPROBE	3GP			N/A
				4GP			N/A
7.5	– wet	*453.9*					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-17
DATE COMPLETED: FEBRUARY 23, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: RANDY RADKE

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.8					
	CL-CLAY, trace fine gravel, low plasticity, brown, dry			1GP			N/A
	– some fine sand, trace fine gravel, gray						
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
7.5				4GP			N/A
	– wet	450.8					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-18
DATE COMPLETED: FEBRUARY 23, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: RANDY RADKE

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	458.0					
	CL-CLAY, some fine sand, low plasticity, brown, dry			1GP			N/A
2.5							
	SP-SAND, medium dense, fine to medium grained, black, dry	456.0	BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0	- gray		1.25" Ø GEOPROBE	3GP			N/A
	CL-CLAY, trace fine gravel, low plasticity, brown to gray	452.0		4GP			N/A
7.5	- wet	451.0					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ⊽ STATIC WATER LEVEL ⊻
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

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PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-19
DATE COMPLETED: FEBRUARY 23, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: RANDY RADKE

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	457.8					
	SP-SAND, medium dense, fine to medium grained, black, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
7.5				4GP			N/A
	- wet	449.8					
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 5600E, 5100N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-20
DATE COMPLETED: SEPTEMBER 13, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
	SP-SAND, fine, black, dry						
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
				4GP			N/A
7.5	– wet						
				5GP			N/A
10.0	END OF HOLE @ 10.0ft BGS						
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 5900E, 5200N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-21
DATE COMPLETED: SEPTEMBER 13, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
	SP-SAND, fine, black, dry						
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
7.5				4GP			N/A
	- wet			5GP			N/A
10.0	END OF HOLE @ 10.0ft BGS						
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 4400E, 5700N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-22
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
				4GP			N/A
7.5	- wet						
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 4400E, 6000N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-23
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
				4GP			N/A
7.5	– wet						
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 4400E, 6200N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-24
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
7.5	– wet			4GP			N/A
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 4200E, 5700N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-25
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5	SP-SAND, fine, black, dry		BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0			1.25" Ø GEOPROBE	3GP			N/A
7.5	- wet END OF HOLE @ 8.0ft BGS			4GP			N/A
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 4000E, 5100N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-26
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0	SP-SAND, fine, black, dry			3GP			N/A
			1.25" Ø GEOPROBE				
				4GP			N/A
7.5	- wet END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▼ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 3700E, 5509N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-27
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
	SP-SAND, fine, black, dry						
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
				4GP			N/A
7.5	- wet						
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 3700E, 5700N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-28
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	SC-CLAY, some fine sand, trace fine gravel, brown, dry			1GP			N/A
2.5	SP-SAND, fine, brown, dry		BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
	SC-SAND, some clay, fine, brown, dry			3GP			N/A
5.0	SP-SAND, fine, black, dry		1.25" Ø GEOPROBE				
7.5				4GP			N/A
	- wet			5GP			N/A
10.0	END OF HOLE @ 10.0ft BGS						
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 3600E, 5600N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-29
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SC-CLAY, some fine sand, trace fine gravel, brown, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
	SP-SAND, fine, red/black, dry			3GP			N/A
5.0			1.25" Ø GEOPROBE				
7.5				4GP			N/A
	- wet			5GP			N/A
10.0	END OF HOLE @ 10.0ft BGS						
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 3725E, 5600N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-30
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	SC-CLAY, some fine sand, trace fine gravel, brown, dry			1GP			N/A
2.5			BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
	SP-SAND, fine, black, dry			3GP			N/A
5.0			1.25" Ø GEOPROBE				
				4GP			N/A
7.5	- wet						
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▼ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 3600E, 5800N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-31
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	SC-CLAY, some fine sand, trace fine gravel, brown, dry			1GP			N/A
2.5	SP-SAND, fine, black, dry		BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0				3GP			N/A
			1.25" Ø GEOPROBE				
				4GP			N/A
7.5	– wet						
	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 3700E, 5900N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-32
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5	SP-SAND, fine, black,dry		BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0			1.25" Ø GEOPROBE	3GP			N/A
	- wet			4GP			N/A
7.5	END OF HOLE @ 8.0ft BGS						
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 3800E, 5800N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-33
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, trace fine gravel, brown, dry			1GP			N/A
2.5	SP-SAND, fine, black,dry		BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0			1.25" Ø GEOPROBE	3GP			N/A
	- wet						
	END OF HOLE @ 6.0ft BGS						
7.5							
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ⊽ STATIC WATER LEVEL ⊻
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-34)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: 4000E, 5800N
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: B-34
DATE COMPLETED: SEPTEMBER 14, 1999
DRILLING METHOD: GEOPROBE
CRA SUPERVISOR: JOHN HARGENS
DRILLER: DAVID MORRIS

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CL-CLAY, some fine sand, dark brown, dry			1GP			N/A
2.5	SP-SAND, fine, black		BENTONITE CHIPS AND SOIL CUTTINGS	2GP			N/A
5.0	- wet END OF HOLE @ 6.0ft BGS		1.25" Ø GEOPROBE	3GP			N/A
7.5							
10.0							
12.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼
CHEMICAL ANALYSIS ⬭

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: SB-99A
DATE COMPLETED: NOVEMBER 15, 1999
DRILLING METHOD: 4 1/4" HSA
CRA SUPERVISOR: WALT POCHRON
DRILLER: RANDY RADKEY

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	TOPSOIL AND VEGETATION			1SS		48	
	CL-CLAY, little silt, trace of gravel, hard, slightly moist, brown (FILL)						
	- 4" gravel seam						
2.5	SP-SAND, fine to medium grained, dense, dark brown to black, moist (FILL)			2SS		84	
	- sand becomes brown to tan in color to 4.2'		BENTONITE				
	- trace slag			3SS		63	
5.0							
	- occasional brown sand seams or pockets		8" Ø BOREHOLE	4SS		29	
7.5							
				5SS		53	
10.0							
	- wet gravel seam			6SS		26	
	- sand becomes wet						
	- saturated						
12.5				7SS		29	
15.0				8SS		14	
				9SS		23	
17.5	SW-SAND, fine to coarse grained, little silt and gravel, gray to brown, saturated (NATIVE)						
	CL-CLAY, some silt, stiff, moderate plasticity, greenish gray, moist to wet			10SS		10	
20.0	END OF HOLE @ 20.0ft BGS						
22.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: SB-1
DATE COMPLETED: NOVEMBER 18, 1999
DRILLING METHOD: 4 1/4" HSA
CRA SUPERVISOR: WALT POCHRON
DRILLER: RANDY RADKEY

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	TOPSOIL AND VEGETATION			1SS		18	
	GRAVEL						
	SP-SAND, trace of silt and slag, loose, black, slightly moist (FILL)						
2.5	– yellow staining			2SS		6	
	SP-SAND, trace of gravel, fine to medium grained, grayish brown, moist (FILL)		BENTONITE				
5.0	SP-SAND, trace of silt and slag, loose black, moist (FILL)		8" Ø BOREHOLE	3SS		6	
	CL-CLAY, little silt, firm, wet, greenish gray			4SS		2	
7.5							
	END OF HOLE @ 10.0ft BGS			5SS		4	

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼

E

APPENDIX E

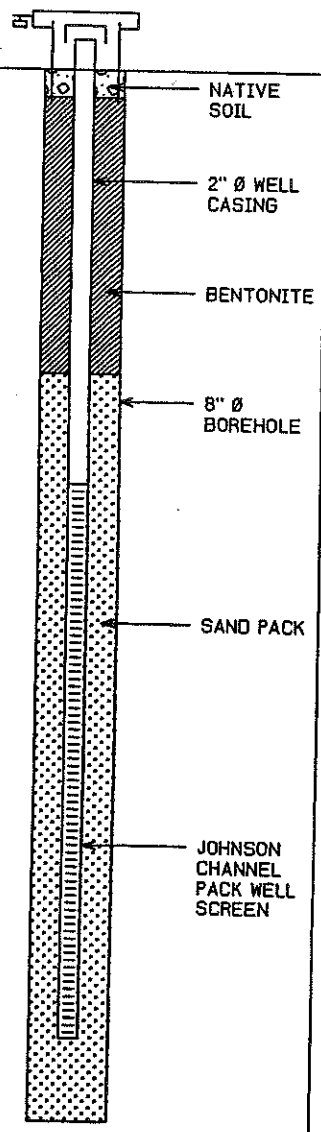
CRA MONITORING WELL STRATIGRAPHIC/INSTRUMENTATION LOGS

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: MW-99A
DATE COMPLETED: NOVEMBER 15, 1999
DRILLING METHOD: 4 1/4" HSA
CRA SUPERVISOR: WALT POCHRON
DRILLER: RANDY RADKEY

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL
0	GRAVEL (FILL)	
2.5	CL-CLAY, little silt and gravel, stiff, gray, slightly moist	
5.0	SP-SAND, trace of silt, fine to medium grained, medium dense, brown, moist (NATIVE)	
7.5	- as above with trace of coarse grains and dense	
10.0		
12.5	- saturated, sand becomes gray in color and fine to medium grained, little coarse grained (NATIVE)	
15.0	CL-CLAY, some silt, firm, moderate plasticity, greenish gray, wet	
17.5		
20.0	END OF HOLE @ 19.0ft BGS	
22.5		



SAMPLE NUMBER	STATE	'N' VALUE	PID (ppm)
1SS		43	
2SS		13	
3SS		28	
4SS		40	
5SS		38	
6SS		30	
7SS		6	
8SS		23	

SCREEN DETAILS
Screened Interval:
7.5 to 17.5ft BGS
Length: 10.0ft
Diameter: 2"
Slot Size: #8
Material: PVC
Sand Pack:
5.5 to 19.0ft BGS
Material: Sand #30

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼

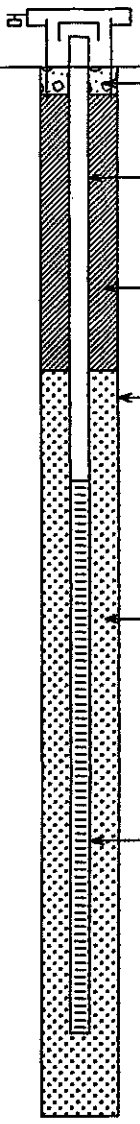
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(CL-37)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: MW-99B
DATE COMPLETED: NOVEMBER 16, 1999
DRILLING METHOD: 4 1/4" HSA
CRA SUPERVISOR: WALT POCHRON
DRILLER: RANDY RADKEY

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	TOPSOIL		NATIVE SOIL	1SS		30	
	SP-SAND, fine to medium grained, dense, black to dark brown, slightly moist (FILL)						
-2.5	- trace of silt, occational yellow or orange pockets of sand		2" Ø WELL CASING	2SS		>50	
			BENTONITE				
-5.0	- as above with trace of slag metal fragments			3SS		40	
			8" Ø BOREHOLE				
-7.5	- medium dense, moist			4SS		40	
	- wet			5SS		18	
-10.0			SAND PACK				
	CL-CLAY, some silt, trace of sand, firm, moderate plasticity, greenish gray, wet			6SS		5	
	- 3" saturated sand seam at 11.7 feet						
-12.5	- as above but silty			7SS		15	
			JOHNSON CHANNEL PACK WELL SCREEN				
-15.0				8SS		12	
-17.5				9SS		12	
	END OF HOLE @ 19.0ft BGS						
-20.0							
-22.5							



SCREEN DETAILS
Screened interval:
7.0 to 17.0ft BGS
Length: 10.0ft
Diameter: 2"
Slot Size: #8
Material: PVC
Sand Pack:
5.0 to 19.0ft BGS
Material: Sand #30

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ STATIC WATER LEVEL ▼

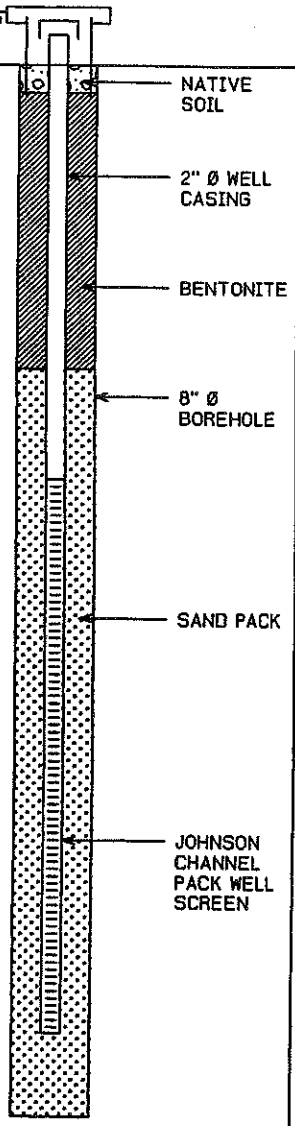
STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

(CL-38)
Page 1 of 1

PROJECT NAME: CATERPILLAR MAPLETON
PROJECT NUMBER: 13307
CLIENT: CATERPILLAR INC.
LOCATION: MAPLETON, ILLINOIS
DRILLING CONTRACTOR: BOART LONGYEAR

HOLE DESIGNATION: MW-99C
DATE COMPLETED: NOVEMBER 16, 1999
DRILLING METHOD: 4 1/4" HSA
CRA SUPERVISOR: WALT POCHRON
DRILLER: RANDY RADKEY

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GRAVEL (rail spur bedding material)		NATIVE SOIL				
2.5	SC-SAND, some clay, little silt and gravel, hard, dry brown (NATIVE)		2" Ø WELL CASING	1SS		40	
	SP-SAND, fine to medium grained, dense, moist, brownish gray color (NATIVE)		BENTONITE	2SS		36	
5.0	- as above with trace of coarse grains		8" Ø BOREHOLE	3SS		30	
7.5				4SS		20	
10.0	- sand becomes wet - sand becomes saturated		SAND PACK	5SS		31	
12.5				6SS		21	
15.0	SW-SAND, fine to coarse grained, trace of gravel, gray, saturated (NATIVE)		JOHNSON CHANNEL PACK WELL SCREEN	7SS		3	
17.5	- 3" seam with some clay			8SS		20	
20.0	END OF HOLE @ 19.0ft BGS						
22.5							



SCREEN DETAILS
Screened Interval:
7.0 to 17.0ft BGS
Length: 10.0ft
Diameter: 2"
Slot Size: #8
Material: PVC
Sand Pack:
5.0 to 19.0ft BGS
Material: Sand #30

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▼ STATIC WATER LEVEL ▼

F

APPENDIX F

DATA VALIDATION MEMORANDA

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631

TELEPHONE: (773) 380-9999
FACSIMILE: (773) 380-6421

MEMORANDUM

TO: Bruce Clegg REF. NO.: 13307

C.C.: Steve Wanner

FROM: Steve Day/lo/2 DATE: July 6, 1999

RE: **Data Quality Assessment and Validation for the Soil Samples Collected from the Caterpillar Inc. Facility in Mapleton, Illinois**

The following details an analytical data quality assessment and validation for the soil samples collected from the Caterpillar Inc. Facility in Mapleton, Illinois during December 1998 and February 1999. The samples identified in Table 1 were analyzed for polychlorinated biphenyls (PCBs) by Quanterra, Inc. of North Canton, Ohio. The samples were analyzed using Method 8082 from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW-846, 3rd Edition with Updates I through III, 1986). The quality assurance criteria used to assess the data were established by the method[1].

Holding Time Period

The holding time period for the analyses follows:

PCBs	- 14 days from sample collection to extraction - 40 days from extraction to completion of analysis

All samples were prepared and analyzed within the required holding time periods.

Method Blank Samples

Contamination of the samples contributed by laboratory conditions or procedures was monitored by the data from concurrent preparation and analysis of method blank samples. The method blank sample data were acceptable.

Surrogate Compound Analyses

Individual sample performance for the analyses was monitored by evaluating surrogate compound percent recovery data. Many samples required dilutions as a result of elevated PCB concentrations, and the surrogate compounds were diluted below the detectable range of the instrument. Qualification of the sample data in these instances was deemed unnecessary. The surrogate compound percent recovery data for the remaining samples were acceptable.

[1]Application of quality assurance criteria was consistent with the relevant criteria in "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-94/012, February 1994.

Duplicate Laboratory Control Sample Analyses

Duplicate laboratory control sample percent recovery and relative percent difference (RPD) data were examined to assess the accuracy and precision of the analyses. The Aroclor 1016 percent recovery and RPD data for one duplicate laboratory control sample set violated the acceptance criteria. As a result, the Aroclor 1016 data for sample S-120198-JH-029 should be qualified as estimated (J). The remaining duplicate laboratory control sample data were acceptable.

Compound Identification and Quantitation

The raw data for all samples were reviewed to ensure that the reported compounds were identified correctly. It was noted in the raw data package that the PCBs detected in many samples were degraded (weathered), and several samples likely contained more than one Aroclor. Identification of specific Aroclors in these cases is difficult and is based primarily on the judgement of the laboratory analyst. The analyst's interpretation of the reported Aroclors was deemed acceptable.

One sample from each laboratory report was recalculated from the raw data to ensure that the results were calculated correctly. The data reported by the laboratory for the selected samples were found to be correct.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision and are suitable for their intended use with the qualification noted.

Attachments

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
CATERPILLAR INC. FACILITY
MAPLETON, ILLINOIS

Sample ID	*Sample Location*	*Sample Depth (ft. BGS)* [1]
S-120198-JH-032	B-1	1.75/2.00
S-120198-JH-033	B-1	3.75/4.00
S-120198-JH-034	B-1	5.75/6.00
S-120198-JH-035	B-1	7.75/8.00
S-120198-JH-015	B-2	1.75/2.00
S-120198-JH-016	B-2	3.75/4.00
S-120198-JH-017	B-2	5.75/6.00
S-120198-JH-018	B-2	7.75/8.00
S-120198-JH-001	B-3	1.75/2.00
S-120198-JH-002	B-3	4.45/4.70
S-120198-JH-003	B-3	6.75/7.00
S-120198-JH-004	B-3	8.75/9.00
S-120198-JH-005	B-3	10.75/11.00
S-120198-JH-006	B-4	1.75/2.00
S-120198-JH-007	B-4	3.75/4.00
S-120198-JH-008	B-4	5.75/6.00
S-120198-JH-009	B-4	7.75/8.00
S-120198-JH-010	B-4	9.75/10.00
S-120198-JH-011	B-5	1.75/2.00
S-120198-JH-012	B-5	3.75/4.00
S-120198-JH-013	B-5	5.75/6.00
S-120198-JH-014	B-5	7.75/8.00
S-120198-JH-019	B-6	1.75/2.00
S-120198-JH-020	B-6	3.75/4.00
S-120198-JH-021	B-6	5.75/6.00
S-120198-JH-022	B-6	7.75/8.00
S-120198-JH-023	B-7	1.75/2.00
S-120198-JH-024	B-7	3.75/4.00
S-120198-JH-025	B-7	5.75/6.00
S-120198-JH-026	B-7	7.75/8.00

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
CATERPILLAR INC. FACILITY
MAPLETON, ILLINOIS

Sample ID	*Sample Location*	*Sample Depth (ft. BGS)* [1]
S-120198-JH-027	B-8	1.75/2.00
S-120198-JH-028	B-8	3.45/3.70
S-120198-JH-029	B-8	4.75/5.00
S-120198-JH-030	B-8	6.75/7.00
S-120198-JH-031	B-8	7.75/8.00
S-120298-JH-058	B-9	1.75/2.00
S-120298-JH-059	B-9	3.75/4.00
S-120298-JH-060	B-9	5.75/6.00
S-120298-JH-061	B-9	7.75/8.00
S-120298-JH-036	B-10	1.75/2.00
S-120298-JH-037	B-10	3.75/4.00
S-120298-JH-038	B-10	5.75/6.00
S-120298-JH-039	B-10	7.75/8.00
S-120298-JH-053	B-11	1.75/2.00
S-120298-JH-054	B-11	3.75/4.00
S-120298-JH-055	B-11	5.75/6.00
S-120298-JH-056	B-11	7.75/8.00
S-120298-JH-057	B-11	8.75/9.00
S-120298-JH-049	B-12	1.75/2.00
S-120298-JH-050	B-12	3.75/4.00
S-120298-JH-051	B-12	5.75/6.00
S-120298-JH-052	B-12	7.75/8.00
S-120298-JH-040	B-13	1.75/2.00
S-120298-JH-041	B-13	3.75/4.00
S-120298-JH-042	B-13	5.75/6.00
S-120298-JH-043	B-13	7.75/8.00
S-120298-JH-044	B-14	1.75/2.00
S-120298-JH-045	B-14	3.75/4.00
S-120298-JH-046	B-14	5.75/6.00
S-120298-JH-047	B-14	7.75/8.00
S-120298-JH-048	B-14	9.75/10.00

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
CATERPILLAR INC. FACILITY
MAPLETON, ILLINOIS

Sample ID	*Sample Location*	*Sample Depth (ft. BGS)* [1]
S-022399-JH-062	B-18	0.0/2.0
S-022399-JH-063	B-18	2.0/4.0
S-022399-JH-064	B-18	4.0/6.0
S-022399-JH-065	B-18	6.0/8.0
S-022399-JH-066	B-19	0.0/2.0
S-022399-JH-067	B-19	2.0/4.0
S-022399-JH-068	B-19	4.0/6.0
S-022399-JH-069	B-19	6.0/8.0
S-022399-JH-070	B-16	0.0/2.0
S-022399-JH-071	B-16	2.0/4.0
S-022399-JH-072	B-16	4.0/6.0
S-022399-JH-073	B-16	6.0/8.0
S-022399-JH-074	B-17	0.0/2.0
S-022399-JH-075	B-17	2.0/4.0
S-022399-JH-076	B-17	4.0/6.0
S-022399-JH-077	B-17	6.0/8.0
S-022399-JH-078	B-15	0.0/2.0
S-022399-JH-079	B-15	2.0/4.0
S-022399-JH-080	B-15	4.0/6.0
S-022399-JH-081	B-15	6.0/8.0

[1] ft. BGS - Feet below ground surface

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631

TELEPHONE: (773) 380-9933
FACSIMILE: (773) 380-6421

MEMORANDUM

TO: Steve Wanner

REF. NO.: 13307

FROM: Steve Castagneri/lo/5

DATE: December 16, 1999

RE: Data Quality Assessment and Validation for the Samples Collected from the Caterpillar Inc. facility in Mapleton, Illinois

The following details a data quality assessment and validation for the soil samples collected September 13, 1999 and September 14, 1999 from the Caterpillar Inc. facility in Mapleton, Illinois. The samples identified in Table 1 were analyzed for polychlorinated biphenyls (PCBs) by Quanterra Incorporated of North Canton, Ohio using method 8082 from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW-846, 3rd Edition). The quality assurance criteria used to assess the data were established by the methods[1].

Holding Time Periods

The holding time period follows:

PCBs
- 14 days from sample collection to extraction
- 40 days from extraction to completion of analysis

The samples were prepared and analyzed within the required holding time period.

Method Blank Samples

Contamination of samples contributed by laboratory conditions or procedures was monitored by the data from concurrent preparation and analysis of method blank samples. Target analytes were not detected in the method blank samples.

Surrogate Compound Analyses

Individual sample performance for the PCB analyses was monitored by assessing surrogate compound percent recovery data. The surrogate compound percent recovery data were acceptable.

Blank Spike Sample Analyses

Blank spike samples were analyzed to monitor the accuracy of the laboratory preparation and analysis methods. The LCS percent recovery acceptance criteria were met.

[1] Application of quality assurance criteria was consistent with the relevant criteria in "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-94/012, February 1994.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses

To assess the accuracy and precision of the analytical methods relative to the sample matrices, MS/MSD percent recoveries and relative percent differences (RPDs) were determined. The Aroclor 1016 MS/MSD percent recovery in one sample (S-091499-JH-126) exceeded the acceptance criteria. However, this Aroclor was not detected in the associated sample, and data qualification was deemed unnecessary.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision and are suitable for their intended use without qualification.

Attachments

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
CATERPILLAR MAPLETON SITE
MAPLETON, ILLINOIS

Sample ID

S-091399-JH-082
S-091399-JH-083
S-091399-JH-084
S-091399-JH-085
S-091399-JH-086
S-091399-JH-087
S-091399-JH-088
S-091399-JH-089
S-091499-JH-090
S-091499-JH-091
S-091499-JH-092
S-091499-JH-093
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S-091499-JH-095
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S-091499-JH-106
S-091499-JH-107
S-091499-JH-108
S-091499-JH-109
S-091499-JH-110
S-091499-JH-111
S-091499-JH-112
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S-091499-JH-136
S-091499-JH-137
S-091499-JH-138
S-091499-JH-139
S-091499-JH-140

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631

TELEPHONE: (773) 380-9933
FACSIMILE: (773) 380-6421

MEMORANDUM

TO: Steve Wanner

REF. NO.: 13307

FROM: Steve Castagneri/lo/6

DATE: February 1, 2000

C.C.: Steve Day

RE: **Data Quality Assessment and Validation for the Samples Collected from the Caterpillar Inc. facility in Mapleton, Illinois**

The following details a data quality assessment and validation for the water samples collected December 16, 1999 from the Caterpillar Inc. facility in Mapleton, Illinois. The samples identified as GW-121699-WP-001, GW-121699-WP-002 and GW-121699-WP-003 were analyzed for polychlorinated biphenyls (PCBs) by Quanterra Incorporated of North Canton, Ohio using method 8082 from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW-846, 3rd Edition). The quality assurance criteria used to assess the data were established by the methods[1].

Holding Time Period

The holding time period follows: PCBs, 7 days from sample collection to extraction, 40 days from extraction to completion of analysis. The samples were prepared and analyzed within the required holding time period.

Method Blank Samples

Contamination of samples contributed by laboratory conditions or procedures was monitored by the data from concurrent preparation and analysis of method blank samples. Target analytes were not detected in the method blank sample.

Surrogate Compound Analyses

Individual sample performance for the PCB analysis was monitored by assessing surrogate compound percent recovery data. The surrogate compound percent recovery data were acceptable.

Laboratory Control Sample Analyses

Laboratory control sample (LCS) analyses were performed to monitor the accuracy of the laboratory preparation and analysis methods. The LCS percent recovery acceptance criteria were met.

[1] Application of quality assurance criteria was consistent with the relevant criteria in "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-94/012, February 1994.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Sample Analyses

To assess the accuracy and precision of the analytical methods relative to the sample matrices, MS/MSD percent recoveries and relative percent differences (RPDs) were determined. The MS/MSD percent recovery and RPD acceptance criteria were met.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision and are suitable for their intended use without qualification.

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631

TELEPHONE: (773) 380-9933
FACSIMILE: (773) 380-6421

MEMORANDUM

TO: Steve Wanner

REF. NO.: 13307

FROM: Steve Castagneri/lo/7

DATE: January 31, 2000

C.C.: Steve Day

RE: **Data Quality Assessment and Validation for the Samples Collected from the Caterpillar Inc. facility in Mapleton, Illinois**

The following details a data quality assessment and validation for the water sample collected January 6, 2000 from the Caterpillar Inc. facility in Mapleton, Illinois. The sample identified as GW-010600-JH-001 was analyzed for polychlorinated biphenyls (PCBs) by Quanterra Incorporated of North Canton, Ohio using method 8082 from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW-846, 3rd Edition). The quality assurance criteria used to assess the data were established by the method[1].

Holding Time Period

The holding time period follows: PCBs, 7 days from sample collection to extraction, 40 days from extraction to completion of analysis. The sample was prepared and analyzed within the required holding time period.

Method Blank Samples

Contamination of samples contributed by laboratory conditions or procedures was monitored by the data from concurrent preparation and analysis of method blank samples. Target analytes were not detected in the method blank sample.

Surrogate Compound Analyses

Individual sample performance for the PCB analysis was monitored by assessing surrogate compound percent recovery data. The surrogate compound percent recovery data were acceptable.

Laboratory Control Sample Analyses

Laboratory control sample (LCS) analyses were performed to monitor the accuracy of the laboratory preparation and analysis methods. The LCS percent recovery acceptance criteria were met.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision and are suitable for their intended use without qualification.

[1] Application of quality assurance criteria was consistent with the relevant criteria in "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-94/012, February 1994.

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631

TELEPHONE: (773) 380-9933
FACSIMILE: (773) 380-6421

MEMORANDUM

TO: Steve Wanner

REF. NO.: 13307

FROM: Steve Castagneri/lo/9

DATE: March 10, 2000

C.C.: Steve Day

RE: **Data Quality Assessment and Validation for the Soil Samples Collected from the Caterpillar Inc. Facility in Mapleton, Illinois**

The following details a data quality assessment and validation for the soil samples collected February 11, 2000 from the Caterpillar Inc. facility in Mapleton, Illinois. The samples identified in Table 1 were analyzed for polychlorinated biphenyls (PCBs) and a select list of metals (arsenic, barium, cadmium, chromium, lead, selenium) by Severn Trent Laboratories (formerly Quanterra Incorporated) of North Canton, Ohio. The methods used to analyze the samples were 8082 (PCBs) and 6010B (metals) from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW-846, 3rd Edition). The quality assurance criteria used to assess the data were established by the methods[1].

Holding Time Periods

The holding time periods follow:

PCBs - -14 days from sample collection to extraction;
-40 days from extraction to completion of analysis

Metals - -180 days from sample collection to completion of analysis

The samples were prepared and analyzed within the required holding time periods.

Method Blank Samples

Contamination of samples contributed by laboratory conditions or procedures was monitored by the data from concurrent preparation and analysis of method blank samples. Target analytes were not detected in the method blank samples.

Surrogate Compound Analyses

Individual sample performance for the PCB analyses was monitored by assessing surrogate compound percent recovery data. The surrogate compound percent recovery data were acceptable.

[1] Application of quality assurance criteria was consistent with the relevant criteria in "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-94/012, February 1994 and "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", EPA-540/R-94-013, February 1994.

Laboratory Control Sample Analyses - Metals

Laboratory control sample (LCS) analyses were performed to monitor the accuracy of the laboratory preparation and analysis methods. The LCS percent recovery acceptance criteria were met.

Duplicate Laboratory Control Sample Analyses - PCBs

To assess the accuracy and precision of the laboratory preparation and analysis methods for the PCB analyses, duplicate LCS percent recoveries and relative percent differences (RPDs) were determined. The duplicate LCS percent recovery and RPD data were acceptable.

Overall Assessment

The data were found to exhibit acceptable levels of precision and accuracy and are suitable for their intended use without qualification.

Attachment

TABLE 1

SAMPLE IDENTIFICATION NUMBERS
CATERPILLAR INC. FACILITY
MAPLETON, ILLINOIS

Sample ID
S-021100-JH-001
S-021100-JH-002
S-021100-JH-003
S-021100-JH-004
S-021100-JH-005
S-021100-JH-006
S-021100-JH-007
S-021100-JH-008
S-021100-JH-009
S-021100-JH-010

APPENDIX G

LABORATORY REPORTS -- CRA INVESTIGATIVE SAMPLES

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 13307

CATERPILLAR

Lot #: A8L020132

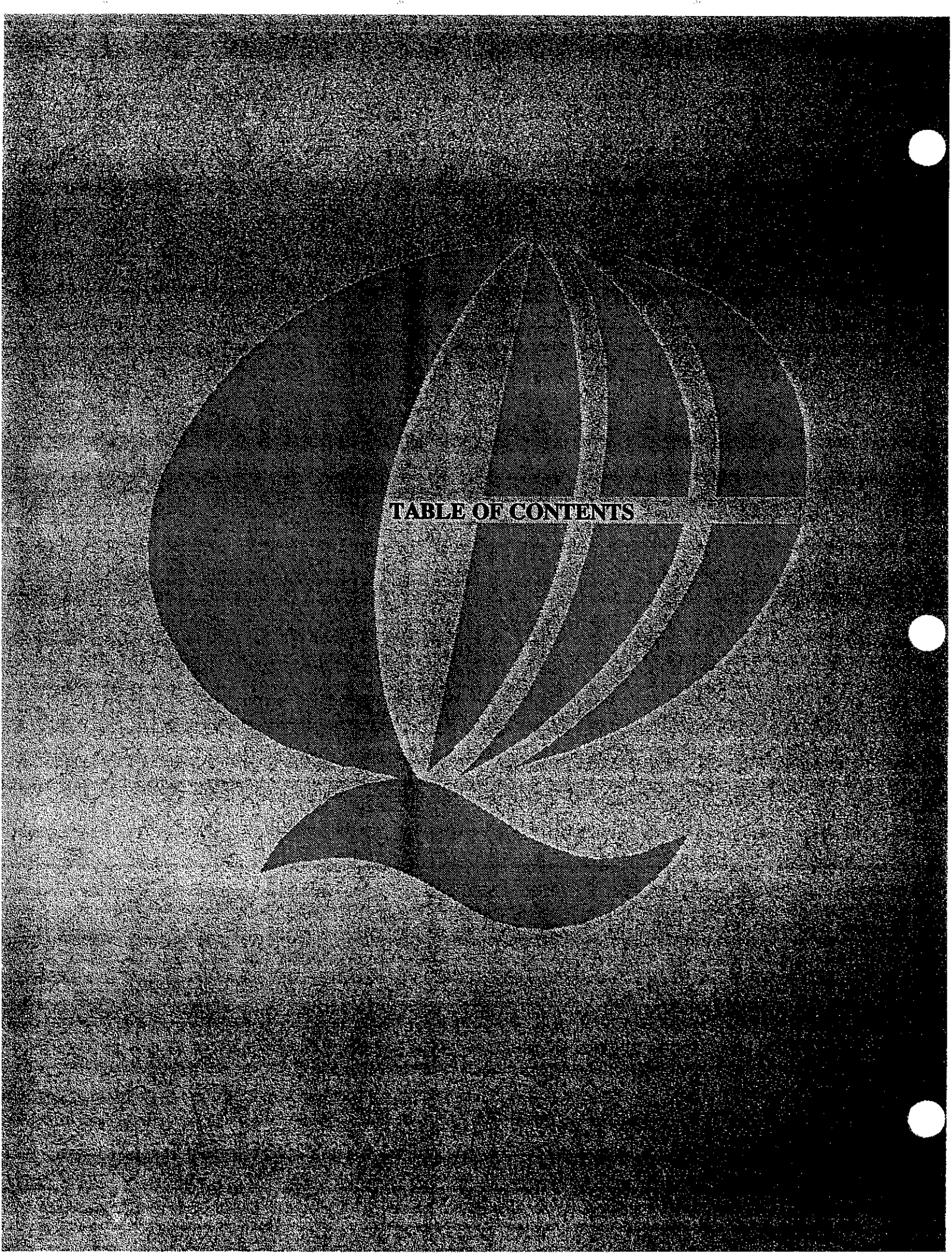
Steve Day

Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick
Project Manager

December 24, 1998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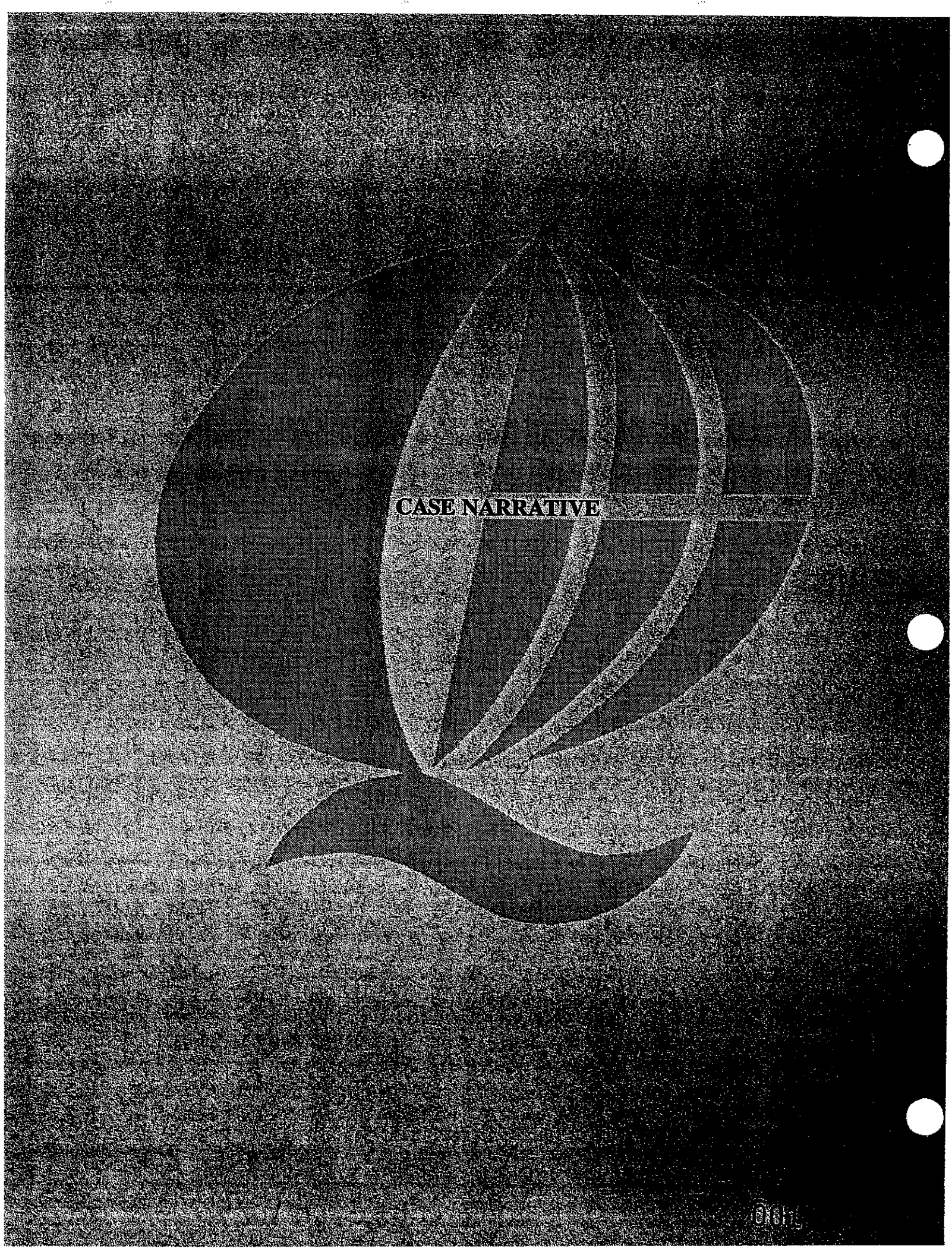
Polychlorinated Biphenyls QC Summary Data
Polychlorinated Biphenyls Sample Data
Polychlorinated Biphenyls Standard Data
Polychlorinated Biphenyls Raw QC Data
Polychlorinated Biphenyls Instrument Log Sheets
Polychlorinated Biphenyls Organic Extraction Log Sheets

General Chemistry Log sheets

Cooler Receipt Form
Internal Chain-of-Custody
Chain-of-Custody


CASE NARRATIVE

CASE NARRATIVE

The following report contains the analytical results for thirty-five solid samples submitted to Quanterra-North Canton by Conestoga-Rovers & Associates, Inc. from the Caterpillar Site, project number 13307. The samples were received December 2, 1998, according to documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Results were provided by facsimile transmission to Steve Day on December 18 and to Steve Wanner on December 22 and 23, 1998. A summary of QC data for these analyses is included at the rear of the report.

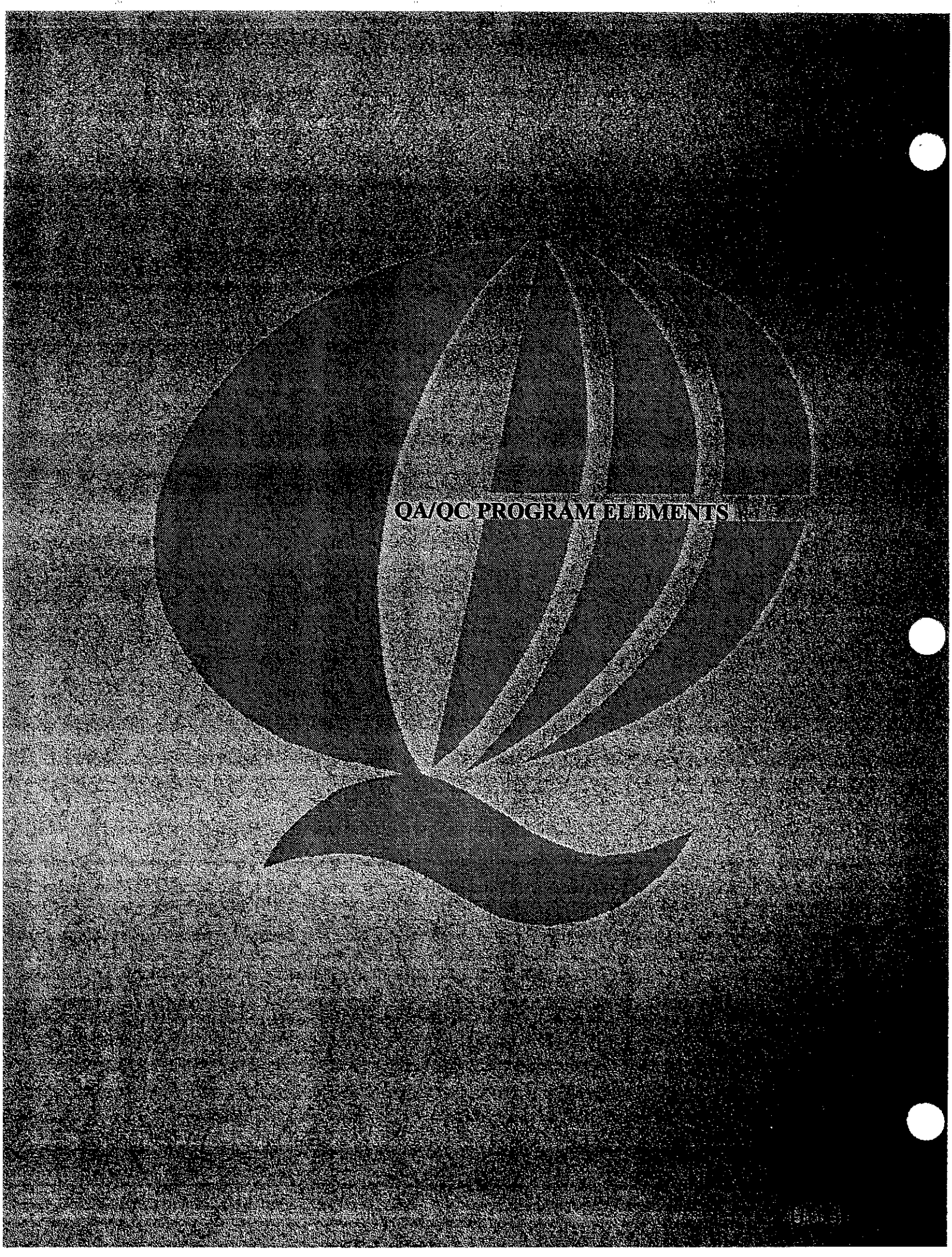
The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

Supplemental QC Information

GC Semivolatiles

The laboratory control sample/laboratory control sample duplicate associated with batch 8336232 exhibited percent recoveries and relative percent difference (RPD) data outside acceptance limits. Insufficient sample volume was available to perform requested matrix spikes/matrix spike duplicates or corrective action.

Sample JH-033 had elevated reporting limits due to matrix interference.


QA/QC PROGRAM ELEMENTS

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

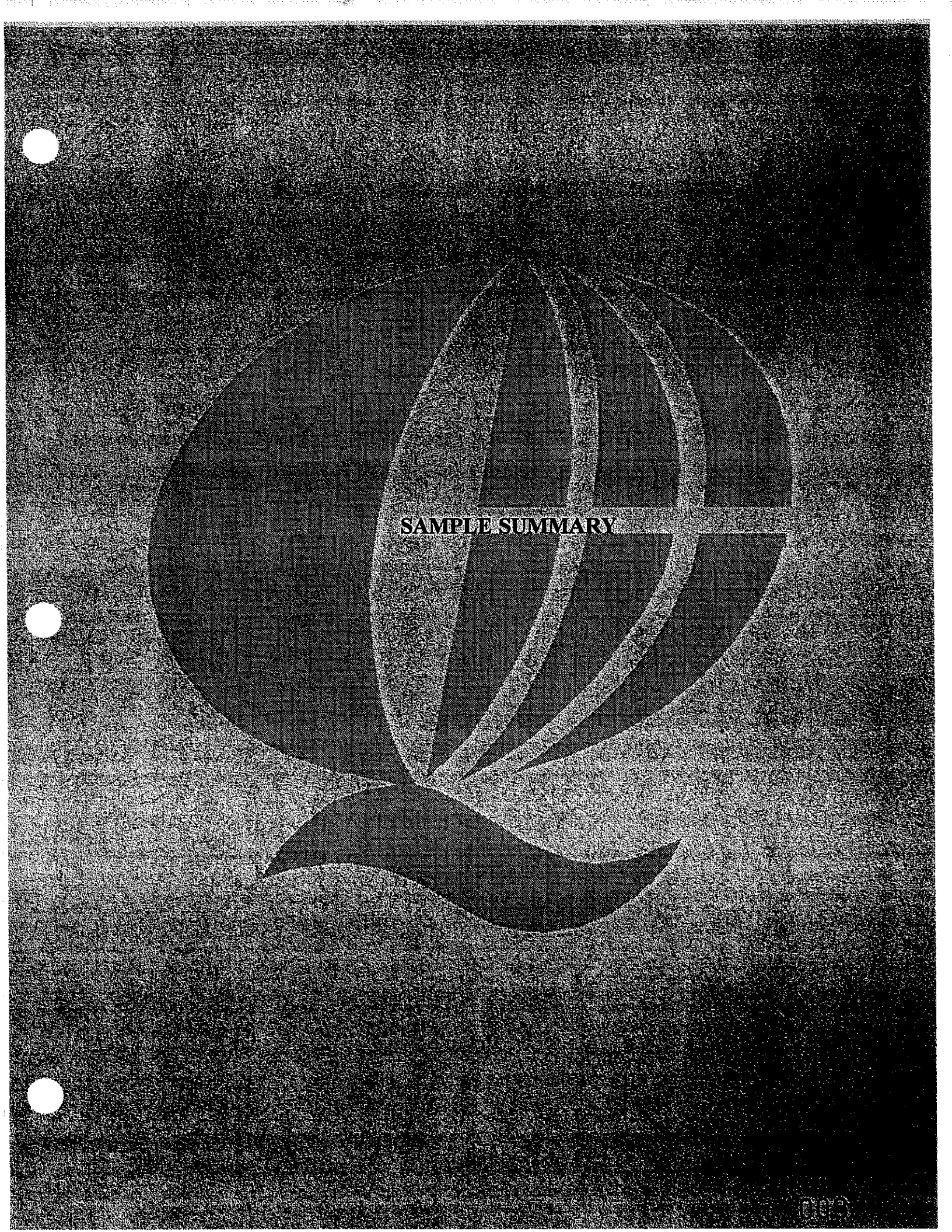
In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.


SAMPLE SUMMARY

SAMPLE SUMMARY

A8L020132

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CNW60	001	S-120198-JH-001	12/01/98	
CNW64	002	S-120198-JH-002	12/01/98	
CNW65	003	S-120198-JH-003	12/01/98	
CNW66	004	S-120198-JH-004	12/01/98	
CNW67	005	S-120198-JH-005	12/01/98	
CNW68	006	S-120198-JH-006	12/01/98	
CNW69	007	S-120198-JH-007	12/01/98	
CNW6A	008	S-120198-JH-008	12/01/98	
CNW6C	009	S-120198-JH-009	12/01/98	
CNW6D	010	S-120198-JH-010	12/01/98	
CNW6E	011	S-120198-JH-011	12/01/98	
CNW6F	012	S-120198-JH-012	12/01/98	
CNW6G	013	S-120198-JH-013	12/01/98	
CNW6H	014	S-120198-JH-014	12/01/98	
CNW6J	015	S-120198-JH-015	12/01/98	
CNW6L	016	S-120198-JH-016	12/01/98	
CNW6M	017	S-120198-JH-017	12/01/98	
CNW6N	018	S-120198-JH-018	12/01/98	
CNW6P	019	S-120198-JH-019	12/01/98	
CNW6Q	020	S-120198-JH-020	12/01/98	
CNW6R	021	S-120198-JH-021	12/01/98	
CNW6T	022	S-120198-JH-022	12/01/98	
CNW6V	023	S-120198-JH-023	12/01/98	
CNW6W	024	S-120198-JH-024	12/01/98	
CNW6X	025	S-120198-JH-025	12/01/98	
CNW71	026	S-120198-JH-026	12/01/98	
CNW73	027	S-120198-JH-027	12/01/98	
CNW74	028	S-120198-JH-028	12/01/98	
CNW76	029	S-120198-JH-029	12/01/98	
CNW78	030	S-120198-JH-030	12/01/98	
CNW7A	031	S-120198-JH-031	12/01/98	
CNW7C	032	S-120198-JH-032	12/01/98	
CNW7E	033	S-120198-JH-033	12/01/98	
CNW7G	034	S-120198-JH-034	12/01/98	
CNW7H	035	S-120198-JH-035	12/01/98	

(Continued on next page)

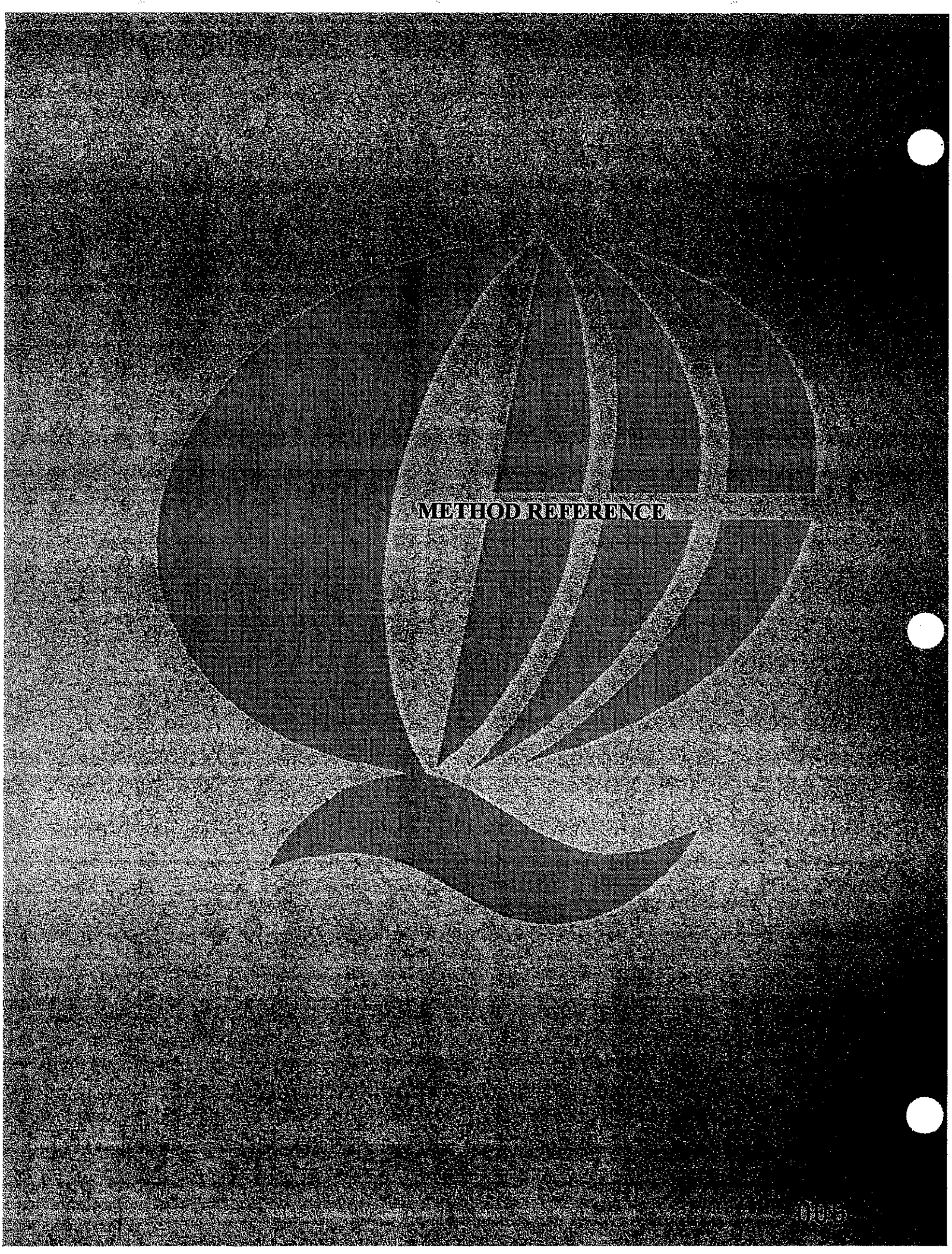
SAMPLE SUMMARY

A8L020132

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.


METHOD REFERENCE

ANALYTICAL METHODS SUMMARY

A8L020132

PARAMETER	ANALYTICAL METHOD
PCBs	SW846 8082
Total Residue as Percent Solids	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

POLYCHLORINATED BIPHENYLS
QC SUMMARY DATA

SW846 8082 SURROGATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN QESSDG:

Lot #: A8L020132

	CLIENT ID.	SRG01	SRG02	TOT OUT
01	S-120198-JH-008	77	79	00
02	S-120198-JH-009	104D	112D	00
03	S-120198-JH-010	81	93	00
04	S-120198-JH-011	88	93	00
05	S-120198-JH-012	100D	402D	01
06	S-120198-JH-013	109D	127D	00
07	S-120198-JH-014	408D	135D	01
08	S-120198-JH-015	95	108	00
09	S-120198-JH-016	55	108	00
10	S-120198-JH-017	201D	117D	02
11	S-120198-JH-018	56 D	131D	00
12	S-120198-JH-019	114D	143D	01
13	S-120198-JH-020	102D	136D	00
14	S-120198-JH-021	105D	227D	01
15	S-120198-JH-022	186D	122D	01
16	120198-JH-023	189D	313D	02
17	120198-JH-024	892D	154D	02
18	S-120198-JH-025	256D	113D	01
19	S-120198-JH-001	104D	226D	01
20	S-120198-JH-002	90 D	125D	00
21	S-120198-JH-003	91	110	00
22	S-120198-JH-004	45	106	00
23	S-120198-JH-005	81	92	00
24	S-120198-JH-006	204D	218D	02
25	S-120198-JH-007	93	99	00
26	S-120198-JH-031	104D	143D	02
27	S-120198-JH-032	106D	117D	00

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8082 SURROGATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN QESSDG:

Lot #: A8L020132

	CLIENT ID.	SRG01	SRG02	TOT OUT
01	S-120198-JH-033	88 D	105D	00
02	S-120198-JH-034	229D	146D	02
03	S-120198-JH-035	132D	147D	02
04	S-120198-JH-026	208D	0.0D	02
05	S-120198-JH-027	86 D	181D	01
06	S-120198-JH-028	136D	155D	02
07	S-120198-JH-029	119D	0.0D	02
08	S-120198-JH-030	233D	155D	02
09	METHOD BLK. CNWD6101	79	96	00
10	METHOD BLK. CP07R101	89	94	00
11	LCS CNWD6103	55	77	00
12	LCS CP07R102	94	107	00
13	LCSD CNWD6104	93	103	00
14	LCSD CP07R103	86	92	00

SURROGATES		QC LIMITS
SRG01	= Tetrachloro-m-xylene	(10-129)
SRG02	= Decachlorobiphenyl	(10-138)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8082 CHECK SAMPLE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

La. ode: QESCAN SDG No:

Lot #: A8L020000 WO #: CNWD6103
BATCH: 8336232

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1260	330	200	59	59 - 129	
Aroclor 1016	330	130	40*	60 - 133	a

NOTES(S):

a Spiked analyte recovery is outside stated control limits.

* Values outside of QC limits

Spike Recovery: 1 out of 2 outside limits

COMMENTS:

FORM III

SW846 8082 CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L020000 WO #: CNWD6104
BATCH: 8336232

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	280	83	60 - 133	p
Aroclor 1260	330	300	90	59 - 129	p

NOTES (S):

p Relative percent difference (RPD) is outside stated control limits.

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 CHECK SAMPLE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L040000 WO #: CP07R102
BATCH: 8338112

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	270	81	60 - 133	
Aroclor 1260	330	310	92	59 - 129	

NOTES(S):

* Values outside of QC limits

Surrogate Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L040000 WO #: CP07R103
BATCH: 8338112

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	260	77	60 - 133	
Aroclor 1260	330	280	84	59 - 129	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 METHOD BLANK SUMMARY

BLANK WORKORDER NO.: CNWD6101

Lab Name: QUANTERRA

Lab Code: QESCAN

SDG Number:

Lab File ID: 096f0101.

Lot Number: A8L020132

Matrix: SOLID

Extraction Method: 3550

Date Extracted: 12/03/98

Date Analyzed(1): 12/19/98

Date Analyzed(2): N/A

Time Analyzed(1): 00:34

Time Analyzed(2): N/A

Instrument ID(1): K

Instrument ID(2): N/A

GC Column(1): N/A ID: N/A GC Column(2): N/A ID: N/A

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

	CLIENT ID.	SAMPLE WORK ORDER #	DATE ANALYZED(1)	DATE ANALYZED(2)
01	CHECK SAMPLE	CNWD6103 C	12/22/98	N/A
02	DUPLICATE CHECK	CNWD6104 L	12/19/98	N/A
03	120198-JH-008	CNW6A101	12/18/98	N/A
04	S-120198-JH-009	CNW6C101	12/18/98	N/A
05	S-120198-JH-010	CNW6D101	12/18/98	N/A
06	S-120198-JH-011	CNW6E101	12/18/98	N/A
07	S-120198-JH-012	CNW6F101	12/18/98	N/A
08	S-120198-JH-013	CNW6G101	12/18/98	N/A
09	S-120198-JH-015	CNW6J101	12/18/98	N/A
10	S-120198-JH-016	CNW6L101	12/18/98	N/A
11	S-120198-JH-017	CNW6M101	12/21/98	N/A
12	S-120198-JH-018	CNW6N101	12/18/98	N/A
13	S-120198-JH-019	CNW6P101	12/18/98	N/A
14	S-120198-JH-020	CNW6Q101	12/18/98	N/A
15	S-120198-JH-021	CNW6R101	12/19/98	N/A
16	S-120198-JH-001	CNW60101	12/18/98	N/A
17	S-120198-JH-002	CNW64101	12/18/98	N/A
18	S-120198-JH-003	CNW65101	12/18/98	N/A
19	S-120198-JH-004	CNW66101	12/18/98	N/A
20	S-120198-JH-005	CNW67101	12/18/98	N/A
21	S-120198-JH-006	CNW68101	12/18/98	N/A
22	S-120198-JH-007	CNW69101	12/18/98	N/A

COMMENTS:

SW846 8082 METHOD BLANK SUMMARY

BLANK WORKORDER NO.: CP07R101

Lab Name: QUANTERRA

Lab Code: QESCAN

SDG Number:

Lab File ID: 040f0101.

Lot Number: A8L020132

Matrix: SOLID

Extraction Method: 3550

Date Extracted: 12/04/98

Date Analyzed(1): 12/17/98

Date Analyzed(2): N/A

Time Analyzed(1): 08:20

Time Analyzed(2): N/A

Instrument ID(1): K

Instrument ID(2): N/A

GC Column(1): N/A ID: N/A GC Column(2): N/A ID: N/A

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

	CLIENT ID.	SAMPLE WORK ORDER #	DATE ANALYZED(1)	DATE ANALYZED(2)
01	S-120198-JH-014	CNW6H101	12/17/98	N/A
02	S-120198-JH-022	CNW6T101	12/17/98	N/A
03	S-120198-JH-023	CNW6V101	12/17/98	N/A
04	S-120198-JH-024	CNW6W101	12/17/98	N/A
05	S-120198-JH-025	CNW6X101	12/17/98	N/A
06	S-120198-JH-031	CNW7A101	12/17/98	N/A
07	S-120198-JH-032	CNW7C101	12/17/98	N/A
08	S-120198-JH-033	CNW7E101	12/17/98	N/A
09	S-120198-JH-034	CNW7G101	12/17/98	N/A
10	S-120198-JH-035	CNW7H101	12/17/98	N/A
11	S-120198-JH-026	CNW71101	12/17/98	N/A
12	S-120198-JH-027	CNW73101	12/17/98	N/A
13	S-120198-JH-028	CNW74101	12/17/98	N/A
14	S-120198-JH-029	CNW76101	12/17/98	N/A
15	S-120198-JH-030	CNW78101	12/17/98	N/A
16	CHECK SAMPLE	CP07R102 C	12/17/98	N/A
17	DUPLICATE CHECK	CP07R103 L	12/17/98	N/A
18				
19				
20				

COMMENTS:

POLYCHLORINATED BIPHENYLS SAMPLE DATA

CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 001

Sample WT/Vol: 30.02 / g
Work Order: CNW60101
Dilution factor: 10
Moisture %:6.8

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	350	U
11104-28-2	Aroclor 1221	350	U
11141-16-5	Aroclor 1232	350	U
53469-21-9	Aroclor 1242	350	U
12672-29-6	**Aroclor 1248**	**2400**	
11097-69-1	Aroclor 1254	350	U
11096-82-5	Aroclor 1260	350	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/070f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/070f0101.d
Lab Smp Id: CNW60101 Client Smp ID: S-120198-JH-001
Inj Date : 18-DEC-1998 15:28
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW60101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.020	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.272	4.270	0.002	3427	0.00209	6.960	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.802	4.800	0.002	4252	0.13722	457.1	80.00- 120.00	26.98(M)
	5.345	5.343	0.002	12595	0.23316	776.7	128.06- 213.44	79.91
	6.103	6.102	0.001	29795	0.35540	1184	204.62- 341.03	189.03
	6.438	6.440	-0.002	12611	0.36837	1227	83.61- 139.35	80.01
	6.637	6.638	-0.001	31738	0.89128	2969	84.31- 140.55	201.36
		Average of Peak Concentrations =				1323		
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.345	5.338	0.007	12595	0.52078	1735	80.00- 120.00	23.77(M)
	6.103	6.102	0.001	29795	0.73193	2438	137.72- 229.53	56.22
	7.042	7.042	0.000	45676	0.79871	2660	181.30- 302.17	86.18

pattern best fits 1248

Data File: /chem/can/gcs/a2hpk.i/81217a.b/070f0101.d
Report Date: 21-Dec-1998 10:29

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
9.023	9.025	-0.002	21692	0.65498	2182	108.43- 180.71	40.93
9.585	9.590	-0.005	13239	0.58849	1960	78.36- 130.60	24.98
		Average of Peak Concentrations =			2195		
$ 9 DCB					CAS #: 2051-24-3		
15.107	15.097	0.010	5971	0.00453	15.08	80.00- 120.00	100.00(R)

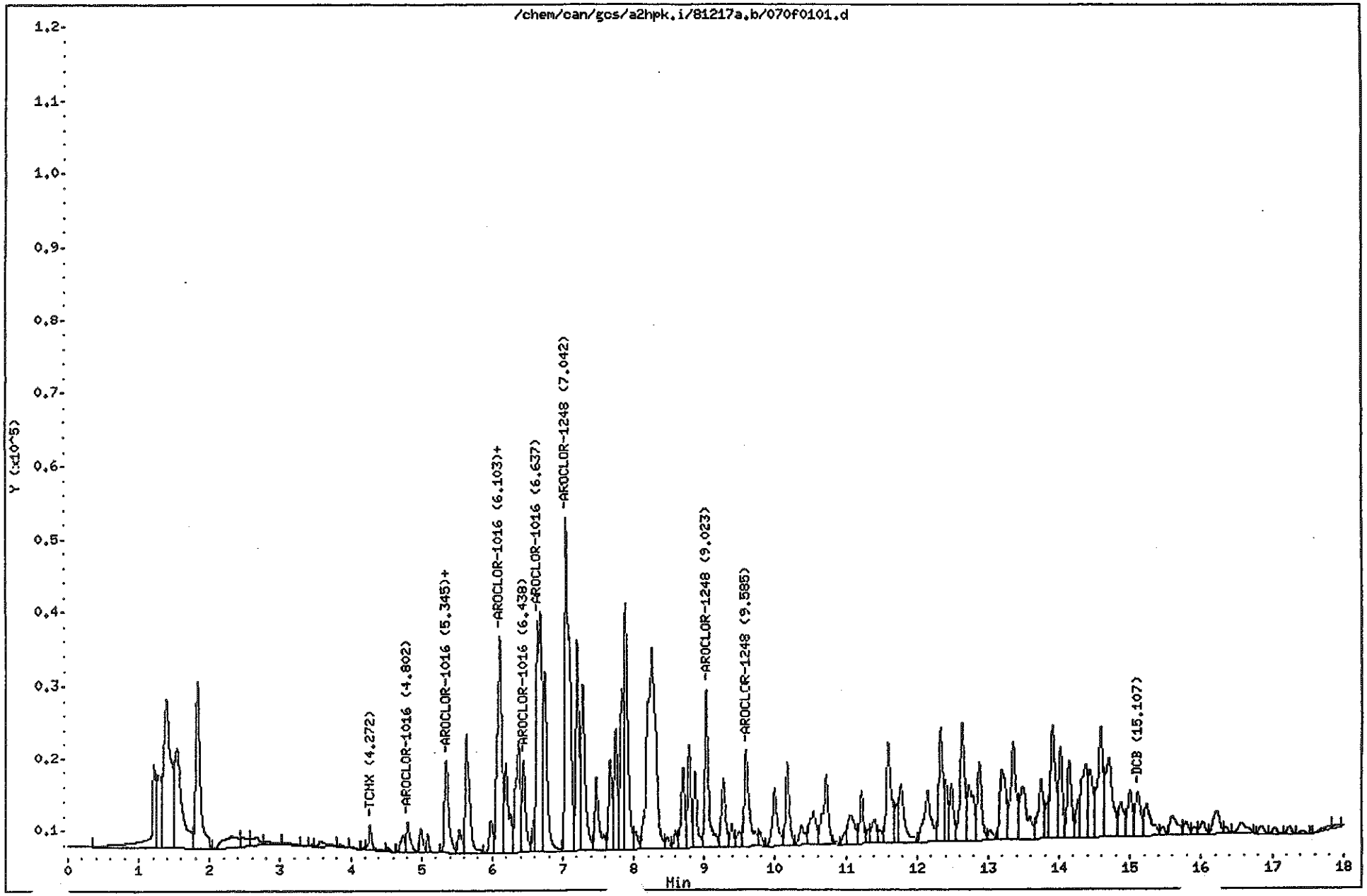
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/070f0101.d
Date : 18-DEC-1998 15:28
Client ID: S-120198-JH-001
Sample Info: CNW60101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

024



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 002

Sample WT/Vol: 30.02 / g
Work Order: CNW64101
Dilution factor: 10
Moisture %:11

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-002

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	370	U
11104-28-2	Aroclor 1221	370	U
11141-16-5	Aroclor 1232	370	U
53469-21-9	**Aroclor 1242**	**1800**	
12672-29-6	Aroclor 1248	370	U
11097-69-1	Aroclor 1254	370	U
11096-82-5	Aroclor 1260	370	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/071f0101.d
Report Date: 23-Dec-1998 12:19

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/071f0101.d
Lab Smp Id: CNW64101 Client Smp ID: S-120198-JH-002
Inj Date : 18-DEC-1998 15:49
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW64101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.020	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.270	4.270	0.000	2954	0.00180	6.000	80.00- 120.00	100.00
5 AROCLOR-1242					CAS #: 53469-21-9		
4.802	4.800	0.002	6941	0.26091	869.1	80.00- 120.00	26.73(M)
5.345	5.343	0.002	22449	0.50115	1669	122.23- 203.72	86.45
6.102	6.102	0.000	43677	0.65524	2183	193.45- 322.42	168.19
6.328	6.328	0.000	14717	0.39073	1302	108.22- 180.37	56.67
6.440	6.440	0.000	15377	0.57391	1912	79.59- 132.66	59.21
Average of Peak Concentrations =					1587		
6 AROCLOR-1248					CAS #: 12672-29-6		
5.345	5.338	0.007	22449	0.92823	3092	80.00- 120.00	24.23(M)
6.102	6.102	0.000	43677	1.07295	3574	137.72- 229.53	47.14
7.042	7.042	0.000	26695	0.46680	1555	181.30- 302.17	28.81

Data File: /chem/can/gcs/a2hpk.i/81217a.b/071f0101.d
Report Date: 23-Dec-1998 12:19

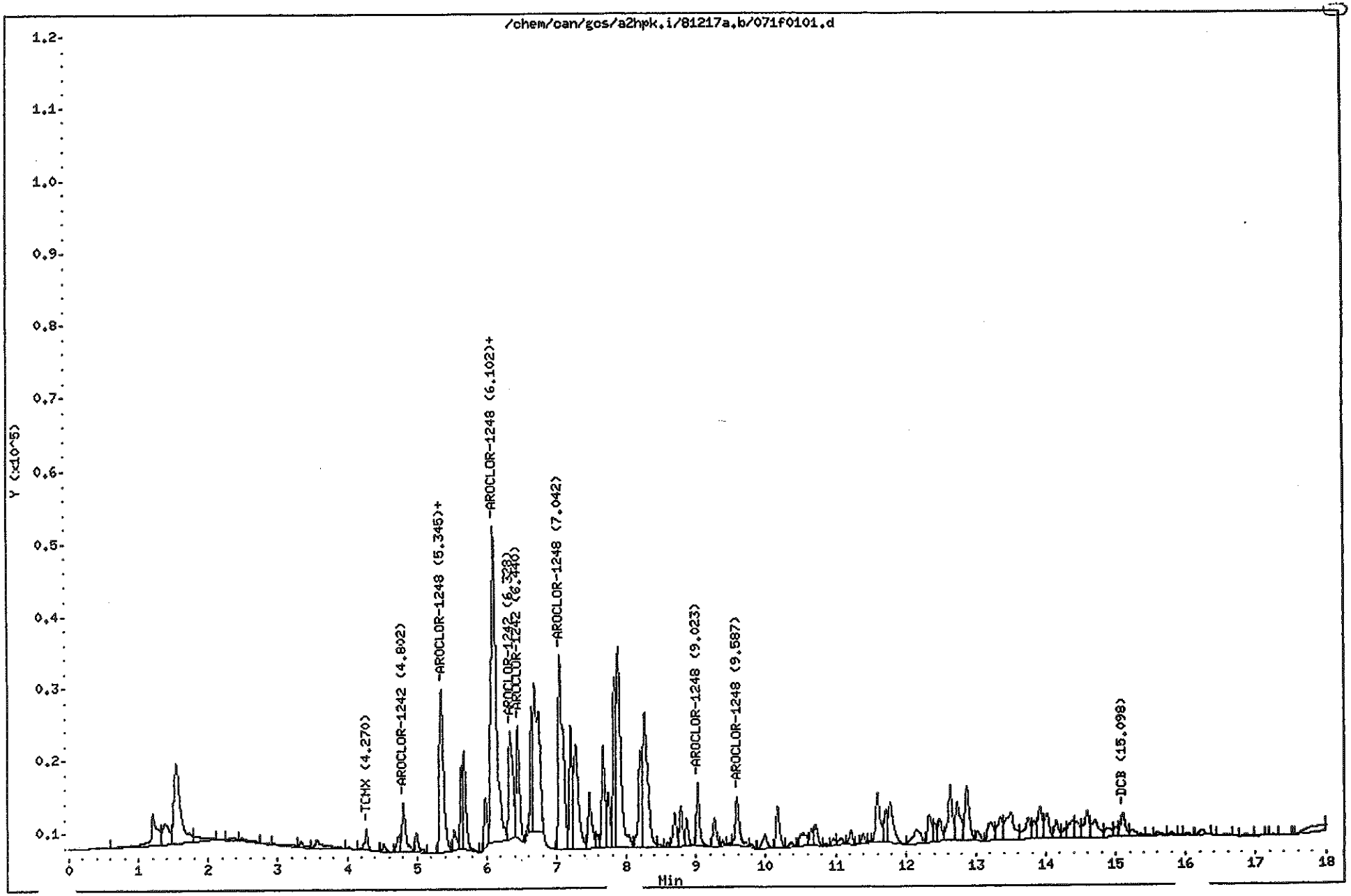
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
9.023	9.025	-0.002	8690	0.26239	874.0	108.43- 180.71	9.38
9.587	9.590	-0.003	6698	0.29773	991.8	78.36- 130.60	7.23
Average of Peak Concentrations =					2017		
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	3299	0.00250	8.334	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/071f0101.d
Date : 18-DEC-1998 15:49
Client ID: S-120198-JH-002
Sample Info: CNW64101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 003

Sample WT/Vol: 30.07 / g
Work Order: CNW65101
Dilution factor: 1
Moisture %:8.9

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-003

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	**Aroclor 1248**	**480**	
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/072f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/072f0101.d
Lab Smp Id: CNW65101 Client Smp ID: S-120198-JH-003
Inj Date : 18-DEC-1998 16:10
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW65101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.070	initial volume

					CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(	ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
4.270	4.270	0.000	29787		0.01816	6.040	80.00- 120.00	100.00
6 AROCLOR-1248						CAS #: 12672-29-6		
5.345	5.338	0.007	22073		0.91268	303.5	80.00- 120.00	23.64(M)
6.100	6.102	-0.002	69132		1.69827	564.8	137.72- 229.53	74.04
7.040	7.042	-0.002	68811		1.20326	400.2	181.30- 302.17	73.69
9.022	9.025	-0.003	41948		1.26660	421.2	108.43- 180.71	44.93
9.583	9.590	-0.007	33961		1.50960	502.0	78.36- 130.60	36.37
Average of Peak Concentrations =						438.3		
$ 9 DCB						CAS #: 2051-24-3		
15.098	15.097	0.001	29053		0.02203	7.328	80.00- 120.00	100.00

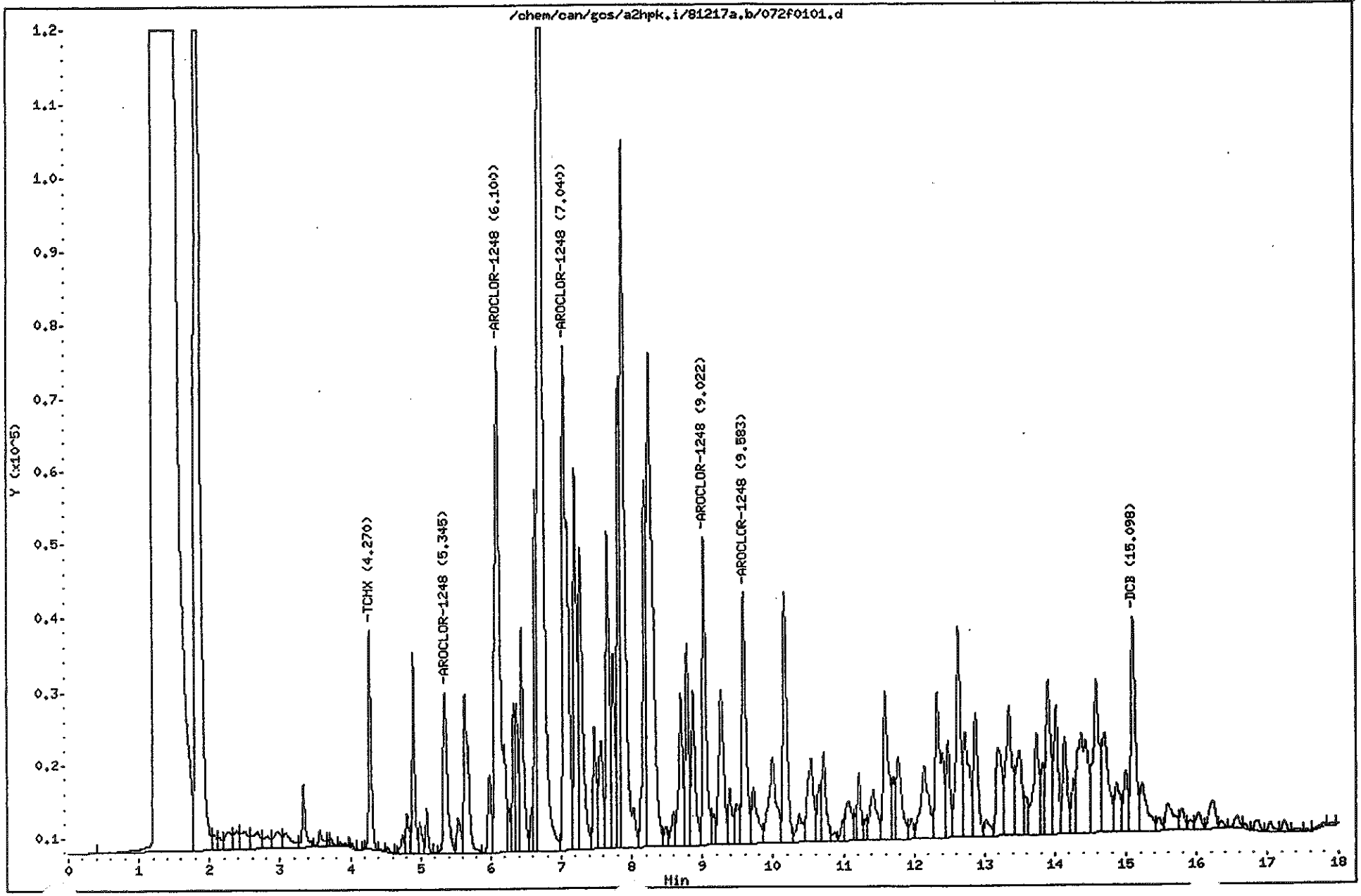
Data File: /chem/can/gcs/a2hpk.i/81217a.b/072f0101.d
Report Date: 21-Dec-1998 10:29

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/072f0101.d
Date : 18-DEC-1998 16:10
Client ID: S-120198-JH-003
Sample Info: CNW65101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 004

Sample WT/Vol: 30 / g
Work Order: CNW66101
Dilution factor: 1
Moisture %:2.3

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-004

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	34	U
11104-28-2	Aroclor 1221	34	U
11141-16-5	Aroclor 1232	34	U
53469-21-9	Aroclor 1242	34	U
12672-29-6	Aroclor 1248	34	U
11097-69-1	Aroclor 1254	34	U
11096-82-5	Aroclor 1260	34	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/073f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/073f0101.d
Lab Smp Id: CNW66101 Client Smp ID: S-120198-JH-004
Inj Date : 18-DEC-1998 16:31
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW66101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

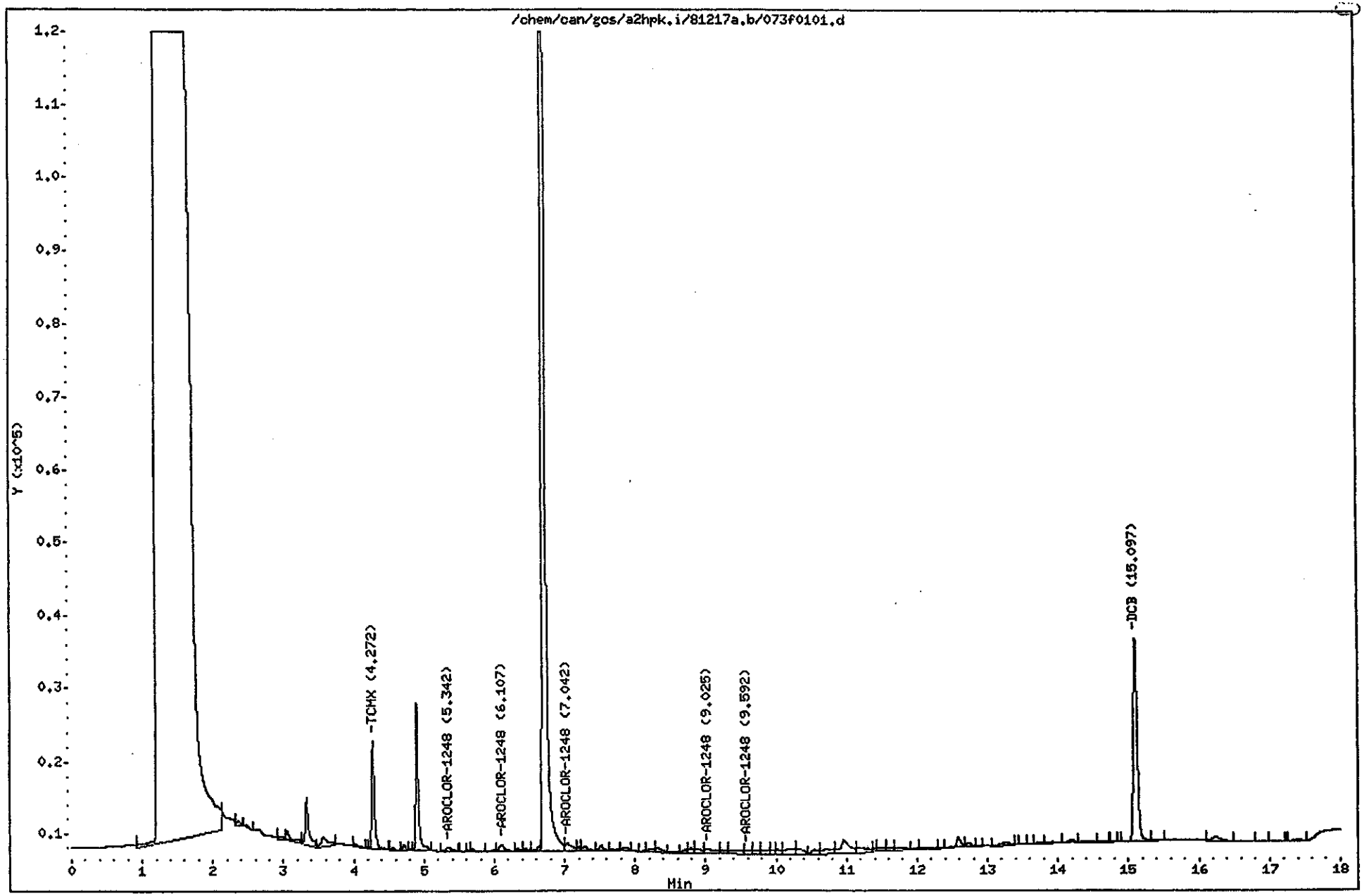
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL			
	RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1	TCMX						CAS #: 877-09-8	
	4.272	4.270	0.002	14869	0.00907	3.022	80.00- 120.00	100.00(R)
$ 9	DCB						CAS #: 2051-24-3	
	15.097	15.097	0.000	27893	0.02115	7.051	80.00- 120.00	100.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

File: /chem/can/gcs/a2hpk.i/81217a.b/073f0101.d
Date : 18-DEC-1998 16:31
Client ID: S-120198-JH-004
Instrument: a2hpk.i
Sample Info: CNW66101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 005

Sample WT/Vol: 30.17 / g
Work Order: CNW67101
Dilution factor: 1
Moisture %:24

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-005

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	43	U
11104-28-2	Aroclor 1221	43	U
11141-16-5	Aroclor 1232	43	U
53469-21-9	Aroclor 1242	43	U
12672-29-6	Aroclor 1248	43	U
11097-69-1	Aroclor 1254	43	U
11096-82-5	Aroclor 1260	43	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/074f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/074f0101.d
Lab Smp Id: CNW67101 Client Smp ID: S-120198-JH-005
Inj Date : 18-DEC-1998 16:52
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW67101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

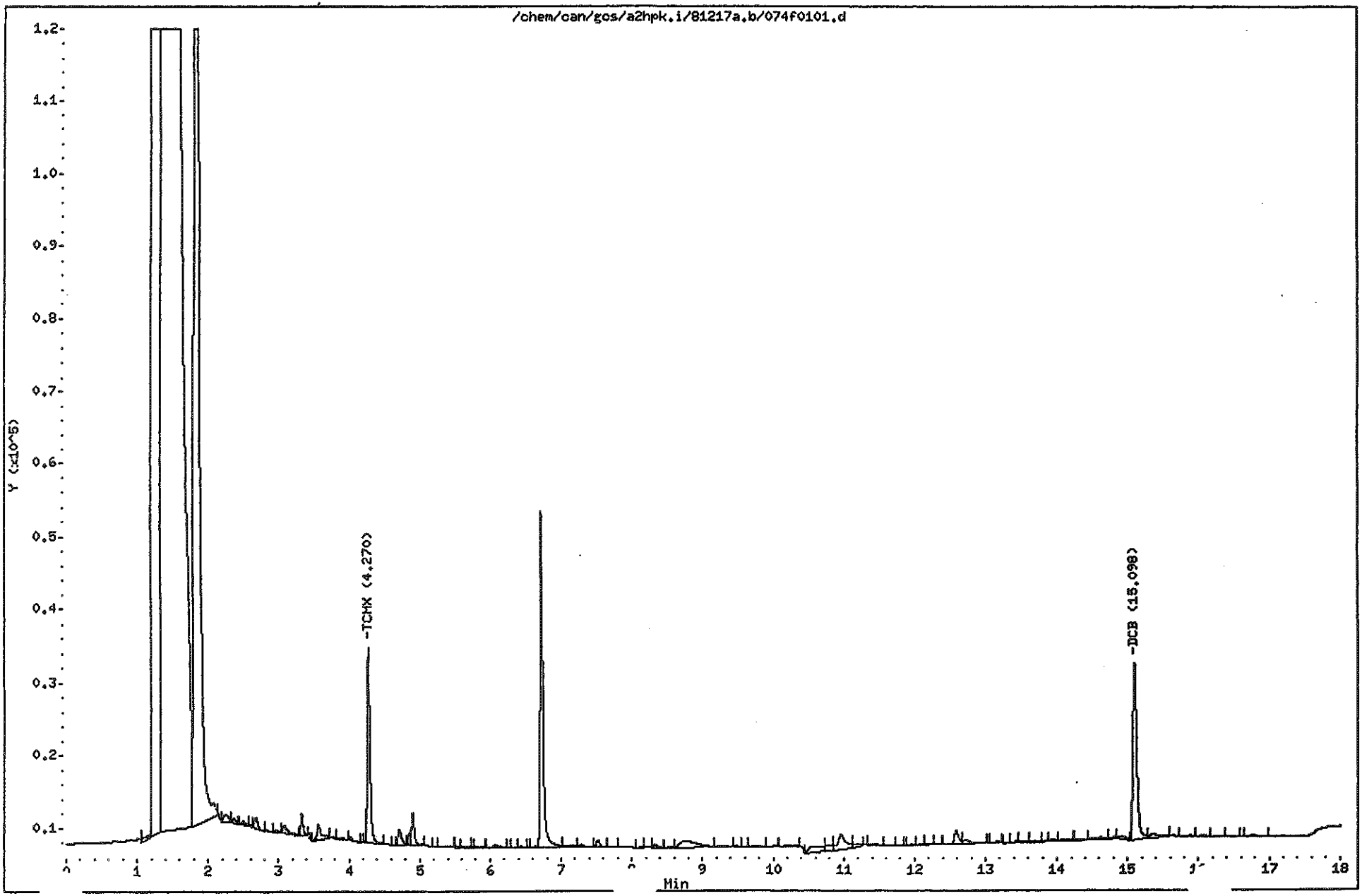
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.170	initial volume

				CONCENTRATIONS ON-COL	CONCENTRATIONS FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.270	4.270	0.000	26705	0.01628	5.397	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	24356	0.01847	6.123	80.00- 120.00	100.00

Data File: /chem/can/gos/a2hpk.i/81217a.b/074f0101.d
Date : 18-DEC-1998 16:52
Client ID: S-120198-JH-005
Instrument: a2hpk.i
Sample Info: CNW67101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32

035



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 006

Sample WT/Vol: 30.09 / g
Work Order: CNW68101
Dilution factor: 10
Moisture %:8.7

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-006

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	360	U
11104-28-2	Aroclor 1221	360	U
11141-16-5	Aroclor 1232	360	U
53469-21-9	**Aroclor 1242**	**3400**	
12672-29-6	Aroclor 1248	360	U
11097-69-1	Aroclor 1254	360	U
11096-82-5	Aroclor 1260	360	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/075f0101.d
Report Date: 23-Dec-1998 12:19

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/075f0101.d
Lab Smp Id: CNW68101 Client Smp ID: S-120198-JH-006
Inj Date : 18-DEC-1998 17:13
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW68101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.090	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	6689	0.00408	13.55	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.800	4.800	0.000	20822	0.78268	2601	80.00- 120.00	28.03(M)
	5.343	5.343	0.000	38940	0.86929	2889	122.23- 203.72	52.42
	6.100	6.102	-0.002	51756	0.77644	2580	193.45- 322.42	69.67
	6.325	6.328	-0.003	35886	0.95276	3166	108.22- 180.37	48.31
	6.437	6.440	-0.003	34239	1.27789	4247	79.59- 132.66	46.09
		Average of Peak Concentrations =				3097		
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.343	5.338	0.005	38940	1.61010	5351	80.00- 120.00	18.56(M)
	6.100	6.102	-0.002	51756	1.27142	4225	137.72- 229.53	24.67
	7.042	7.042	0.000	37634	0.65808	2187	181.30- 302.17	17.94

Data File: /chem/can/gcs/a2hpk.i/81217a.b/075f0101.d
Report Date: 23-Dec-1998 12:19

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
9.023	9.025	-0.002	10171	0.30711	1021	108.43- 180.71	4.85
9.577	9.590	-0.013	14026	0.62347	2072	78.36- 130.60	6.69
		Average of Peak Concentrations =			2971		
$ 9 DCB					CAS #: 2051-24-3		
15.110	15.097	0.013	5760	0.00437	14.52	80.00- 120.00	100.00(R)

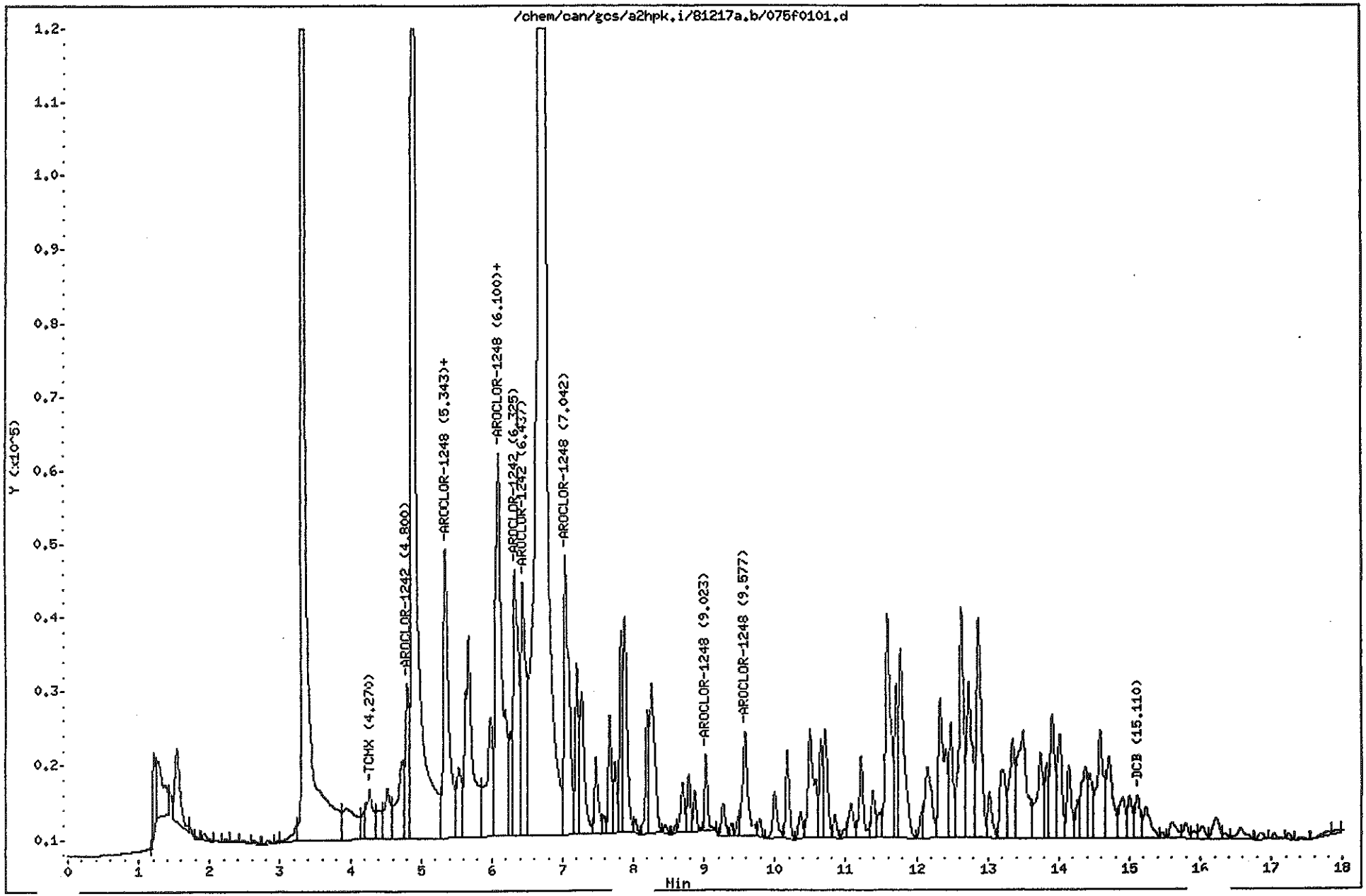
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/075f0101.d
Date : 18-DEC-1998 17:13
Client ID: S-120198-JH-006
Sample Info: CNW68101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

042



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 007

Sample WT/Vol: 30.18 / g
Work Order: CNW69101
Dilution factor: 1
Moisture %:8.2

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-007

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/076f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/076f0101.d
Lab Smp Id: CNW69101 Client Smp ID: S-120198-JH-007
Inj Date : 18-DEC-1998 17:34
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW69101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

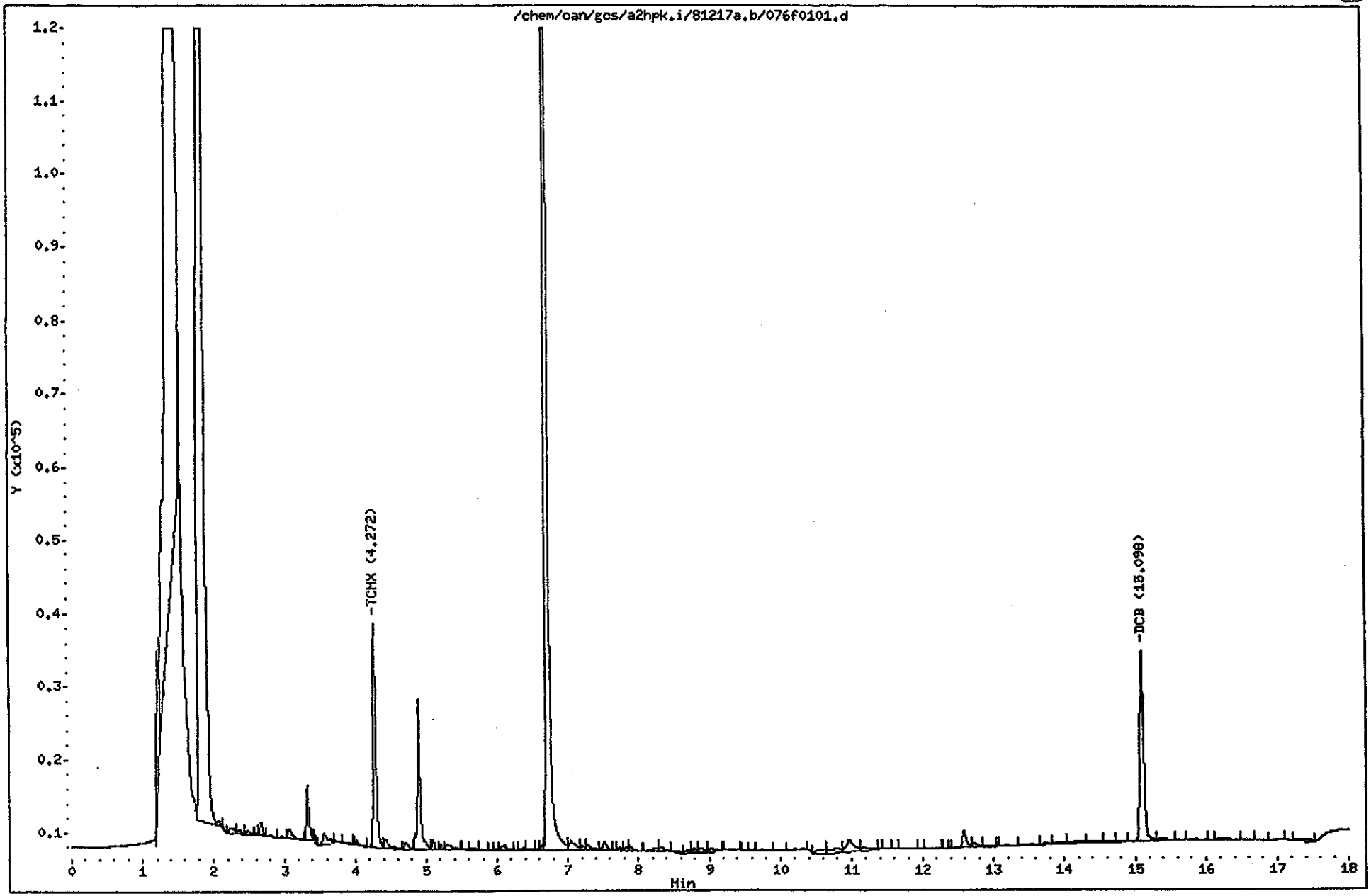
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.180	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	30552	0.01863	6.172	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	26195	0.01987	6.583	80.00- 120.00	100.00

File: /chem/oan/gcs/a2hpk.i/81217a.b/076f0101.d
Date : 18-DEC-1998 17:34
Client ID: S-120198-JH-007
Instrument: a2hpk.i
Sample Info: CNW69101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32

045



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 008

Sample WT/Vol: 30.16 / g
Work Order: CNW6A101
Dilution factor: 1
Moisture %:9.4

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-008

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/077f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

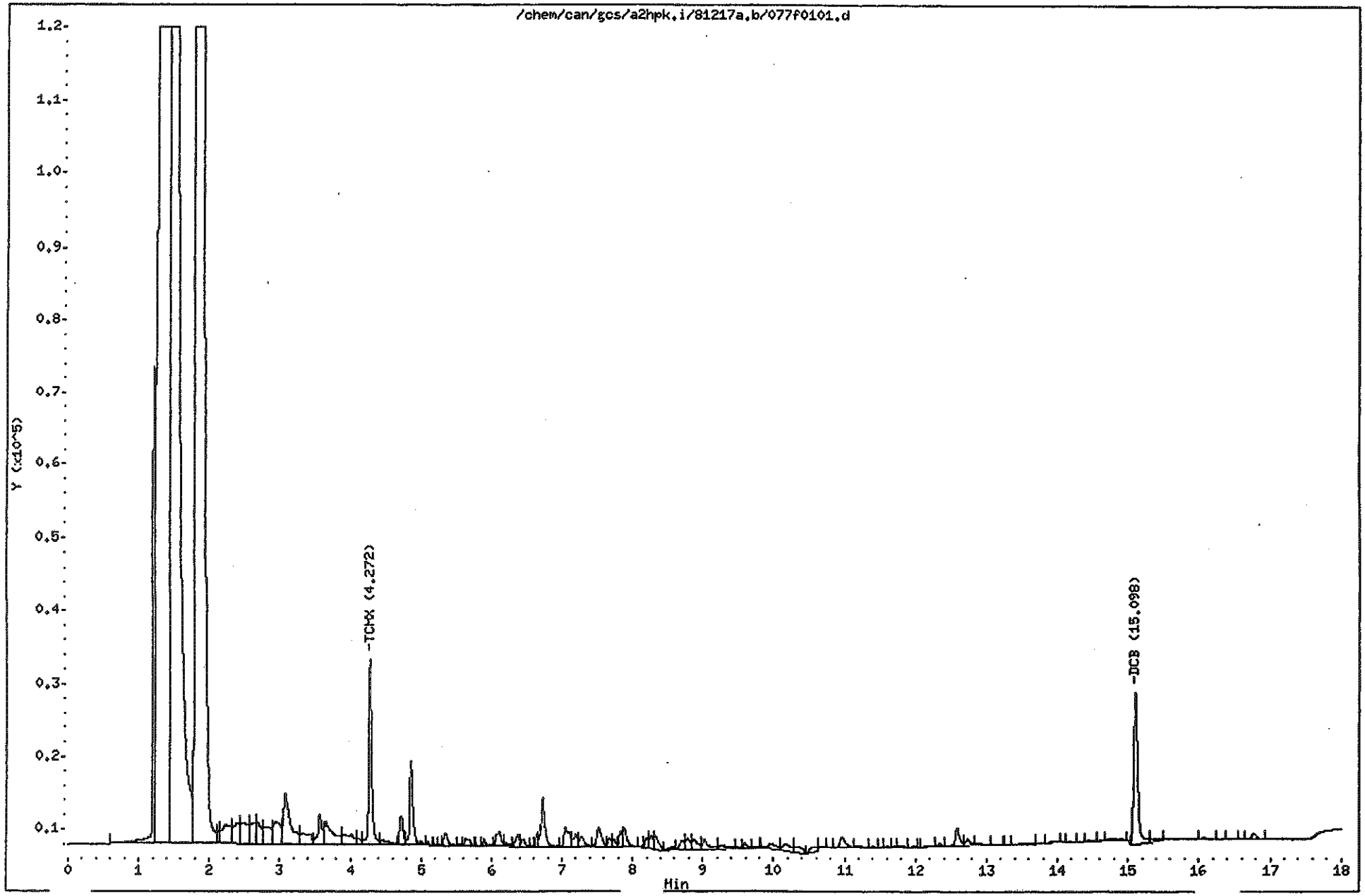
Data file : /chem/can/gcs/a2hpk.i/81217a.b/077f0101.d
Lab Smp Id: CNW6A101 Client Smp ID: S-120198-JH-008
Inj Date : 18-DEC-1998 17:55
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6A101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.160	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	25129	0.01532	5.080	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	20808	0.01578	5.232	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/077f0101.d
Date : 18-DEC-1998 17:55
Client ID: S-120198-JH-008
Instrument: a2hpk.i
Sample Info: CNW6A101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 009

Sample WT/Vol: 30.01 / g
Work Order: CNW6C101
Dilution factor: 10
Moisture %:8.3

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-009

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	360	U
11104-28-2	Aroclor 1221	360	U
11141-16-5	Aroclor 1232	360	U
53469-21-9	Aroclor 1242	360	U
12672-29-6	**Aroclor 1248**	**1200**	
11097-69-1	Aroclor 1254	360	U
11096-82-5	Aroclor 1260	360	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/078f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/078f0101.d
Lab Smp Id: CNW6C101 Client Smp ID: S-120198-JH-009
Inj Date : 18-DEC-1998 18:16
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6C101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.010	initial volume

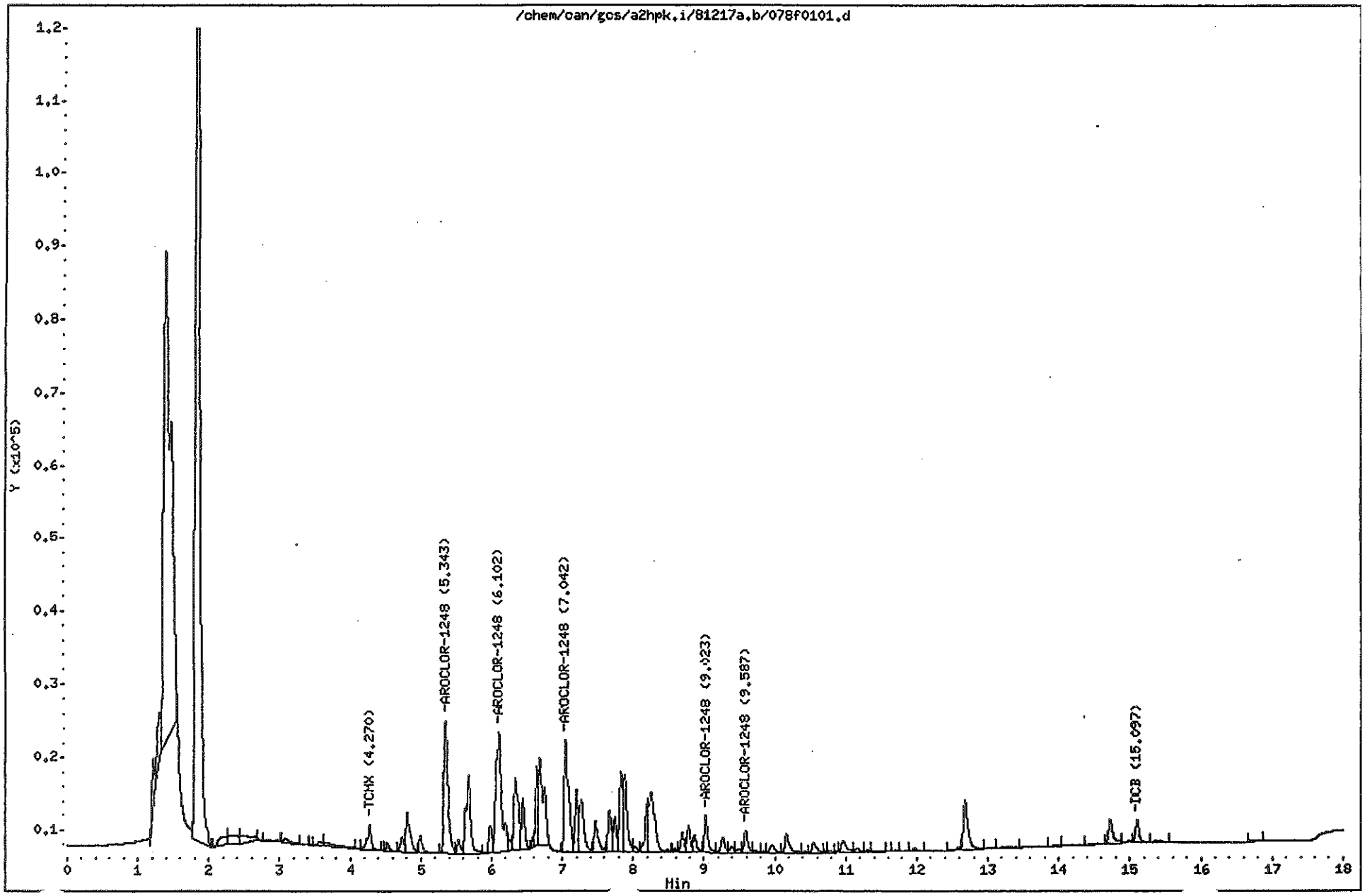
				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.270	4.270	0.000	3405	0.00208	6.918	80.00- 120.00	100.00
6 AROCLOR-1248					CAS #: 12672-29-6		
5.343	5.338	0.005	18197	0.75241	2507	80.00- 120.00	24.31(M)
6.102	6.102	0.000	16482	0.40489	1349	137.72- 229.53	22.02
7.042	7.042	0.000	15325	0.26798	893.0	181.30- 302.17	20.48
9.023	9.025	-0.002	5106	0.15417	513.7	108.43- 180.71	6.82
9.587	9.590	-0.003	3024	0.13442	447.9	78.36- 130.60	4.04
Average of Peak Concentrations =					1142		
$ 9 DCB					CAS #: 2051-24-3		
15.097	15.097	0.000	2952	0.00224	7.460	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/078f0101.d
Report Date: 21-Dec-1998 10:30

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/078f0101.d
Date : 18-DEC-1998 18:16
Client ID: S-120198-JH-009
Instrument: a2hpk.i
Sample Info: CNW6C101,10
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 010

Sample WT/Vol: 30.12 / g
Work Order: CNW6D101
Dilution factor: 1
Moisture %:7.8

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-010

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/082f0101.d
eport Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/082f0101.d
Lab Smp Id: CNW6D101 Client Smp ID: S-120198-JH-010
Inj Date : 18-DEC-1998 19:40
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6D101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

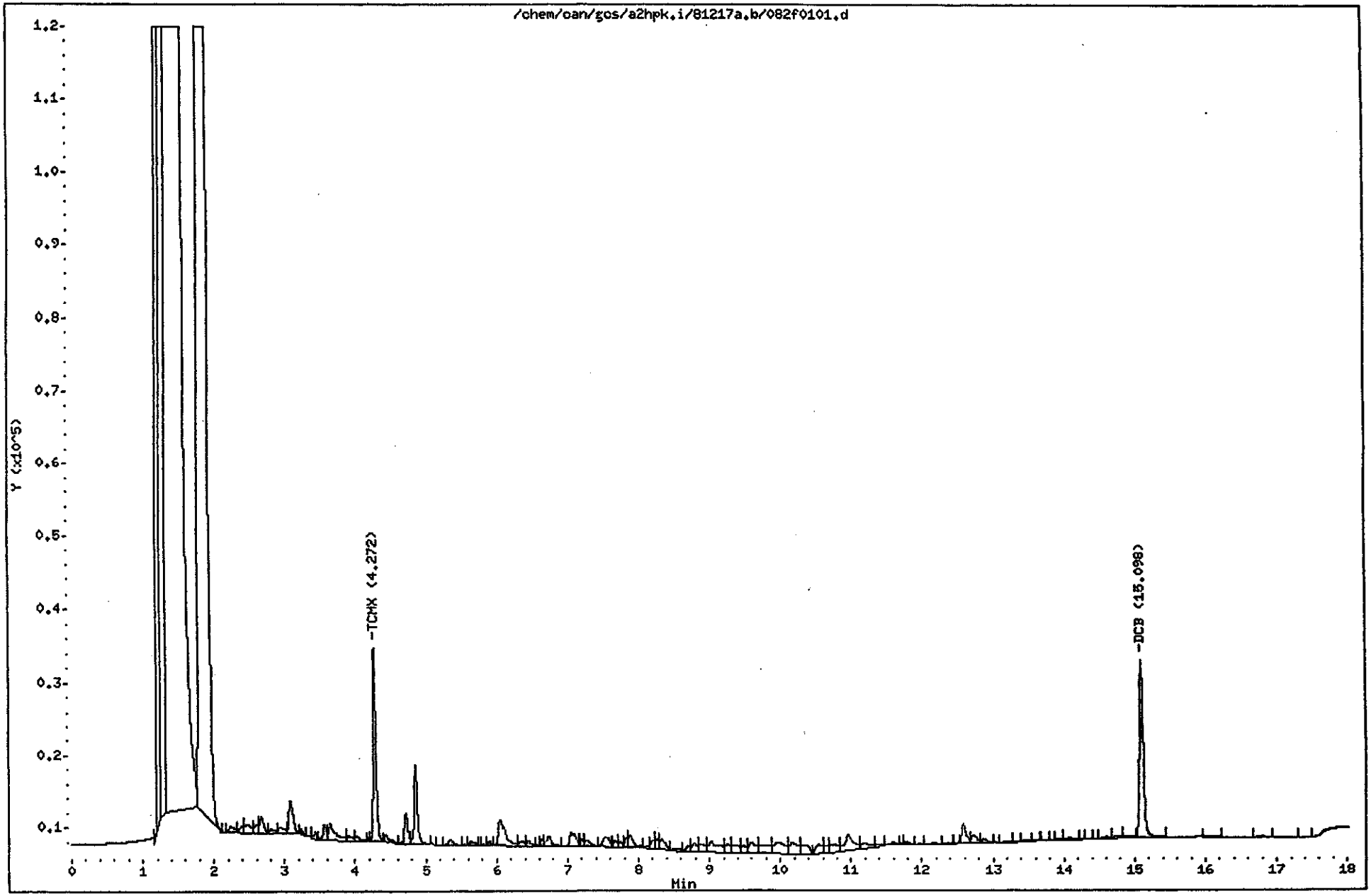
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.120	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	26535	0.01618	5.372	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	24474	0.01856	6.162	80.00- 120.00	100.00

File: /chem/can/gcs/a2hpk.i/81217a.b/082f0101.d
Date : 18-DEC-1998 19:40
Client ID: S-120198-JH-010
Instrument: a2hpk.i
Sample Info: CNW6D101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32

050



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 011

Sample WT/Vol: 30.06 / g
Work Order: CNW6E101
Dilution factor: 1
Moisture %:3.2

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-011

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	34	U
11104-28-2	Aroclor 1221	34	U
11141-16-5	Aroclor 1232	34	U
53469-21-9	Aroclor 1242	34	U
12672-29-6	**Aroclor 1248**	**220**	
11097-69-1	Aroclor 1254	34	U
11096-82-5	Aroclor 1260	34	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/083f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/083f0101.d
Lab Smp Id: CNW6E101 Client Smp ID: S-120198-JH-011
Inj Date : 18-DEC-1998 20:01
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6E101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

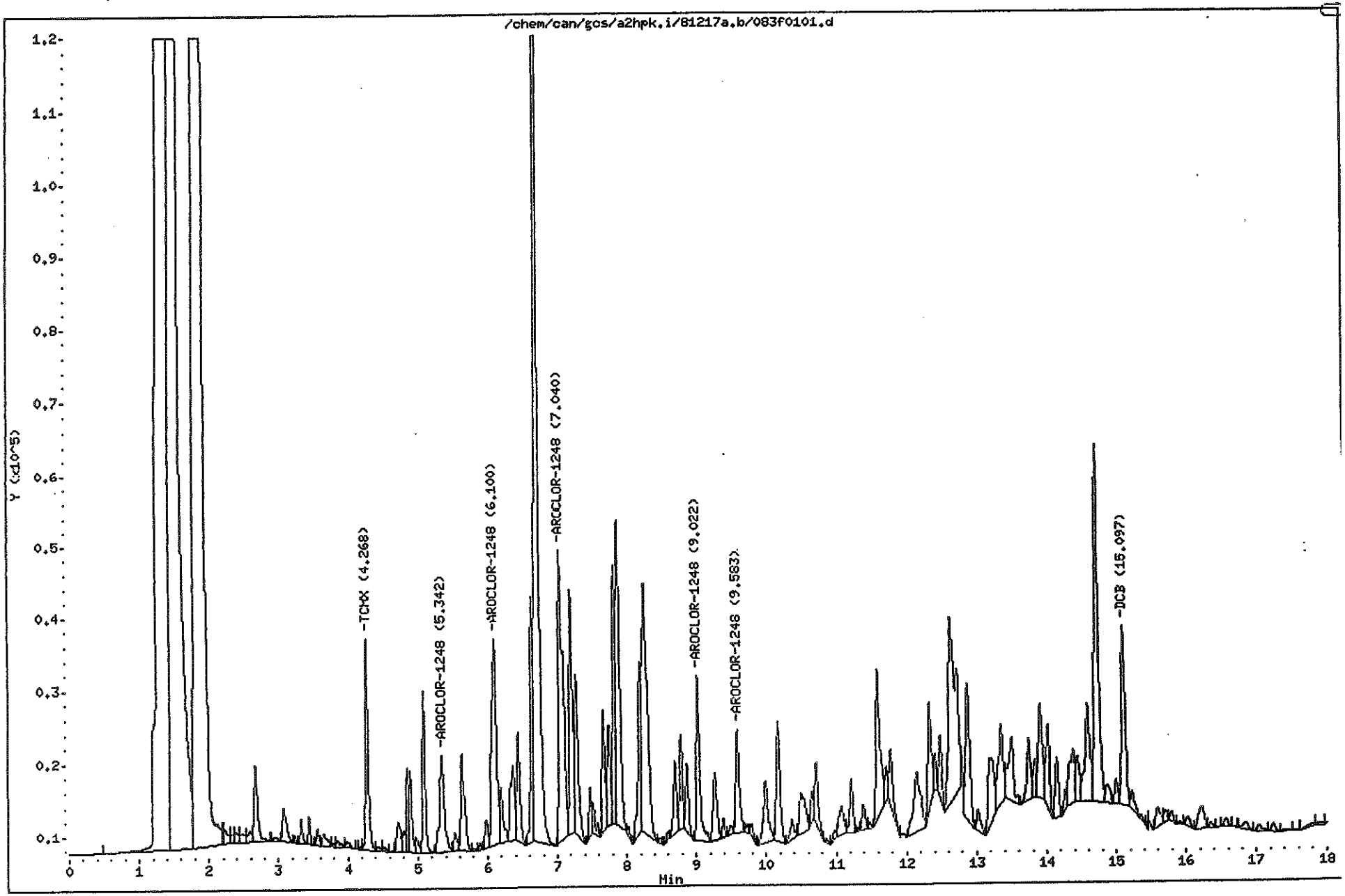
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.060	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.268	4.270	-0.002	28943	0.01765	5.871	80.00- 120.00	100.00
6 AROCLOR-1248					CAS #: 12672-29-6		
5.342	5.338	0.004	13390	0.55365	184.2	80.00- 120.00	100.00
6.100	6.102	-0.002	28245	0.69386	230.8	137.72- 229.53	210.94
7.040	7.042	-0.002	40421	0.70682	235.1	181.30- 302.17	301.87
9.022	9.025	-0.003	22353	0.67494	224.5	108.43- 180.71	166.94
9.583	9.590	-0.007	14044	0.62427	207.7	78.36- 130.60	104.88
Average of Peak Concentrations =					216.5		
$ 9 DCB					CAS #: 2051-24-3		
15.097	15.097	0.000	24475	0.01856	6.175	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/083f0101.d
Date : 18-DEC-1998 20:01
Client ID: S-120198-JH-011
Sample Info: CNW6E101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 012

Sample WT/Vol: 30.08 / g
Work Order: CNW6F101
Dilution factor: 10
Moisture %:6.9

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-012

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	350	U
11104-28-2	Aroclor 1221	350	U
11141-16-5	Aroclor 1232	350	U
53469-21-9	Aroclor 1242	350	U
12672-29-6	**Aroclor 1248**	**3300**	
11097-69-1	Aroclor 1254	350	U
11096-82-5	Aroclor 1260	350	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/084f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/084f0101.d
Lab Smp Id: CNW6F101 Client Smp ID: S-120198-JH-012
Inj Date : 18-DEC-1998 20:22
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6F101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.080	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.268	4.270	-0.002	3267	0.00199	6.622	80.00- 120.00	100.00
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.343	5.338	0.005	30799	1.27349	4234	80.00- 120.00	22.32(M)
	6.100	6.102	-0.002	58982	1.44893	4817	137.72- 229.53	42.74
	7.040	7.042	-0.002	31920	0.55817	1856	181.30- 302.17	23.13
	9.022	9.025	-0.003	11167	0.33718	1121	108.43- 180.71	8.09
	9.570	9.590	-0.020	23081	1.02597	3411	78.36- 130.60	16.73
Average of Peak Concentrations =						3088		
$ 9 DCB						CAS #: 2051-24-3		
	15.115	15.097	0.018	10607	0.00804	26.74	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81217a.b/084f0101.d
Report Date: 21-Dec-1998 10:30

QC Flag Legend

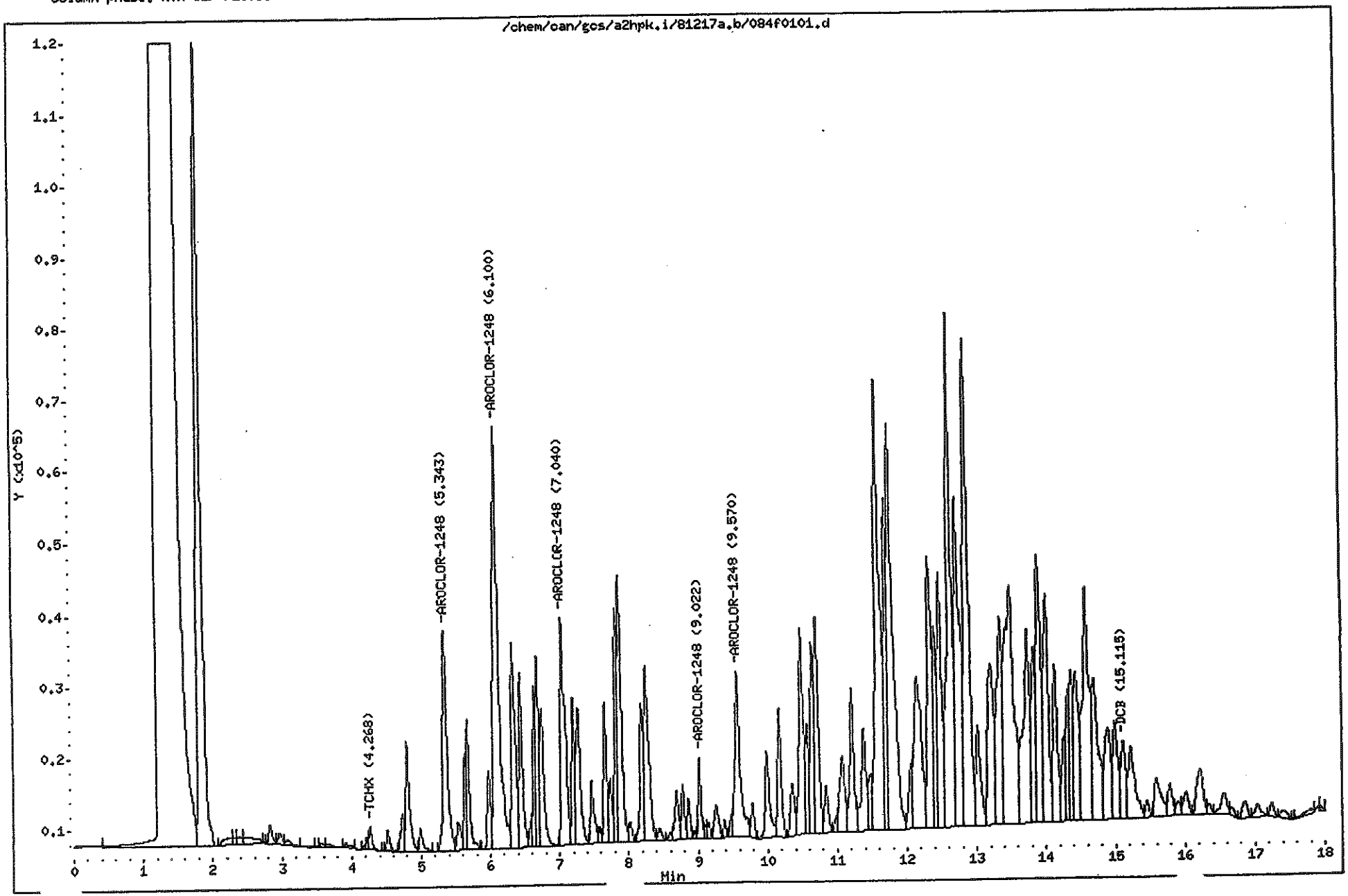
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/084f0101.d
Date : 18-DEC-1998 20:22
Client ID: S-120198-JH-012
Sample Info: CNW6F101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

062



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 013

Sample WT/Vol: 30.04 / g
Work Order: CNW6G101
Dilution factor: 10
Moisture %:6.1

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-013

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	350	U
11104-28-2	Aroclor 1221	350	U
11141-16-5	Aroclor 1232	350	U
53469-21-9	Aroclor 1242	350	U
12672-29-6	**Aroclor 1248**	**1400**	
11097-69-1	Aroclor 1254	350	U
11096-82-5	Aroclor 1260	350	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/085f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/085f0101.d
Lab Smp Id: CNW6G101 Client Smp ID: S-120198-JH-013
Inj Date : 18-DEC-1998 20:43
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6G101,10 ,
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.040	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	3579	0.00218	7.264	80.00- 120.00	100.00
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.343	5.338	0.005	17737	0.73339	2441	80.00- 120.00	24.25(M)
	6.103	6.102	0.001	18196	0.44700	1488	137.72- 229.53	24.88
	7.042	7.042	0.000	18971	0.33174	1104	181.30- 302.17	25.94
	9.025	9.025	0.000	6726	0.20309	676.0	108.43- 180.71	9.20
	9.587	9.590	-0.003	4289	0.19065	634.6	78.36- 130.60	5.86
Average of Peak Concentrations =						1269		
$ 9 DCB						CAS #: 2051-24-3		
	15.098	15.097	0.001	3362	0.00255	8.488	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/085f0101.d
Report Date: 21-Dec-1998 10:30

QC Flag Legend

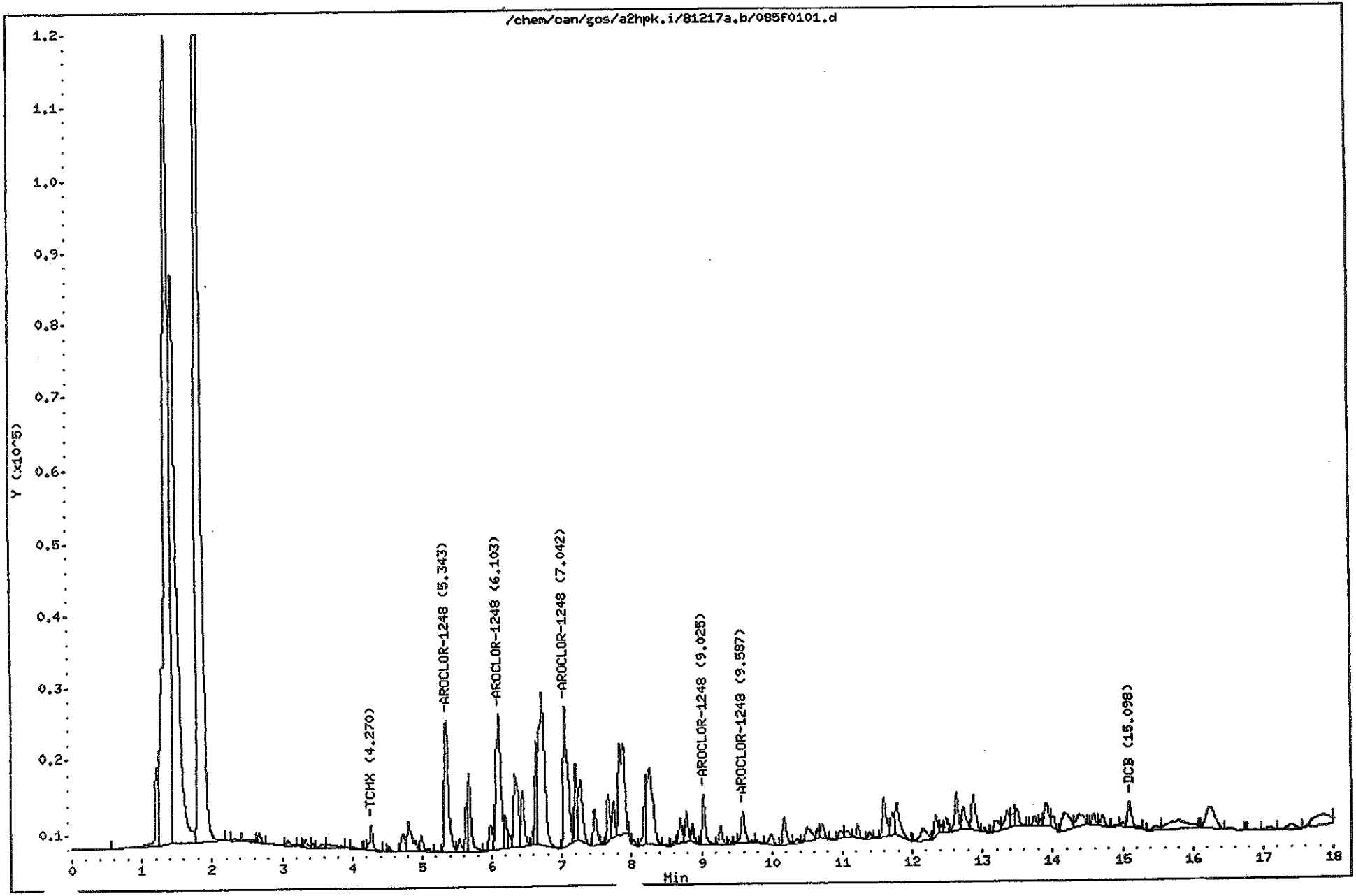
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/085f0101.d
Date : 18-DEC-1998 20:43
Client ID: S-120198-JH-013
Sample Info: CNW6C101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

990



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 014

Sample WT/Vol: 30 / g
Work Order: CNW6H101
Dilution factor: 100
Moisture %:13

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-014

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3800	U
11104-28-2	Aroclor 1221	3800	U
11141-16-5	Aroclor 1232	3800	U
53469-21-9	**Aroclor 1242**	**21000**	
12672-29-6	Aroclor 1248	3800	U
11097-69-1	Aroclor 1254	3800	U
11096-82-5	Aroclor 1260	3800	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/022f0101.d
Report Date: 22-Dec-1998 14:48

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/022f0101.d
Lab Smp Id: CNW6H101 Client Smp ID: S-120198-JH-014
Inj Date : 17-DEC-1998 02:01
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6H101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.230	4.272	-0.042	1339	0.000816	27.21	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
4.802	4.802	0.000	12412	0.46656	15550	80.00- 120.00	29.55(M)
5.347	5.347	0.000	24499	0.54691	18230	116.22- 193.70	58.32
6.103	6.103	0.000	36772	0.55165	18390	190.61- 317.68	87.54
6.330	6.330	0.000	21006	0.55770	18590	107.39- 178.98	50.01
6.442	6.442	0.000	15804	0.58985	19660	79.45- 132.42	37.62
Average of Peak Concentrations =					18080		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	356	0.00027	9.000	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/022f0101.d
Report Date: 22-Dec-1998 14:48

QC Flag Legend

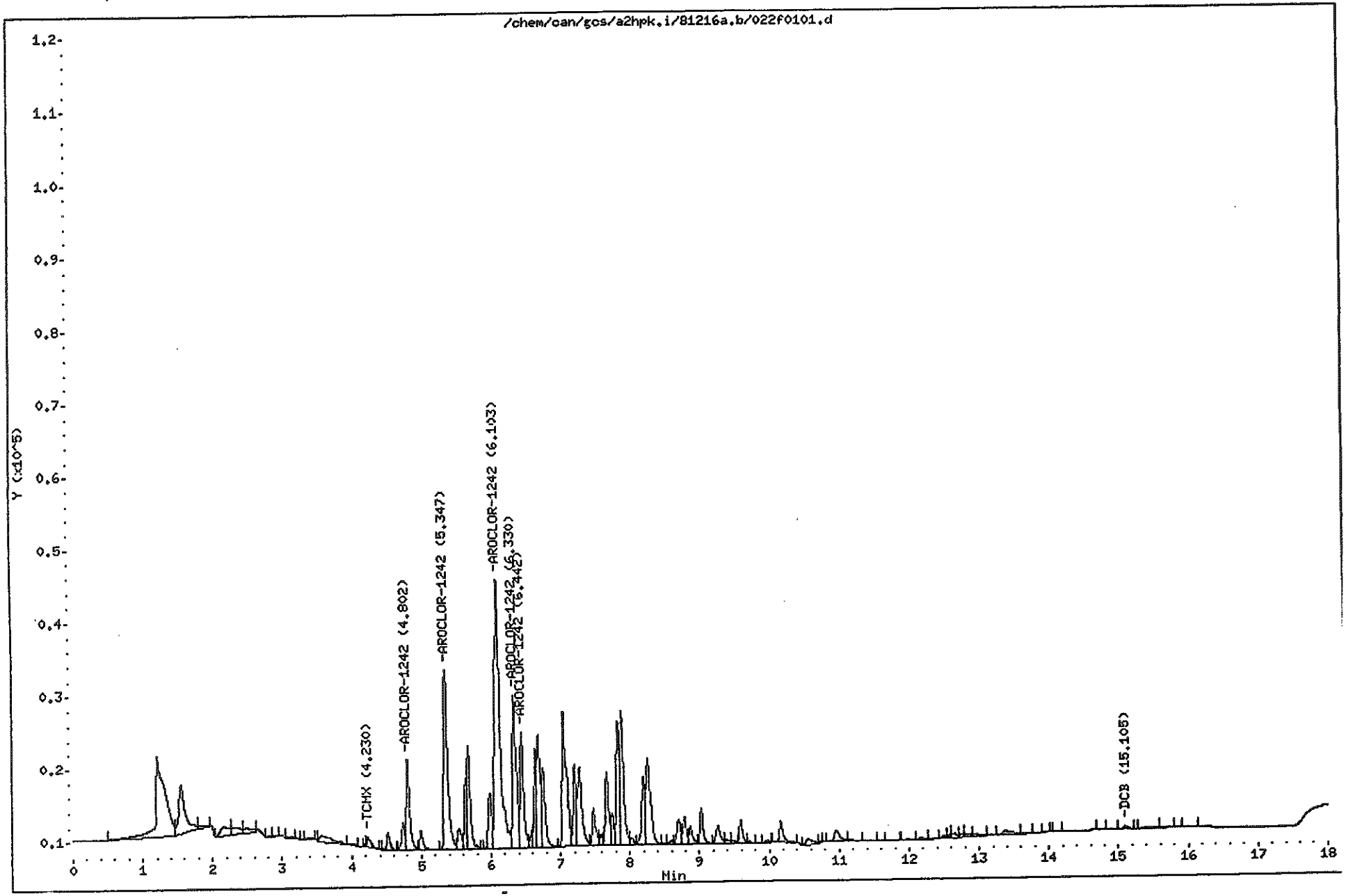
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81216a.b/022f0101.d
Date : 17-DEC-1998 02:01
Client ID: S-120198-JH-014
Sample Info: CNW6H101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

070



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 015

Sample WT/Vol: 30.01 / g
Work Order: CNW6J101
Dilution factor: 1
Moisture %:6.6

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-015

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		35	U
11104-28-2	Aroclor 1221		35	U
11141-16-5	Aroclor 1232		35	U
53469-21-9	Aroclor 1242		35	U
12672-29-6	Aroclor 1248		35	U
11097-69-1	Aroclor 1254		35	U
11096-82-5	Aroclor 1260		35	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/086f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/086f0101.d
Lab.Smp Id: CNW6J101 Client Smp ID: S-120198-JH-015
Inj Date : 18-DEC-1998 21:04
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6J101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

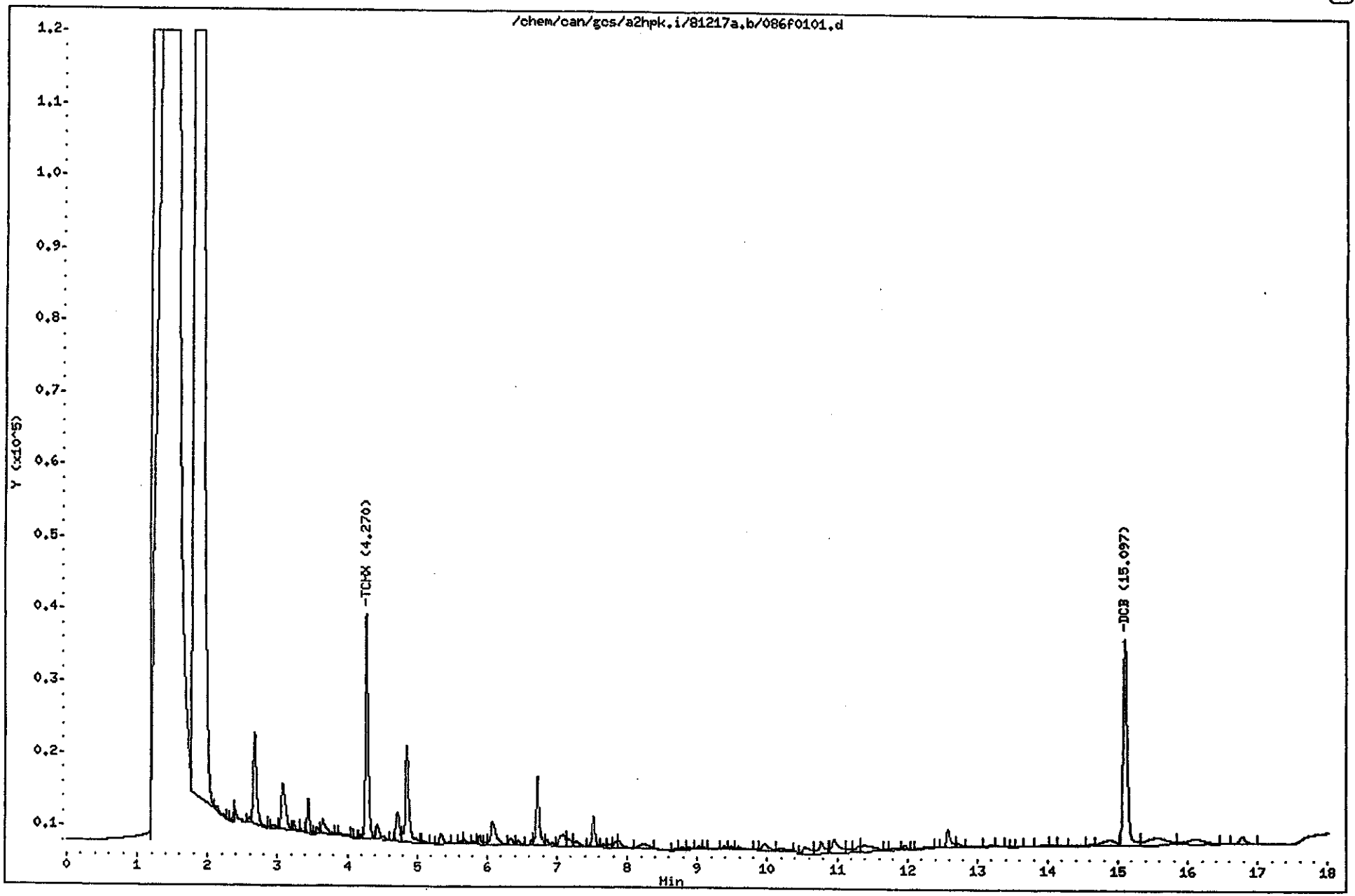
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.010	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	31090	0.01896	6.317	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	15.097	15.097	0.000	28599	0.02169	7.228	80.00- 120.00	100.00

a File: /chem/can/gcs/a2hpk.i/81217a.b/086f0101.d
Date : 18-DEC-1998 21:04
Client ID: S-120198-JH-015
Sample Info: CNW6J101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

073



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 016

Sample WT/Vol: 30.11 / g
Work Order: CNW6L101
Dilution factor: 1
Moisture %:7.8

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-016

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/087f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/087f0101.d
Lab Smp Id: CNW6L101 Client Smp ID: S-120198-JH-016
Inj Date : 18-DEC-1998 21:25
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6L101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

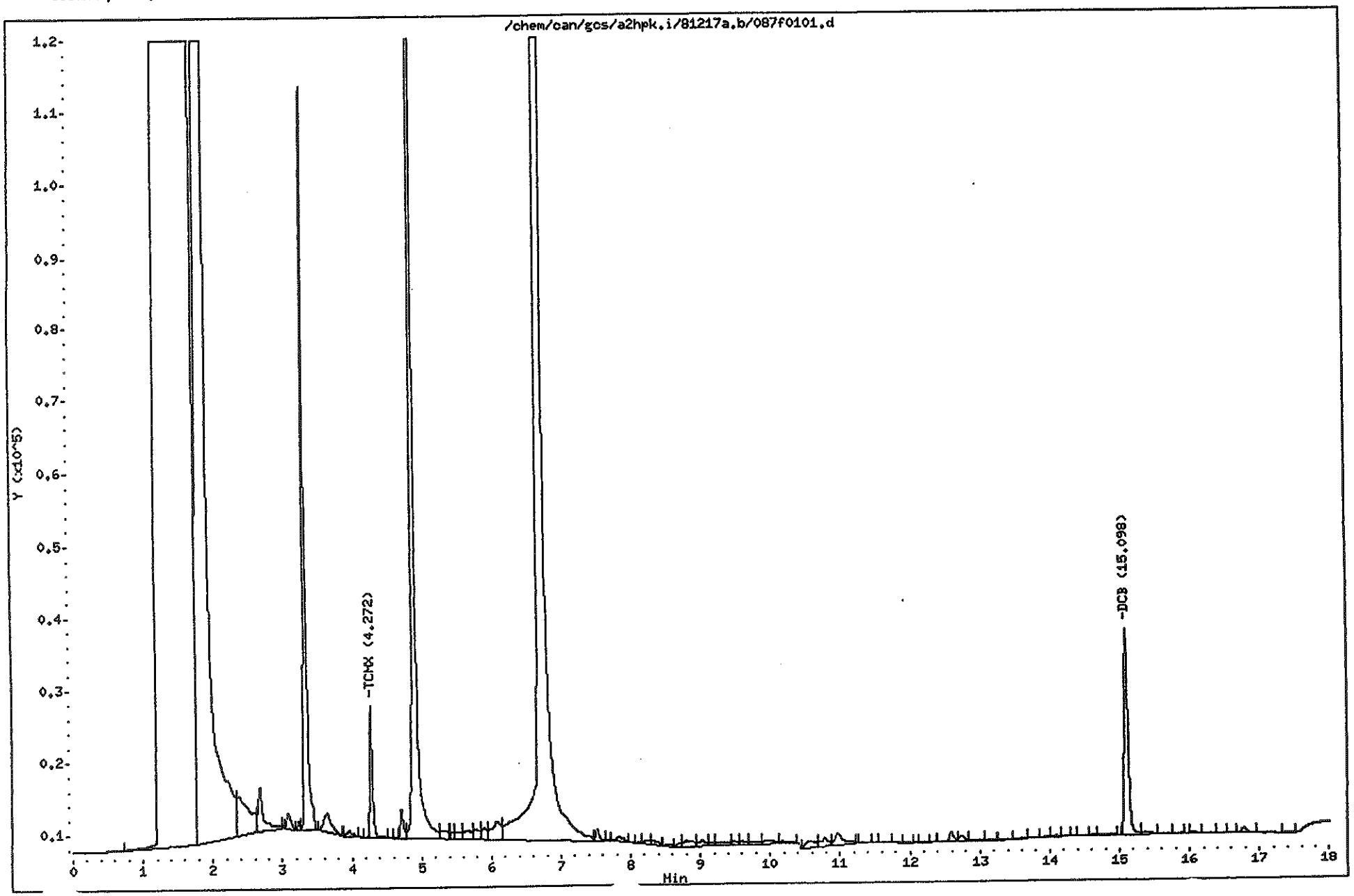
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.110	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.272	4.270	0.002	18121	0.01105	3.670	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	15.098	15.097	0.001	28589	0.02168	7.201	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/087f0101.d
Date : 18-DEC-1998 21:25
Client ID: S-120198-JH-016
Sample Info: CNW6L101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 017

Sample WT/Vol: 30.01 / g
Work Order: CNW6M101
Dilution factor: 2000
Moisture %:12

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/21/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-017

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	75000	U
11104-28-2	Aroclor 1221	75000	U
11141-16-5	Aroclor 1232	75000	U
53469-21-9	**Aroclor 1242**	**570000**	
12672-29-6	Aroclor 1248	75000	U
11097-69-1	Aroclor 1254	75000	U
11096-82-5	Aroclor 1260	75000	U

Data File: /chem/can/gcs/a2hpk.i/81220a.b/079f0101.d
Report Date: 23-Dec-1998 14:00

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/079f0101.d
Lab Smp Id: CNW6M101 Client Smp ID: S-120198-JH-017
Inj Date : 21-DEC-1998 10:54
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6M101,2000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1
Dil Factor: 2000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	2000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.010	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.235	4.275	-0.040	3298	0.00201	1340	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.803	4.800	0.003	23244	0.87373	582300	80.00- 120.00	26.64(M)
	5.353	5.343	0.010	33213	0.74144	494100	122.23- 203.72	38.07
	6.108	6.102	0.006	54825	0.82248	548100	193.45- 322.42	62.84
	6.335	6.328	0.007	20796	0.55213	368000	108.22- 180.37	23.84
	6.447	6.440	0.007	21099	0.78747	524800	79.59- 132.66	24.18
Average of Peak Concentrations =						503500		
$ 9 DCB						CAS #: 2051-24-3		
	15.007	15.107	-0.100	154	0.000117	77.84	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81220a.b/079f0101.d
Report Date: 23-Dec-1998 14:00

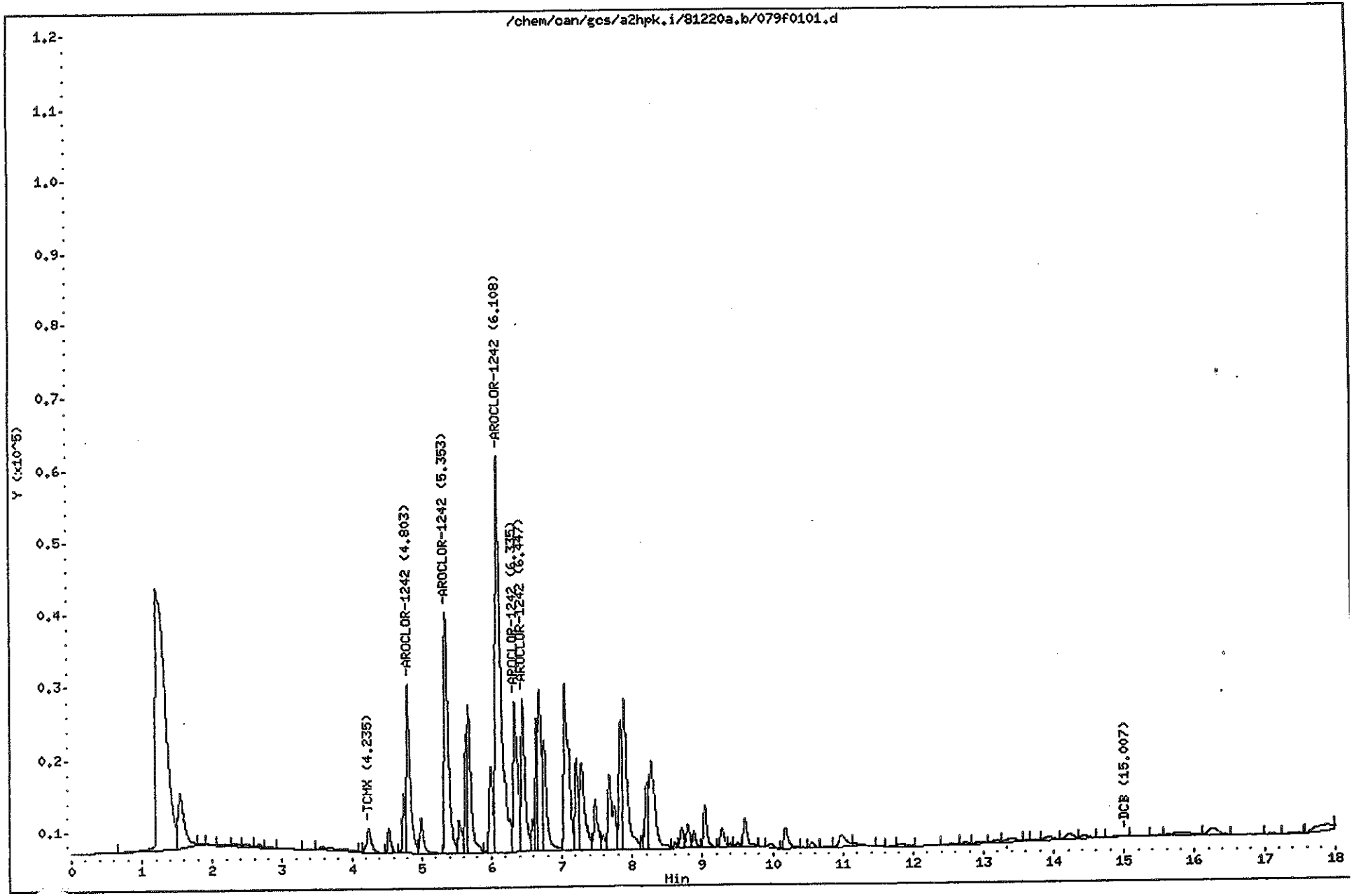
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81220a.b/079f0101.d
Date : 21-DEC-1998 10:54
Client ID: S-120198-JH-017
Sample Info: CNW6M101,2000
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 018

Sample WT/Vol: 30.08 / g
Work Order: CNW6N101
Dilution factor: 10
Moisture %:16

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-018

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	390	U
11104-28-2	Aroclor 1221	390	U
11141-16-5	Aroclor 1232	390	U
53469-21-9	**Aroclor 1242**	**1200**	
12672-29-6	Aroclor 1248	390	U
11097-69-1	Aroclor 1254	390	U
11096-82-5	Aroclor 1260	390	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/089f0101.d
Report Date: 23-Dec-1998 12:19

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/089f0101.d
Lab Smp Id: CNW6N101 Client Smp ID: S-120198-JH-018
Inj Date : 18-DEC-1998 22:07
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6N101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.080	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	1829	0.00112	3.707	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.898	4.800	0.098	15660	0.58865	1957	80.00- 120.00	37.02(M)
	5.345	5.343	0.002	10214	0.22802	758.0	122.23- 203.72	24.14
	6.103	6.102	0.001	17048	0.25575	850.2	193.45- 322.42	40.30
	6.330	6.328	0.002	9078	0.24102	801.2	108.22- 180.37	21.46
	6.440	6.440	0.000	6950	0.25939	862.3	79.59- 132.66	16.43
Average of Peak Concentrations =						1046		
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.345	5.338	0.007	10214	0.42233	1404	80.00- 120.00	24.82(M)
	6.103	6.102	0.001	17048	0.41879	1392	137.72- 229.53	41.42
	7.043	7.042	0.001	9853	0.17229	572.8	181.30- 302.17	23.94

Data File: /chem/can/gcs/a2hpk.i/81217a.b/089f0101.d
Report Date: 23-Dec-1998 12:19

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
9.025	9.025	0.000	3377	0.10197	339.0	108.43- 180.71	8.21
9.590	9.590	0.000	2567	0.11411	379.3	78.36- 130.60	6.24
	Average of Peak Concentrations =				817.5		
$ 9 DCB					CAS #: 2051-24-3		
15.095	15.097	-0.002	3451	0.00262	8.701	80.00- 120.00	100.00

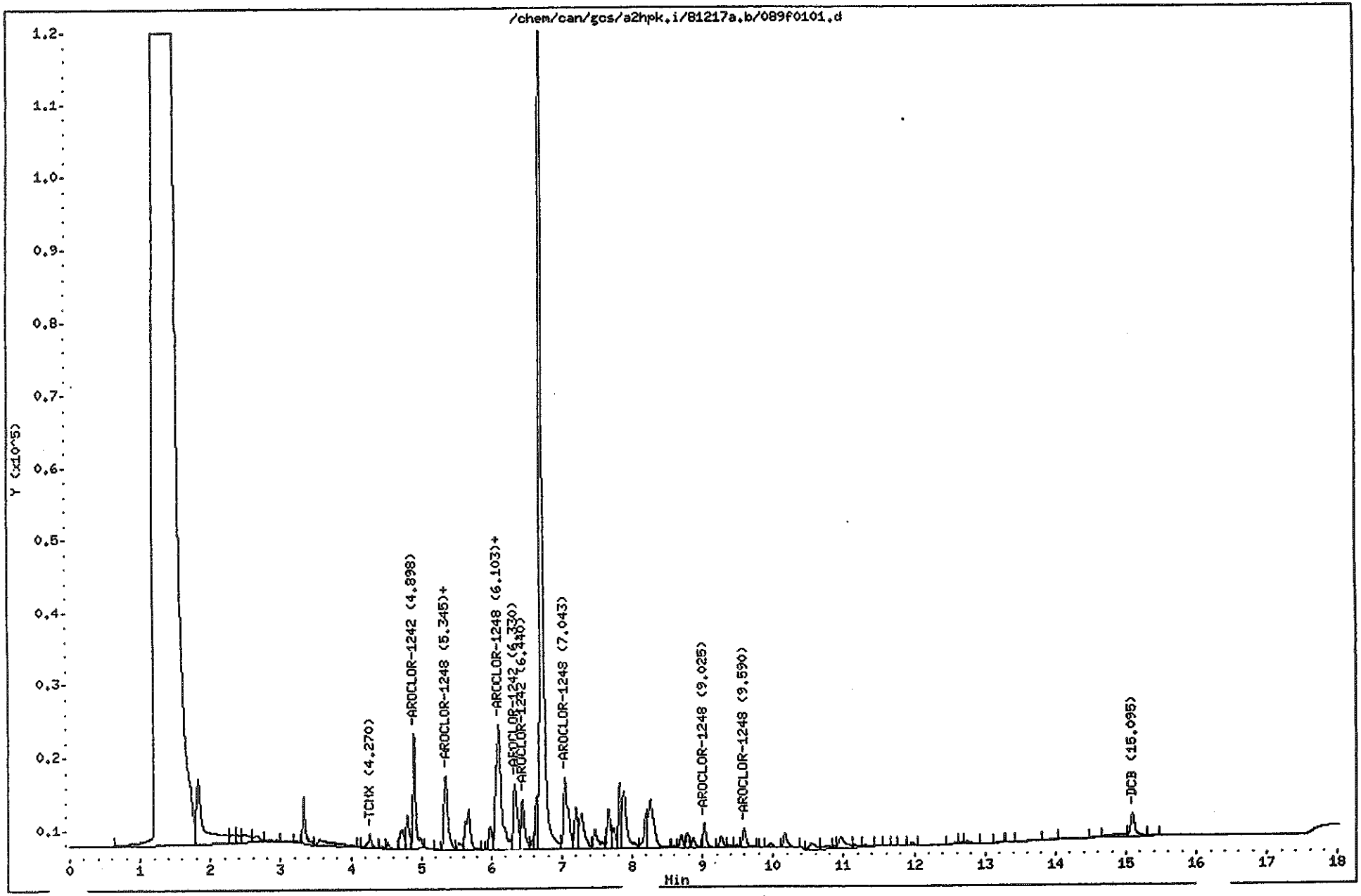
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/089f0101.d
Date : 18-DEC-1998 22:07
Client ID: S-120198-JH-018
Sample Info: CNW6N101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

084



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 019

Sample WT/Vol: 29.1 / g
Work Order: CNW6P101
Dilution factor: 10
Moisture %:69

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-019

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	1100	U
11104-28-2	Aroclor 1221	1100	U
11141-16-5	Aroclor 1232	1100	U
53469-21-9	**Aroclor 1242**	**6700**	
12672-29-6	Aroclor 1248	1100	U
11097-69-1	Aroclor 1254	1100	U
11096-82-5	Aroclor 1260	1100	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/090f0101.d
Report Date: 23-Dec-1998 12:19

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/090f0101.d
Lab Smp Id: CNW6P101 Client Smp ID: S-120198-JH-019
Inj Date : 18-DEC-1998 22:28
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6P101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	29.100	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	3755	0.00229	7.868	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.800	4.800	0.000	14628	0.54986	1890	80.00- 120.00	29.94(M)
	5.350	5.343	0.007	24878	0.55537	1908	122.23- 203.72	50.91
	6.103	6.102	0.001	52819	0.79239	2723	193.45- 322.42	108.10
	6.330	6.328	0.002	12708	0.33739	1159	108.22- 180.37	26.01
	6.440	6.440	0.000	20377	0.76052	2613	79.59- 132.66	41.70
Average of Peak Concentrations =						2059		
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.350	5.338	0.012	24878	1.02866	3535	80.00- 120.00	24.72(M)
	6.103	6.102	0.001	52819	1.29753	4459	137.72- 229.53	52.49
	7.042	7.042	0.000	25590	0.44748	1538	181.30- 302.17	25.43

Data File: /chem/can/gcs/a2hpk.i/81217a.b/090f0101.d
Report Date: 23-Dec-1998 12:19

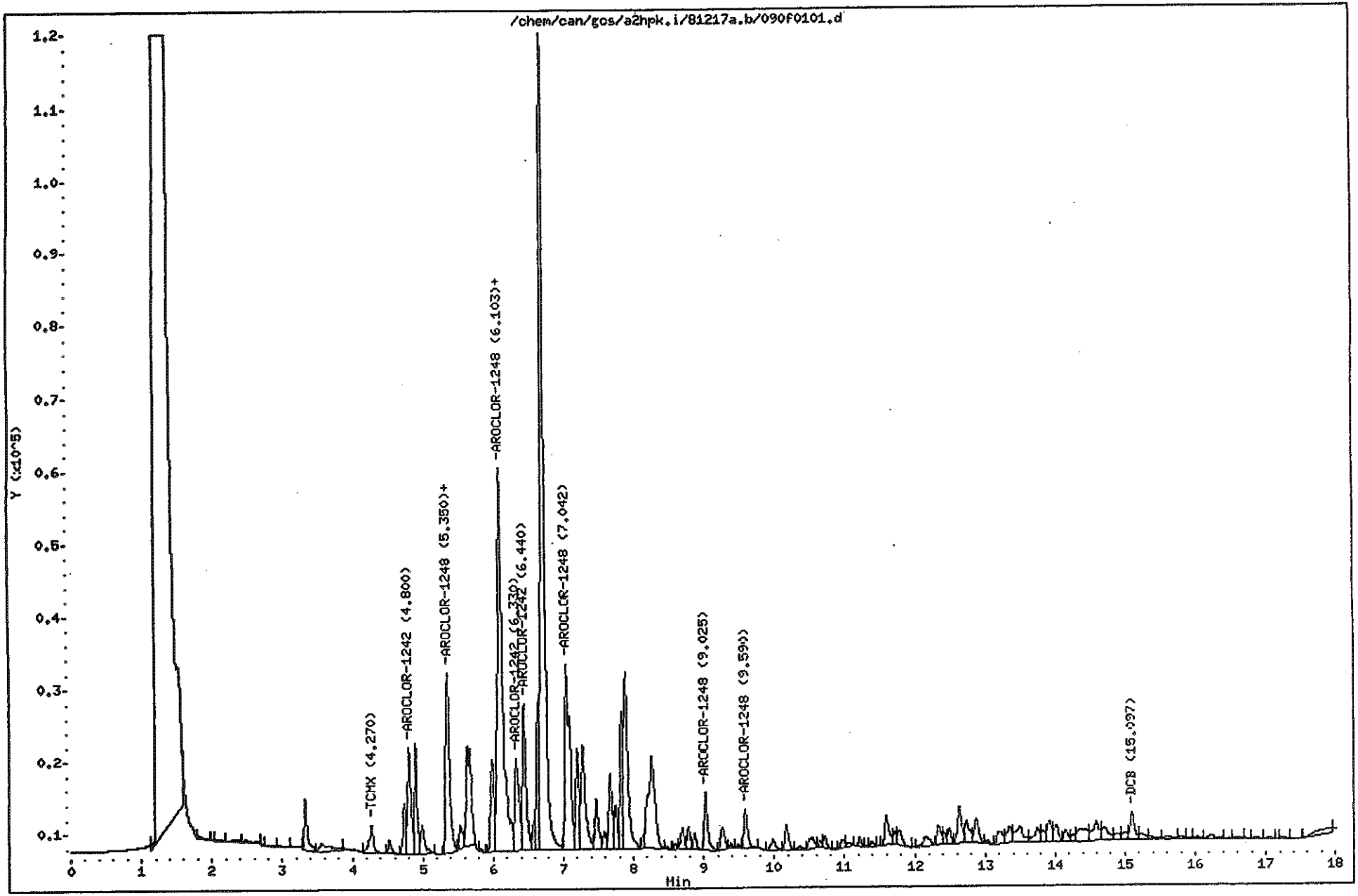
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
9.025	9.025	0.000	7904	0.23866	820.1	108.43- 180.71	7.85
9.590	9.590	0.000	5212	0.23168	796.1	78.36- 130.60	5.18
	Average of Peak Concentrations =				2230		
$ 9 DCB					CAS #: 2051-24-3		
15.097	15.097	0.000	3776	0.00286	9.841	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81217a.b/090f0101.d
: 18-DEC-1998 22:28
Client ID: S-120198-JH-019
Sample Info: CNW6P101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 020

Sample WT/Vol: 30.11 / g
Work Order: CNW6Q101
Dilution factor: 10
Moisture %:7.3

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/18/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-020

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	360	U
11104-28-2	Aroclor 1221	360	U
11141-16-5	Aroclor 1232	360	U
53469-21-9	Aroclor 1242	360	U
12672-29-6	**Aroclor 1248**	**1500**	
11097-69-1	Aroclor 1254	360	U
11096-82-5	Aroclor 1260	360	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/091f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/091f0101.d
Lab Smp Id: CNW6Q101 Client Smp ID: S-120198-JH-020
Inj Date : 18-DEC-1998 22:49
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6Q101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.110	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	3340	0.00204	6.764	80.00- 120.00	100.00
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.347	5.338	0.009	11360	0.46972	1560	80.00- 120.00	24.85(M)
	6.103	6.102	0.001	24680	0.60628	2014	137.72- 229.53	53.99
	7.042	7.042	0.000	25706	0.44951	1493	181.30- 302.17	56.23
	9.023	9.025	-0.002	9604	0.28999	963.1	108.43- 180.71	21.01
	9.587	9.590	-0.003	5695	0.25315	840.7	78.36- 130.60	12.46
Average of Peak Concentrations =						1374		
$ 9 DCB						CAS #: 2051-24-3		
	15.095	15.097	-0.002	3581	0.00272	9.020	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/091f0101.d
Report Date: 21-Dec-1998 10:30

QC Flag Legend

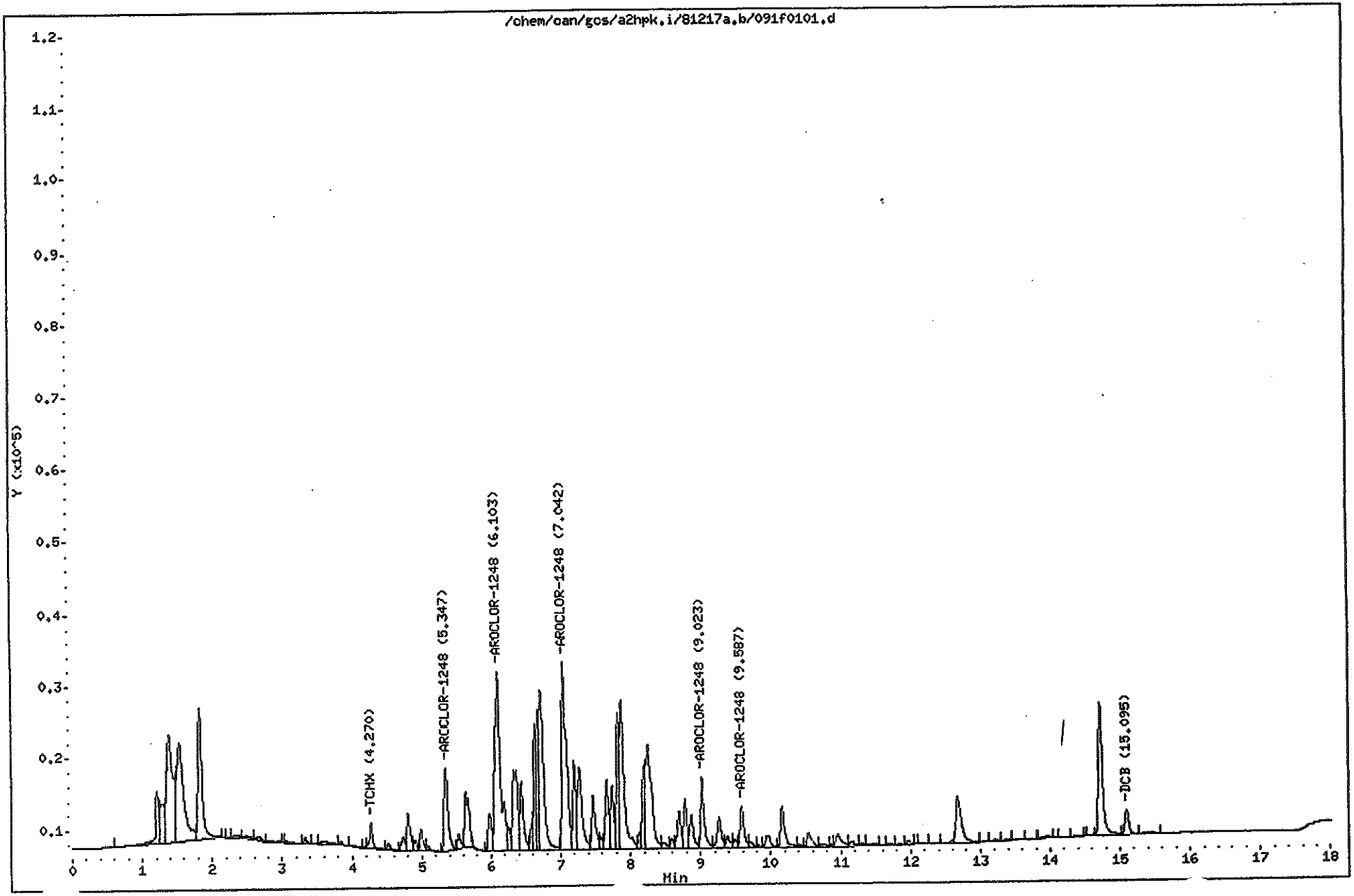
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/091f0101.d
Date : 18-DEC-1998 22:49
Client ID: S-120198-JH-020
Sample Info: CNW6Q101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

092



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 021

Sample WT/Vol: 30.05 / g
Work Order: CNW6R101
Dilution factor: 10
Moisture %:6.8

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/19/98

QC Batch: 8336232

Client Sample Id: S-120198-JH-021

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	350	U
11104-28-2	Aroclor 1221	350	U
11141-16-5	Aroclor 1232	350	U
53469-21-9	Aroclor 1242	350	U
12672-29-6	**Aroclor 1248**	**1800**	
11097-69-1	Aroclor 1254	350	U
11096-82-5	Aroclor 1260	350	U

)ata File: /chem/can/gcs/a2hpk.i/81217a.b/095f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/095f0101.d
Lab Smp Id: CNW6R101 Client Smp ID: S-120198-JH-021
Inj Date : 19-DEC-1998 00:13
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6R101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000 Compound Sublist: REG.sub
Integrator: Falcon Sample Matrix: SOIL
Target Version: 3.40
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.050	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.268	4.270	-0.002	3428	0.00209	6.956	80.00- 120.00	100.00
6 AROCLOR-1248					CAS #: 12672-29-6		
5.343	5.338	0.005	22110	0.91421	3042	80.00- 120.00	23.92(M)
6.102	6.102	0.000	26342	0.64711	2153	137.72- 229.53	28.50
7.042	7.042	0.000	23454	0.41013	1365	181.30- 302.17	25.38
9.023	9.025	-0.002	7079	0.21375	711.3	108.43- 180.71	7.66
9.587	9.590	-0.003	6013	0.26728	889.5	78.36- 130.60	6.51
Average of Peak Concentrations =					1632		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.097	0.008	5997	0.00455	15.14	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81217a.b/095f0101.d
Report Date: 21-Dec-1998 10:30

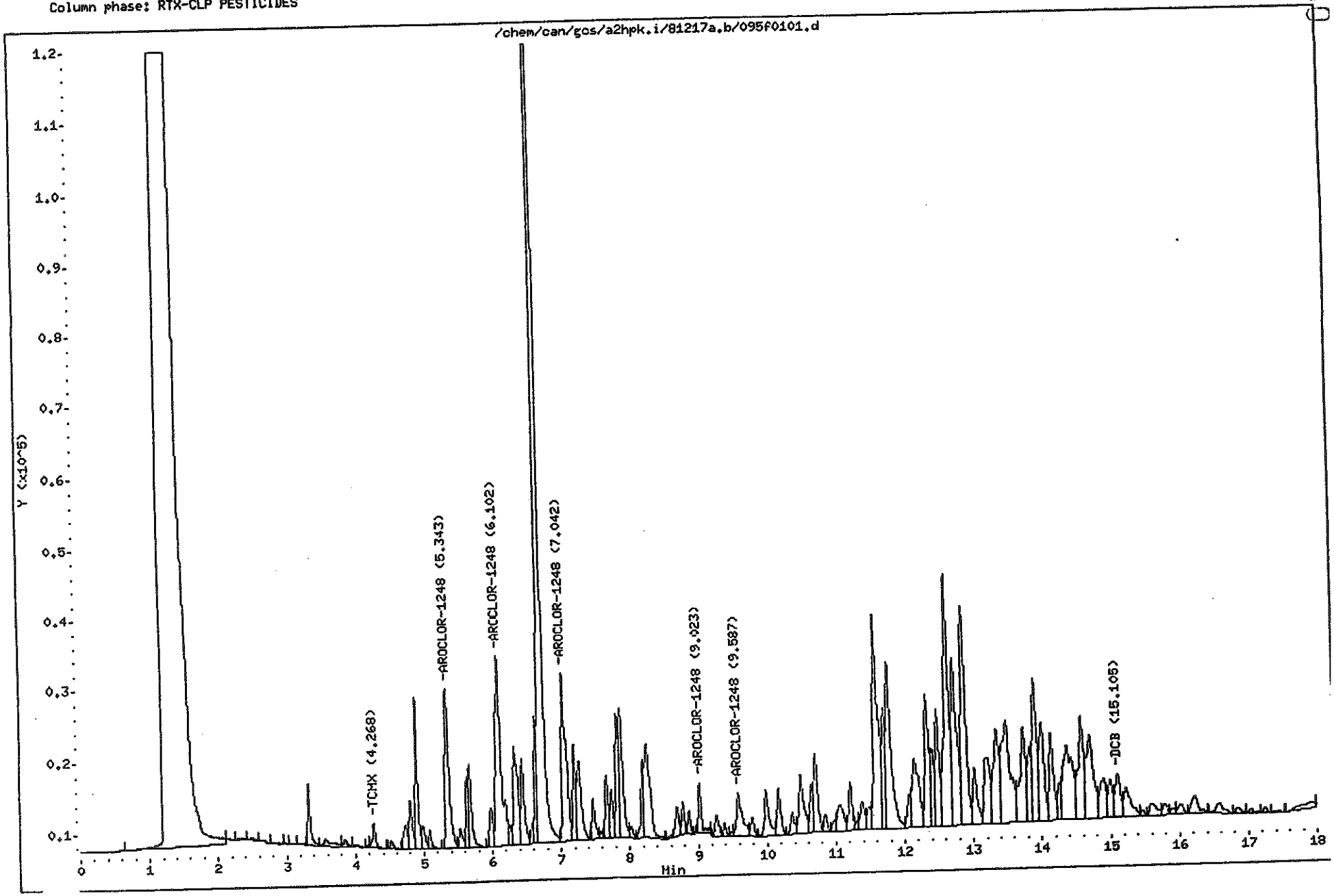
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/095f0101.d
Date : 19-DEC-1998 00:13
Client ID: S-120198-JH-021
Sample Info: CNW6R101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 022

Sample WT/Vol: 30 / g
Work Order: CNW6T101
Dilution factor: 100
Moisture %:14

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-022

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3800	U
11104-28-2	Aroclor 1221	3800	U
11141-16-5	Aroclor 1232	3800	U
53469-21-9	**Aroclor 1242**	**57000**	
12672-29-6	Aroclor 1248	3800	U
11097-69-1	Aroclor 1254	3800	U
11096-82-5	Aroclor 1260	3800	U

ata File: /chem/can/gcs/a2hpk.i/81216a.b/023f0101.d
Report Date: 22-Dec-1998 14:48

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/023f0101.d
Lab Smp Id: CNW6T101 Client Smp ID: S-120198-JH-022
Inj Date : 17-DEC-1998 02:22
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6T101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.230	4.272	-0.042	6086	0.00371	123.7	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.798	4.802	-0.004	53639	2.01625	67210	80.00- 120.00	28.45(M)
	5.350	5.347	0.003	74431	1.66159	55390	116.22- 193.70	39.48
	6.067	6.103	-0.036	86653	1.29997	43330	190.61- 317.68	45.97
	6.332	6.330	0.002	16669	0.44256	14750	107.39- 178.98	8.84
	6.440	6.442	-0.002	51443	1.91999	64000	79.45- 132.42	27.29
Average of Peak Concentrations =						48940		
$ 9 DCB						CAS #: 2051-24-3		
	15.105	15.105	0.000	323	0.000245	8.166	80.00- 120.00	100.00

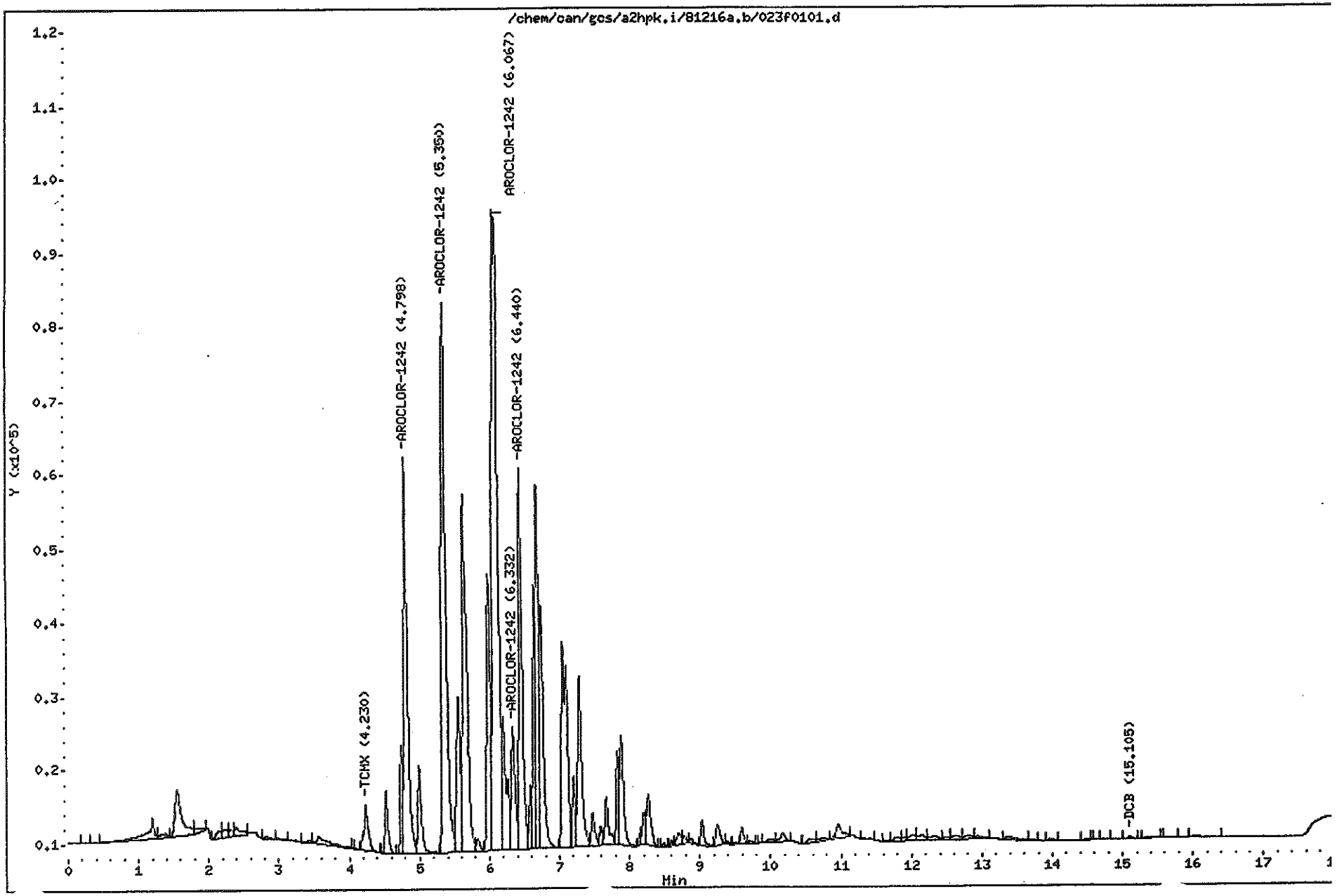
Data File: /chem/can/gcs/a2hpk.i/81216a.b/023f0101.d
Report Date: 22-Dec-1998 14:48

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81216a.b/023f0101.d
Date : 17-DEC-1998 02:22
Client ID: S-120198-JH-022
Sample Info: CNW6T101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 023

Sample WT/Vol: 30 / g
Work Order: CNW6V101
Dilution factor: 100
Moisture %:11

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-023

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3700	U
11104-28-2	Aroclor 1221	3700	U
11141-16-5	Aroclor 1232	3700	U
53469-21-9	**Aroclor 1242**	**14000**	
12672-29-6	Aroclor 1248	3700	U
11097-69-1	Aroclor 1254	3700	U
11096-82-5	Aroclor 1260	3700	U

ata File: /chem/can/gcs/a2hpk.i/81216a.b/024f0101.d
Report Date: 22-Dec-1998 14:48

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/024f0101.d
Lab Smp Id: CNW6V101 Client Smp ID: S-120198-JH-023
Inj Date : 17-DEC-1998 02:43
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6V101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	619	0.000377	12.58	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.898	4.802	0.096	10314	0.38770	12920	80.00- 120.00	43.30(M)
	5.348	5.347	0.001	14607	0.32608	10870	116.22- 193.70	61.32
	6.105	6.103	0.002	25530	0.38300	12770	190.61- 317.68	107.17
	6.332	6.330	0.002	13117	0.34825	11610	107.39- 178.98	55.06
	6.442	6.442	0.000	10557	0.39401	13130	79.45- 132.42	44.32
Average of Peak Concentrations =						12260		
$ 9 DCB						CAS #: 2051-24-3		
	15.102	15.105	-0.003	826	0.000626	20.88	80.00- 120.00	100.00(R)

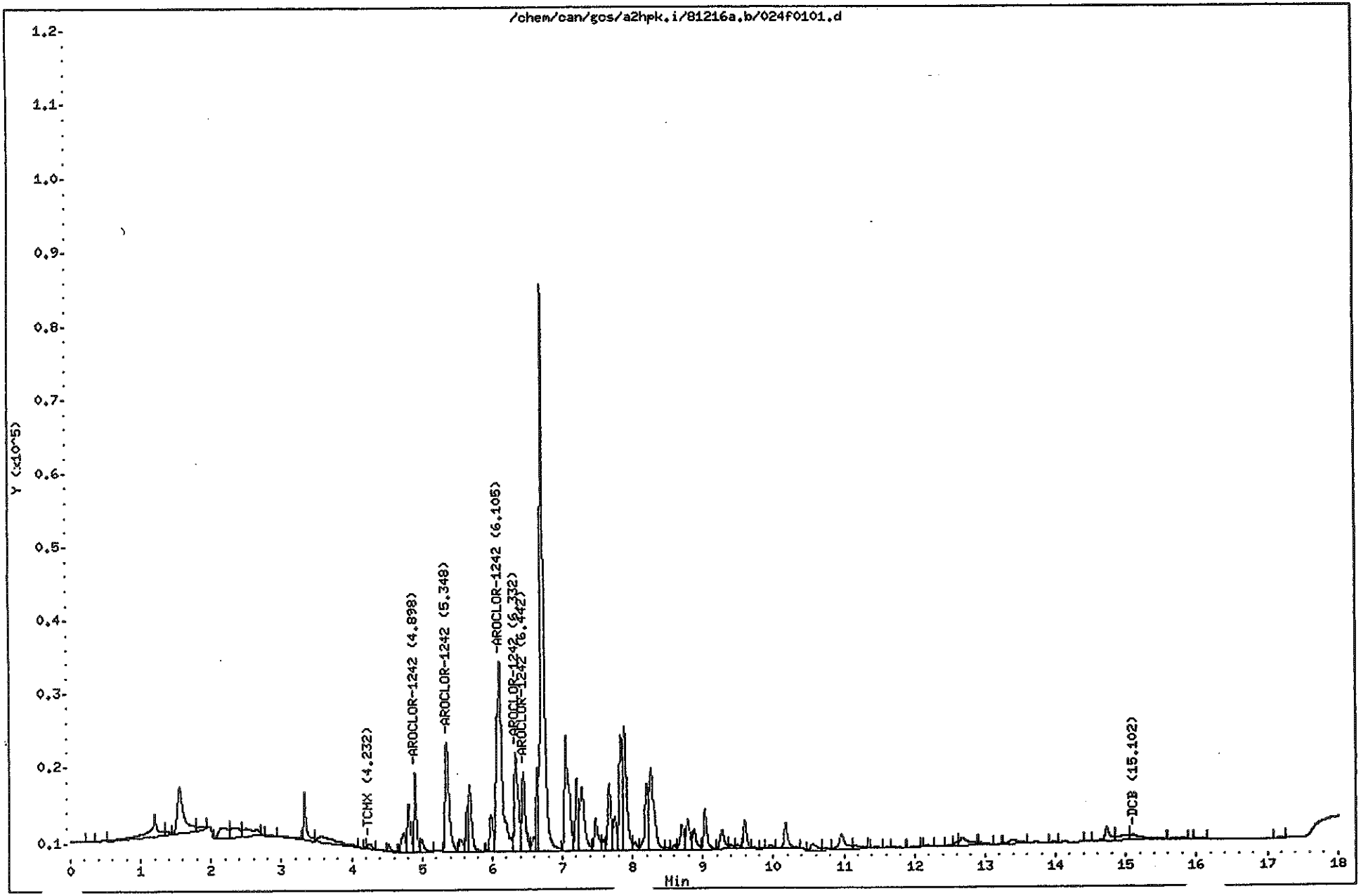
Data File: /chem/can/gcs/a2hpk.i/81216a.b/024f0101.d
Report Date: 22-Dec-1998 14:48

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81216a.b/024f0101.d
Date : 17-DEC-1998 02:43
Client ID: S-120198-JH-023
Sample Info: CNW6V101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 024

Sample WT/Vol: 30 / g
Work Order: CNW6W101
Dilution factor: 1000
Moisture %:2.7

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-024

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	34000	U
11104-28-2	Aroclor 1221	34000	U
11141-16-5	Aroclor 1232	34000	U
53469-21-9	**Aroclor 1242**	**260000**	
12672-29-6	Aroclor 1248	34000	U
11097-69-1	Aroclor 1254	34000	U
11096-82-5	Aroclor 1260	34000	U

ata File: /chem/can/gcs/a2hpk.i/81216a.b/025f0101.d
eport Date: 22-Dec-1998 14:48

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/025f0101.d
Lab Smp Id: CNW6W101 Client Smp ID: S-120198-JH-024
Inj Date : 17-DEC-1998 03:04
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6W101,1000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	2925	0.00178	594.5	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.802	4.802	0.000	18939	0.71190	237300	80.00- 120.00	28.79(M)
	5.353	5.347	0.006	39132	0.87358	291200	116.22- 193.70	59.48
	6.105	6.103	0.002	72705	1.09072	363600	190.61- 317.68	110.51
	6.333	6.330	0.003	7079	0.18794	62650	107.39- 178.98	10.76
	6.443	6.442	0.001	25009	0.93340	311100	79.45- 132.42	38.01
			Average of Peak Concentrations =			253200		
$ 9 DCB						CAS #: 2051-24-3		
	15.012	15.105	-0.093	406	0.000308	102.6	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81216a.b/025f0101.d
Report Date: 22-Dec-1998 14:48

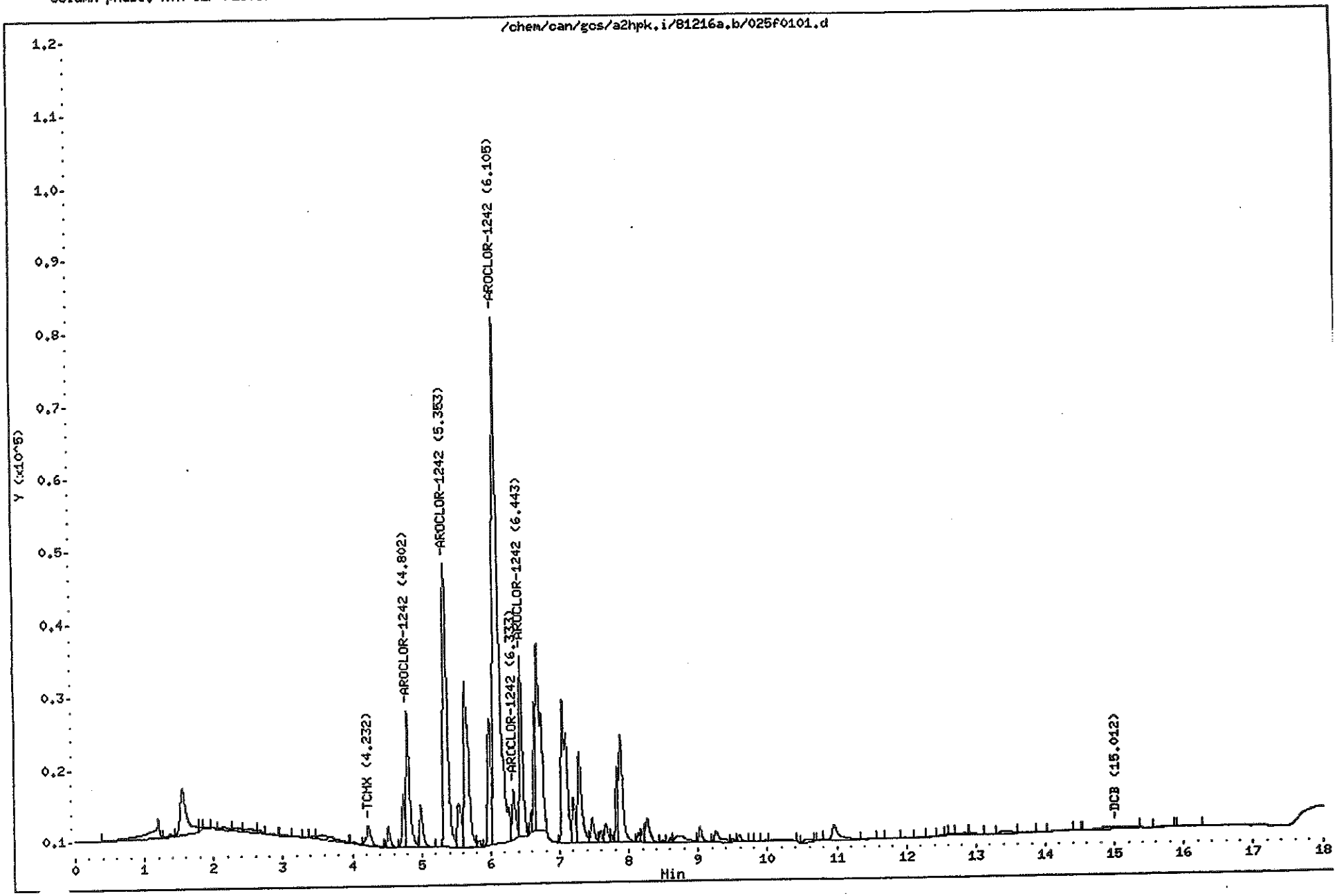
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81216a.b/025f0101.d
Date : 17-DEC-1998 03:04
Client ID: S-120198-JH-024
Sample Info: CNW6W101,1000
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 025

Sample WT/Vol: 30 / g
Work Order: CNW6X101
Dilution factor: 100
Moisture %:13

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-025

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3800	U
11104-28-2	Aroclor 1221	3800	U
11141-16-5	Aroclor 1232	3800	U
53469-21-9	**Aroclor 1242**	**17000**	
12672-29-6	Aroclor 1248	3800	U
11097-69-1	Aroclor 1254	3800	U
11096-82-5	Aroclor 1260	3800	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/026f0101.d
Report Date: 22-Dec-1998 14:49

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/026f0101.d
Lab Smp Id: CNW6X101 Client Smp ID: S-120198-JH-025
Inj Date : 17-DEC-1998 03:25
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW6X101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	841	0.000513	17.09	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.803	4.802	0.001	9900	0.37213	12400	80.00- 120.00	29.38(M)
	5.348	5.347	0.001	17516	0.39102	13030	116.22- 193.70	51.98
	6.105	6.103	0.002	32747	0.49127	16380	190.61- 317.68	97.17
	6.332	6.330	0.002	18595	0.49369	16460	107.39- 178.98	55.18
	6.443	6.442	0.001	14320	0.53446	17820	79.45- 132.42	42.49
Average of Peak Concentrations =						15220		
$ 9 DCB						CAS #: 2051-24-3		
	15.105	15.105	0.000	298	0.000226	7.534	80.00- 120.00	100.00

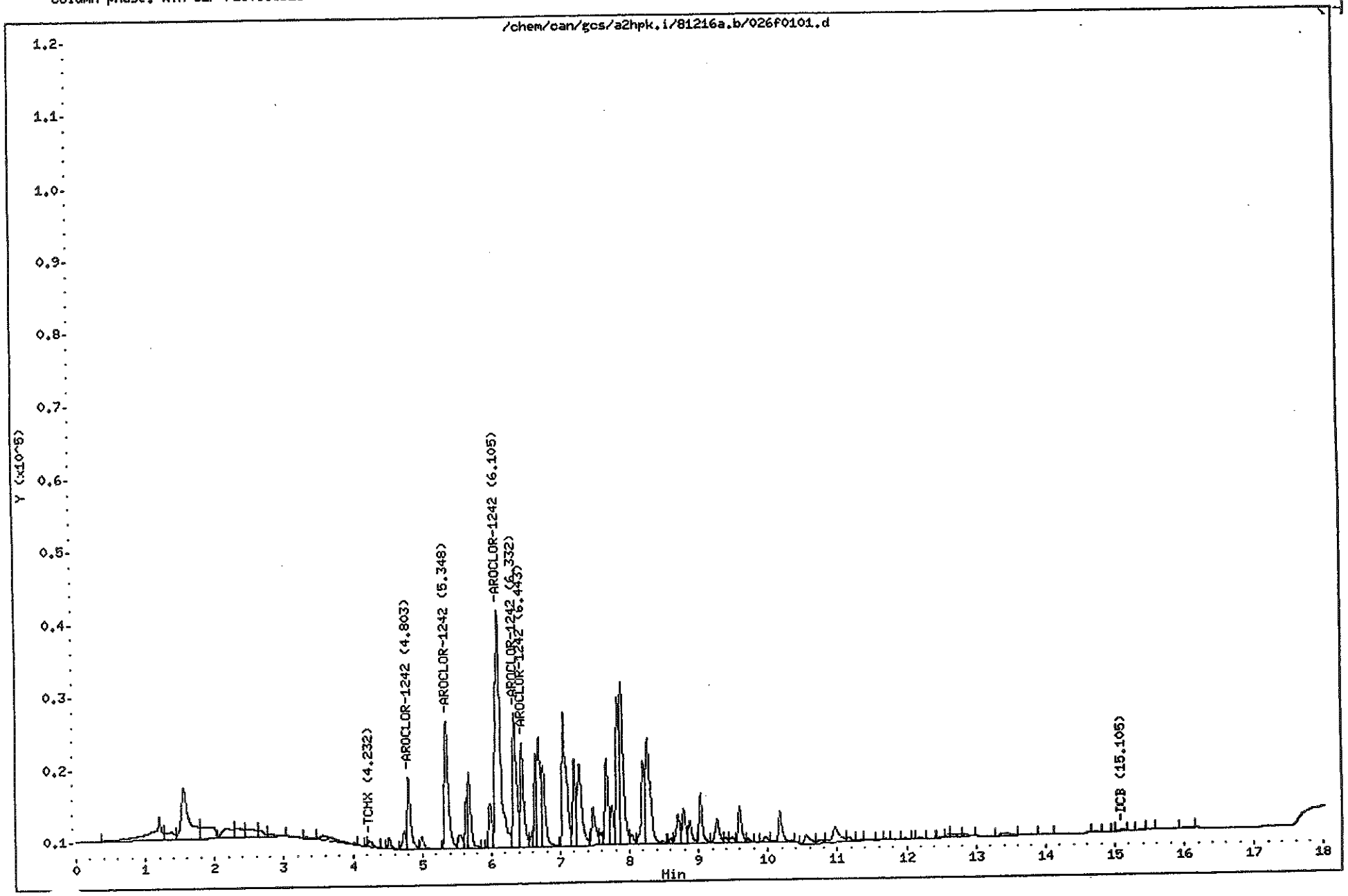
Data File: /chem/can/gcs/a2hpk.i/81216a.b/026f0101.d
Report Date: 22-Dec-1998 14:49

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81216a.b/026f0101.d
Date : 17-DEC-1998 03:25
Client ID: S-120198-JH-025
Sample Info: CNW6X101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 026

Sample WT/Vol: 30 / g
Work Order: CNW71101
Dilution factor: 1000
Moisture %:15

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-026

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	39000	U
11104-28-2	Aroclor 1221	39000	U
11141-16-5	Aroclor 1232	39000	U
53469-21-9	**Aroclor 1242**	**92000**	
12672-29-6	Aroclor 1248	39000	U
11097-69-1	Aroclor 1254	39000	U
11096-82-5	Aroclor 1260	39000	U

ata File: /chem/can/gcs/a2hpk.i/81216a.b/035f0101.d
eport Date: 22-Dec-1998 14:50

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/035f0101.d
Lab Smp Id: CNW71101 Client Smp ID: S-120198-JH-026
Inj Date : 17-DEC-1998 06:34
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW71101,1000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.232	4.272	-0.040	681	0.000415	138.4	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
4.738	4.802	-0.064	1465	0.21136	70450	80.00- 120.00	34.20(M)
5.347	5.347	0.000	10736	0.23967	79890	116.22- 193.70	250.67
6.107	6.103	0.004	15434	0.23154	77180	190.61- 317.68	360.35
6.333	6.330	0.003	9089	0.24131	80440	107.39- 178.98	212.21
6.443	6.442	0.001	6471	0.24151	80500	79.45- 132.42	151.09
Average of Peak Concentrations =					77690		

Data File: /chem/can/gcs/a2hpk.i/81216a.b/035f0101.d
Report Date: 22-Dec-1998 14:50

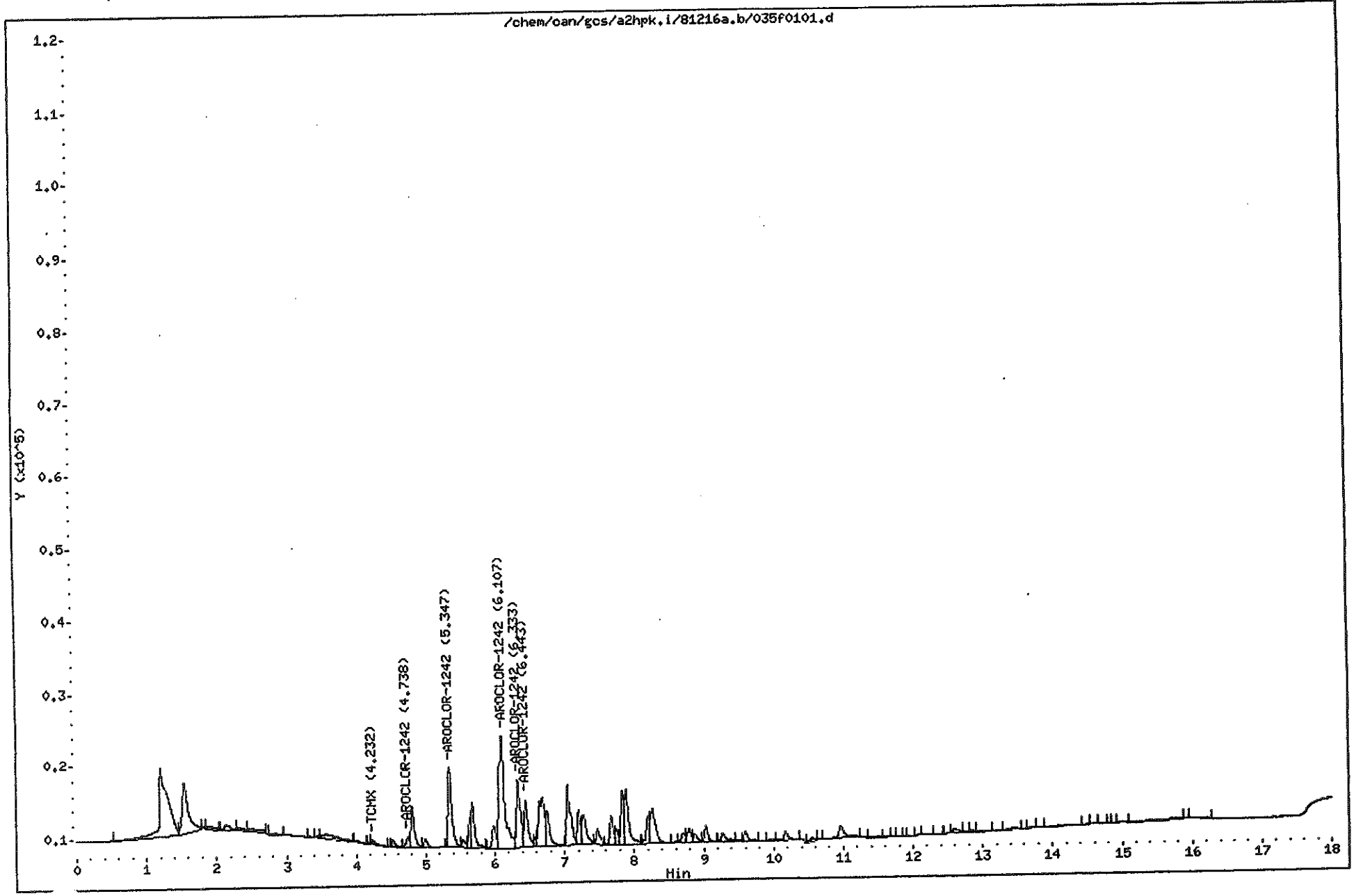
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/oan/gcs/a2hpk.i/81216a.b/035f0101.d
Date : 17-DEC-1998 06:34
Client ID: S-120198-JH-026
Sample Info: CNW71101,1000
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 027

Sample WT/Vol: 30 / g
Work Order: CNW73101
Dilution factor: 50
Moisture %:9.1

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-027

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	1800	U
11104-28-2	Aroclor 1221	1800	U
11141-16-5	Aroclor 1232	1800	U
53469-21-9	Aroclor 1242	1800	U
12672-29-6	**Aroclor 1248**	**6100**	
11097-69-1	Aroclor 1254	1800	U
11096-82-5	Aroclor 1260	1800	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/019f0101.d
Report Date: 22-Dec-1998 14:46

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/019f0101.d
Lab Smp Id: CNW73101 Client Smp ID: S-120198-JH-027
Inj Date : 17-DEC-1998 21:36
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW73101,50
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	50.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.270	4.270	0.000	566	0.000345	5.752	80.00- 120.00	100.00
6 AROCLOR-1248					CAS #: 12672-29-6		
5.633	5.338	0.295	2324	0.09609	1602	80.00- 120.00	22.14(M)
6.108	6.102	0.006	9485	0.23300	3883	137.72- 229.53	90.36
7.043	7.042	0.001	24525	0.42885	7148	181.30- 302.17	233.64
9.027	9.025	0.002	15087	0.45554	7592	108.43- 180.71	143.73
9.590	9.590	0.000	10252	0.45571	7595	78.36- 130.60	97.67
Average of Peak Concentrations =					5564		
$ 9 DCB					CAS #: 2051-24-3		
15.120	15.097	0.023	956	0.000725	12.08	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81217a.b/019f0101.d
Report Date: 22-Dec-1998 14:46

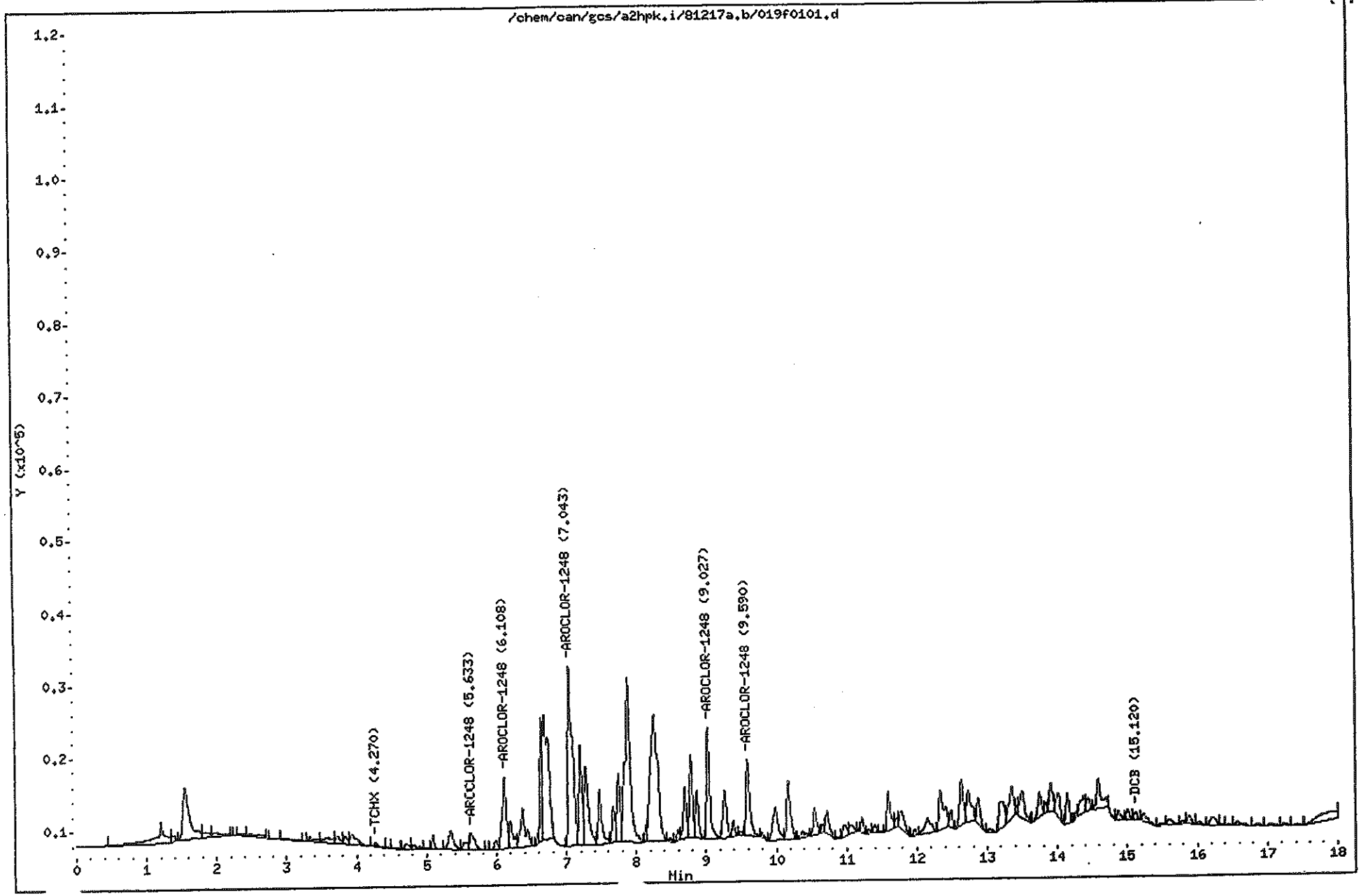
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/019f0101.d
Date : 17-DEC-1998 21:36
Client ID: S-120198-JH-027
Sample Info: CNW73101,50
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 028

Sample WT/Vol: 30 / g
Work Order: CNW74101
Dilution factor: 100
Moisture %:10

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-028

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3700	U
11104-28-2	Aroclor 1221	3700	U
11141-16-5	Aroclor 1232	3700	U
53469-21-9	**Aroclor 1242**	**6800**	
12672-29-6	Aroclor 1248	3700	U
11097-69-1	Aroclor 1254	3700	U
11096-82-5	Aroclor 1260	3700	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/037f0101.d
Report Date: 22-Dec-1998 14:50

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/037f0101.d
Lab Smp Id: CNW74101 Client Smp ID: S-120198-JH-028
Inj Date : 17-DEC-1998 07:16
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW74101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	446	0.000272	9.065	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.803	4.802	0.001	3800	0.14284	4761	80.00- 120.00	29.79(M)
	5.350	5.347	0.003	8899	0.19866	6622	116.22- 193.70	69.76
	6.107	6.103	0.004	14980	0.22473	7491	190.61- 317.68	117.43
	6.333	6.330	0.003	5635	0.14961	4987	107.39- 178.98	44.17
	6.443	6.442	0.001	5475	0.20434	6811	79.45- 132.42	42.92
Average of Peak Concentrations =						6134		
$ 9 DCB						CAS #: 2051-24-3		
	15.110	15.105	0.005	408	0.000309	10.31	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/037f0101.d
Report Date: 22-Dec-1998 14:50

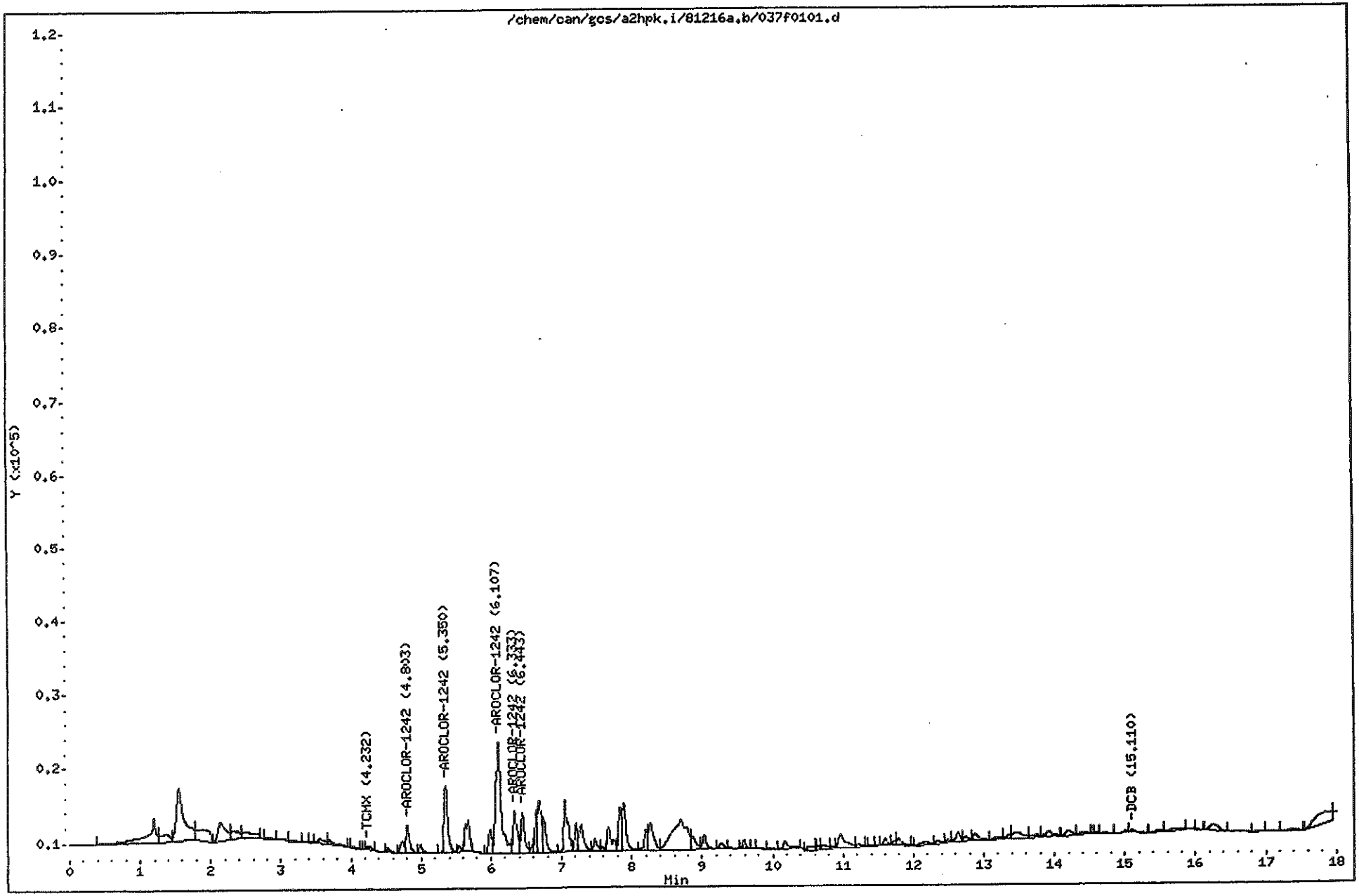
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81216a.b/037f0101.d
Date : 17-DEC-1998 07:16
Client ID: S-120198-JH-028
Sample Info: CNW74101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 029

Sample WT/Vol: 30 / g
Work Order: CNW76101
Dilution factor: 1000
Moisture %:8.9

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-029

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	**Aroclor 1016**	**120000**	
11104-28-2	Aroclor 1221	36000	U
11141-16-5	Aroclor 1232	36000	U
53469-21-9	Aroclor 1242	36000	U
12672-29-6	Aroclor 1248	36000	U
11097-69-1	Aroclor 1254	36000	U
11096-82-5	Aroclor 1260	36000	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/038f0101.d
Report Date: 17-Dec-1998 13:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/038f0101.d
Lab Smp Id: CNW76101 Client Smp ID: S-120198-JH-029
Inj Date : 17-DEC-1998 07:37
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW76101,1000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

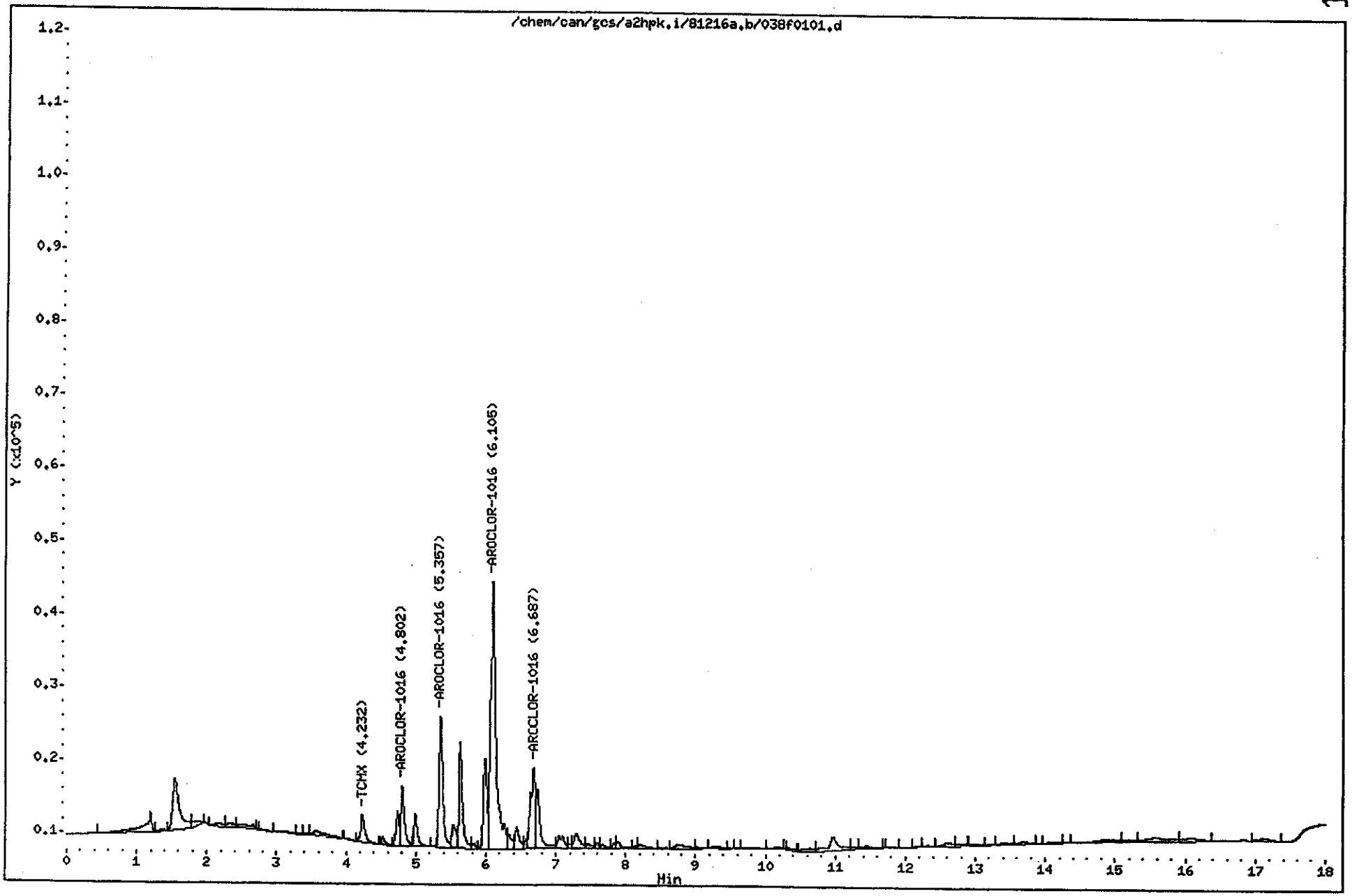
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	3903	0.00238	793.3	80.00- 120.00	100.00(R)
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.802	4.802	0.000	8109	0.26169	87230	80.00- 120.00	28.53(M)
	5.357	5.347	0.010	18034	0.33385	111300	125.29- 208.81	63.44
	6.105	6.105	0.000	36622	0.43683	145600	207.30- 345.49	128.83
	6.687	6.642	0.045	11156	0.31329	104400	81.88- 136.47	39.25
Average of Peak Concentrations =						112100		

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81216a.b/038f0101.d
Date : 17-DEC-1998 07:37
Client ID: S-120198-JH-029
Sample Info: CNW76101,1000
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 030

Sample WT/Vol: 30 / g
Work Order: CNW78101
Dilution factor: 1000
Moisture %:12

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-030

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38000	U
11104-28-2	Aroclor 1221	38000	U
11141-16-5	Aroclor 1232	38000	U
53469-21-9	**Aroclor 1242**	**130000**	
12672-29-6	Aroclor 1248	38000	U
11097-69-1	Aroclor 1254	38000	U
11096-82-5	Aroclor 1260	38000	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/039f0101.d
Report Date: 22-Dec-1998 14:50

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/039f0101.d
Lab Smp Id: CNW78101 Client Smp ID: S-120198-JH-030
Inj Date : 17-DEC-1998 07:58
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW78101,1000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	763	0.000465	155.1	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.803	4.802	0.001	8441	0.31729	105800	80.00- 120.00	29.17(M)
	5.348	5.347	0.001	13700	0.30584	101900	116.22- 193.70	47.34
	6.107	6.103	0.004	22898	0.34352	114500	190.61- 317.68	79.13
	6.333	6.330	0.003	12811	0.34013	113400	107.39- 178.98	44.27
	6.443	6.442	0.001	9285	0.34654	115500	79.45- 132.42	32.09
Average of Peak Concentrations =						110200		
$ 9 DCB						CAS #: 2051-24-3		
	15.115	15.105	0.010	41	<0.0	10.36	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/039f0101.d
Report Date: 22-Dec-1998 14:50

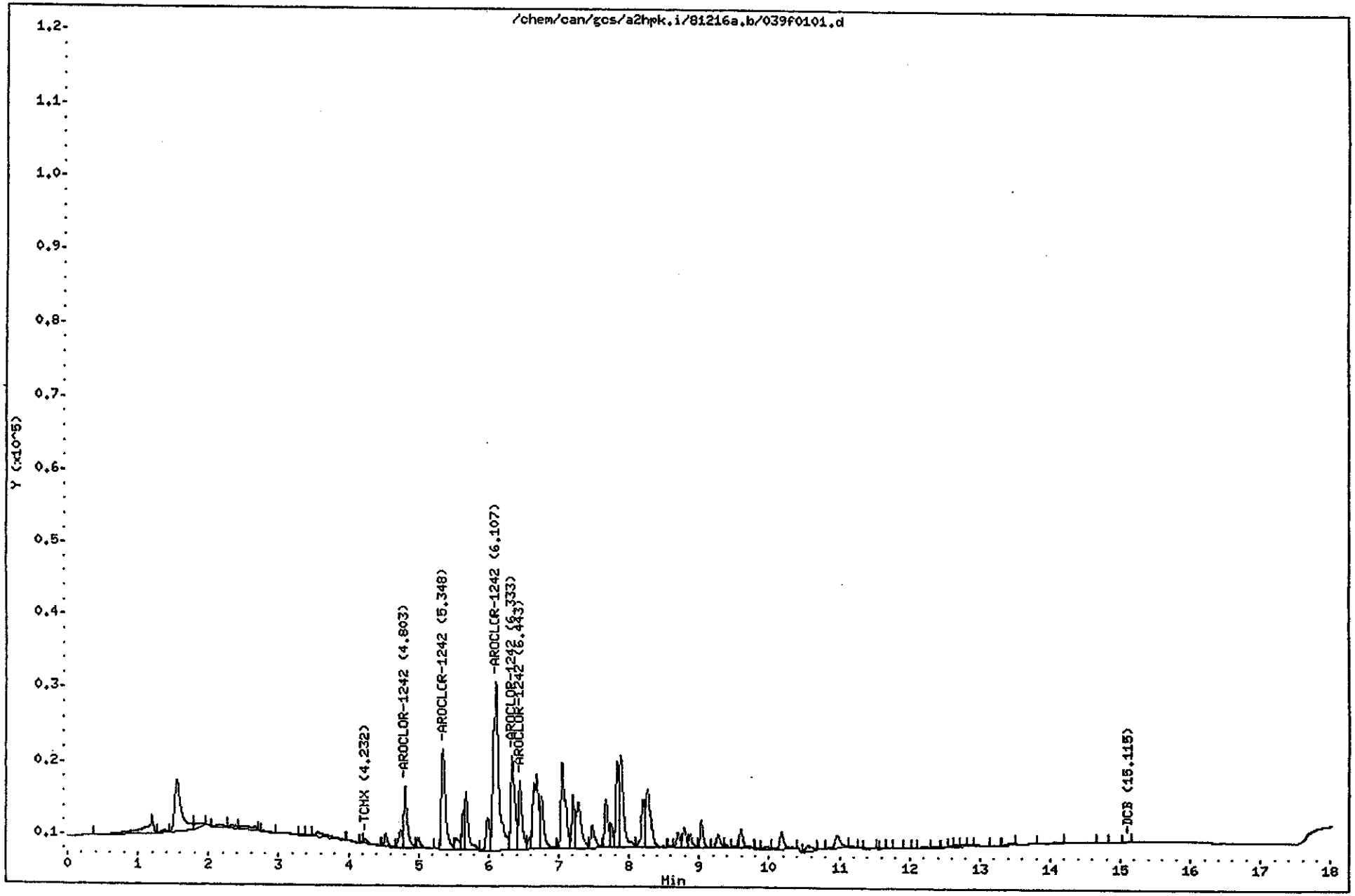
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81216a.b/039f0101.d
Date : 17-DEC-1998 07:58
Client ID: S-120198-JH-030
Sample Info: CNW78101,1000
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

131



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 031

Sample WT/Vol: 30 / g
Work Order: CNW7A101
Dilution factor: 100
Moisture %:9.6

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-031

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3700	U
11104-28-2	Aroclor 1221	3700	U
11141-16-5	Aroclor 1232	3700	U
53469-21-9	Aroclor 1242	35000	
12672-29-6	Aroclor 1248	3700	U
11097-69-1	Aroclor 1254	3700	U
11096-82-5	Aroclor 1260	3700	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/027f0101.d
Report Date: 22-Dec-1998 14:49

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/027f0101.d
Lab Smp Id: CNW7A101 Client Smp ID: S-120198-JH-031
Inj Date : 17-DEC-1998 03:46
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW7A101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	3420	0.00209	69.51	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.800	4.802	-0.002	18693	0.70266	23420	80.00- 120.00	27.90(M)
	5.352	5.347	0.005	44817	1.00049	33350	116.22- 193.70	66.90
	6.103	6.103	0.000	95462	1.43212	47740	190.61- 317.68	142.50
	6.332	6.330	0.002	17500	0.46462	15490	107.39- 178.98	26.12
	6.442	6.442	0.000	29120	1.08683	36230	79.45- 132.42	43.47
Average of Peak Concentrations =						31240		
$ 9 DCB						CAS #: 2051-24-3		
	15.105	15.105	0.000	376	0.000285	9.505	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/027f0101.d
Report Date: 22-Dec-1998 14:49

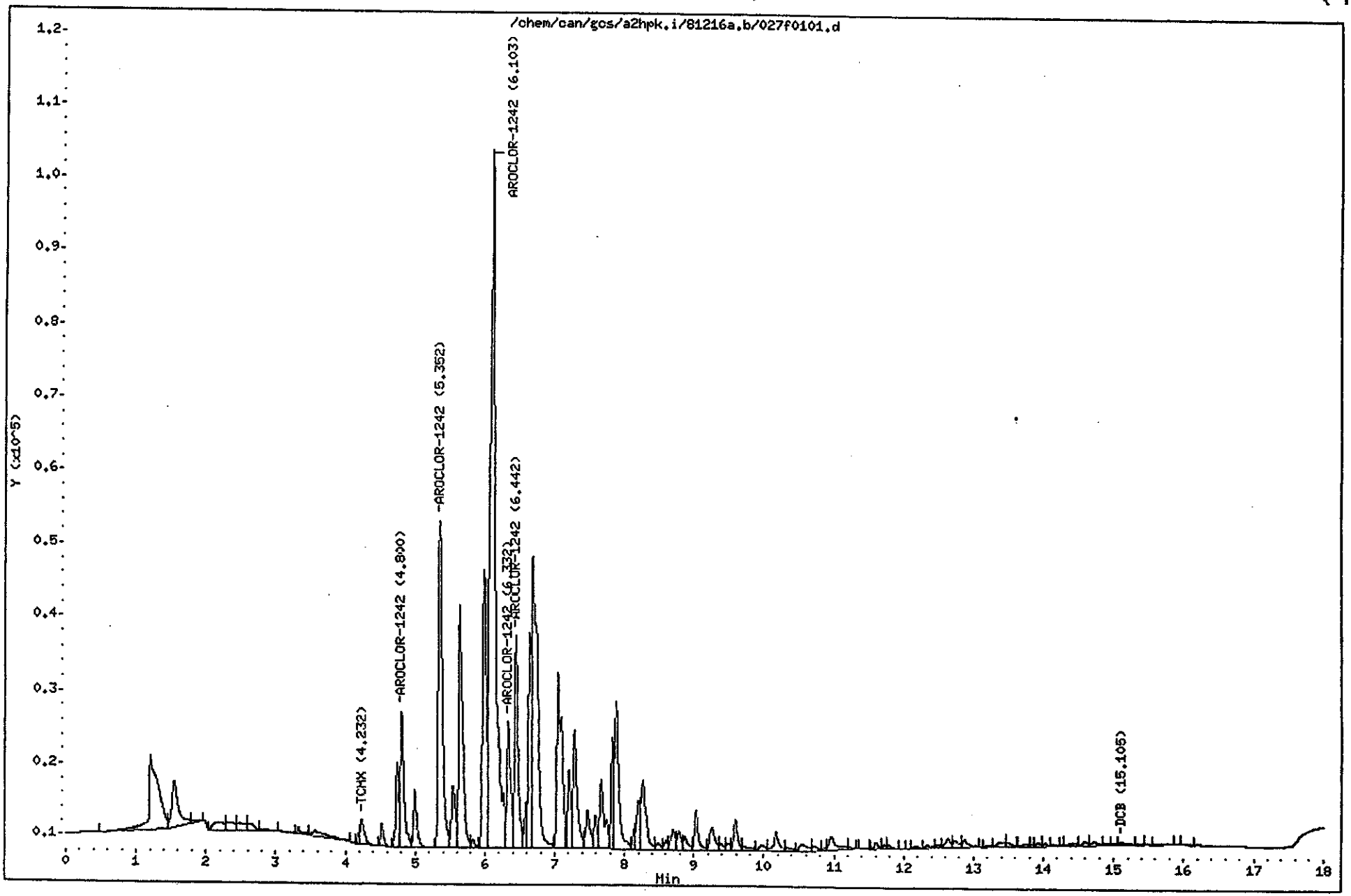
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81216a.b/027f0101.d
Date : 17-DEC-1998 03:46
Client ID: S-120198-JH-031
Sample Info: CNW7A101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 032

Sample WT/Vol: 30 / g
Work Order: CNW7C101
Dilution factor: 10
Moisture %:9.7

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-032

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	370	U
11104-28-2	Aroclor 1221	370	U
11141-16-5	Aroclor 1232	370	U
53469-21-9	**Aroclor 1242**	**1000**	
12672-29-6	Aroclor 1248	370	U
11097-69-1	Aroclor 1254	370	U
11096-82-5	Aroclor 1260	370	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/031f0101.d
Report Date: 22-Dec-1998 14:49

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/031f0101.d
Lab Smp Id: CNW7C101 Client Smp ID: S-120198-JH-032
Inj Date : 17-DEC-1998 05:10
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW7C101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.273	4.272	0.001	3479	0.00212	7.071	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.898	4.802	0.096	17784	0.66849	2228	80.00- 120.00	40.56(M)
	5.348	5.347	0.001	7475	0.16687	556.2	116.22- 193.70	17.05
	6.107	6.103	0.004	15171	0.22759	758.6	190.61- 317.68	34.60
	6.332	6.330	0.002	4838	0.12845	428.2	107.39- 178.98	11.04
	6.443	6.442	0.001	5353	0.19979	666.0	79.45- 132.42	12.21
Average of Peak Concentrations =						927.4		
7 AROCLOR-1254						CAS #: 11097-69-1		
	9.028	9.027	0.001	3116	0.03211	107.0	200.11- 333.51	18.28
	9.585	9.588	-0.003	3386	0.04850	161.7	146.07- 243.45	19.87
	9.998	9.967	0.031	2224	0.04048	134.9	109.33- 182.22	13.05

Data File: /chem/can/gcs/a2hpk.i/81216a.b/031f0101.d
Report Date: 22-Dec-1998 14:49

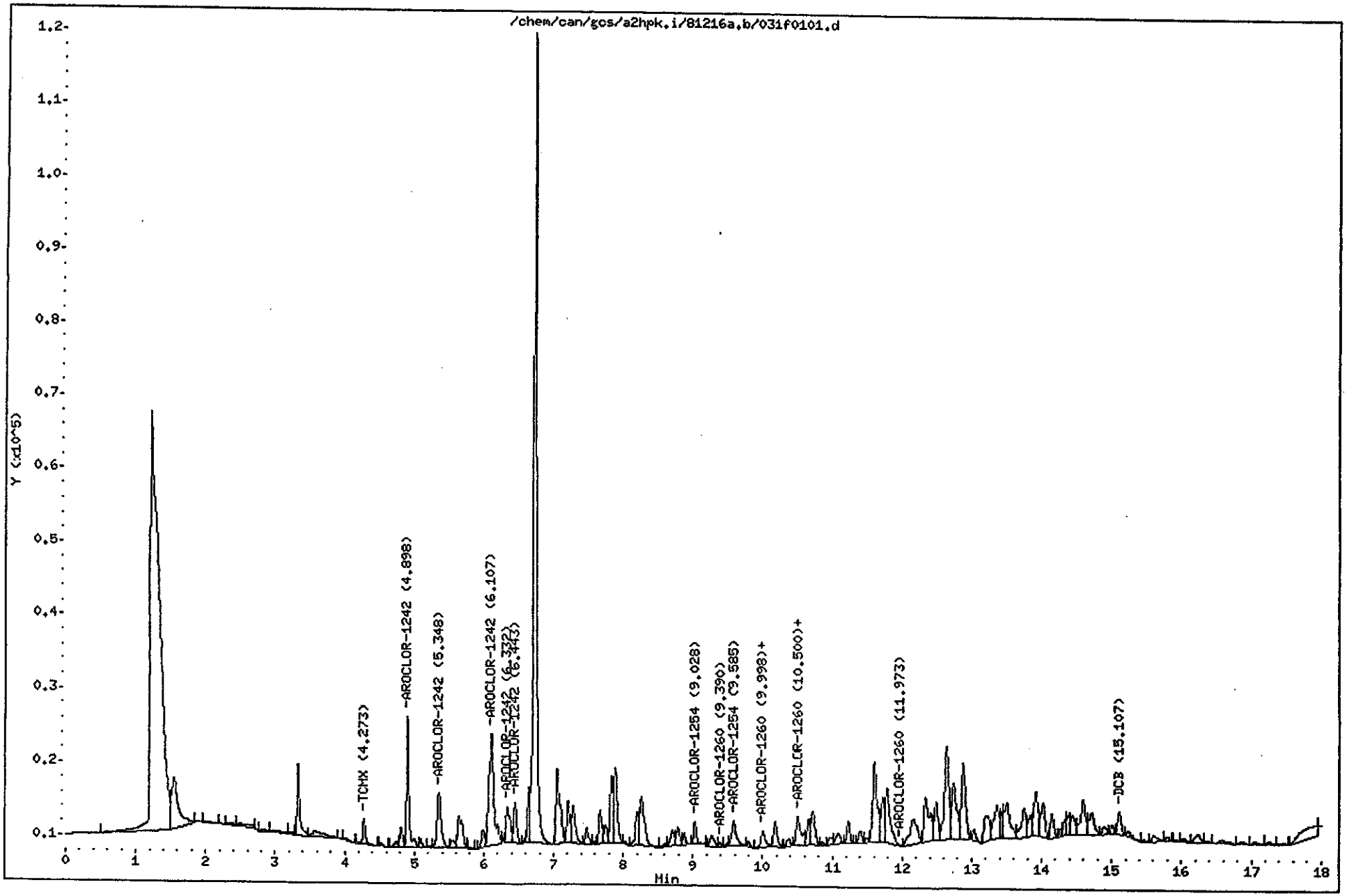
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
	7 AROCLOR-1254 (continued)							
	10.500	10.547	-0.047	3958	0.05030	167.7	155.51- 259.19	23.22
	Average of Peak Concentrations =					142.8		
	8 AROCLOR-1260					CAS #: 11096-82-5		
$	9 DCB					CAS #: 2051-24-3		
	15.107	15.105	0.002	3086	0.00234	7.802	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

a File: /chem/can/gcs/a2hpk.i/81216a.b/031f0101.d
Date : 17-DEC-1998 05:10
Client ID: S-120198-JH-032
Sample Info: CNW7C101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 033

Sample WT/Vol: 30 / g
Work Order: CNW7E101
Dilution factor: 5
Moisture %:16

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-033

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	200	U
11104-28-2	Aroclor 1221	200	U
11141-16-5	Aroclor 1232	200	U
53469-21-9	Aroclor 1242	200	U
12672-29-6	Aroclor 1248	200	U
11097-69-1	Aroclor 1254	200	U
11096-82-5	Aroclor 1260	200	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/018f0101.d
Report Date: 21-Dec-1998 07:11

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/018f0101.d
Lab Smp Id: CNW7E101 Client Smp ID: S-120198-JH-033
Inj Date : 17-DEC-1998 21:15
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW7E101,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 18-Dec-1998 09:32 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 5.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	5.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	5743	0.00350	5.836	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.798	0.004	821	0.02649	44.16	80.00- 120.00	31.56(M)
5.348	5.343	0.005	1485	0.02748	45.82	125.98- 209.97	57.09
6.108	6.100	0.008	3062	0.03652	60.87	209.34- 342.23	117.72
6.445	6.438	0.007	1461	0.04268	71.13	84.04- 140.07	56.17
		Average of Peak Concentrations =			55.49		
7 AROCLOR-1254					CAS #: 11097-69-1		
6.643	6.642	0.001	1706	0.04245	70.75	80.00- 120.00	21.40(M)
9.027	9.027	0.000	939	0.00968	16.12	187.57- 312.62	11.78
9.583	9.592	-0.009	852	0.01220	20.34	138.45- 230.75	10.69
9.997	9.968	0.029	440	0.00801	13.35	105.54- 175.89	5.52

ND < RL

ND < RL

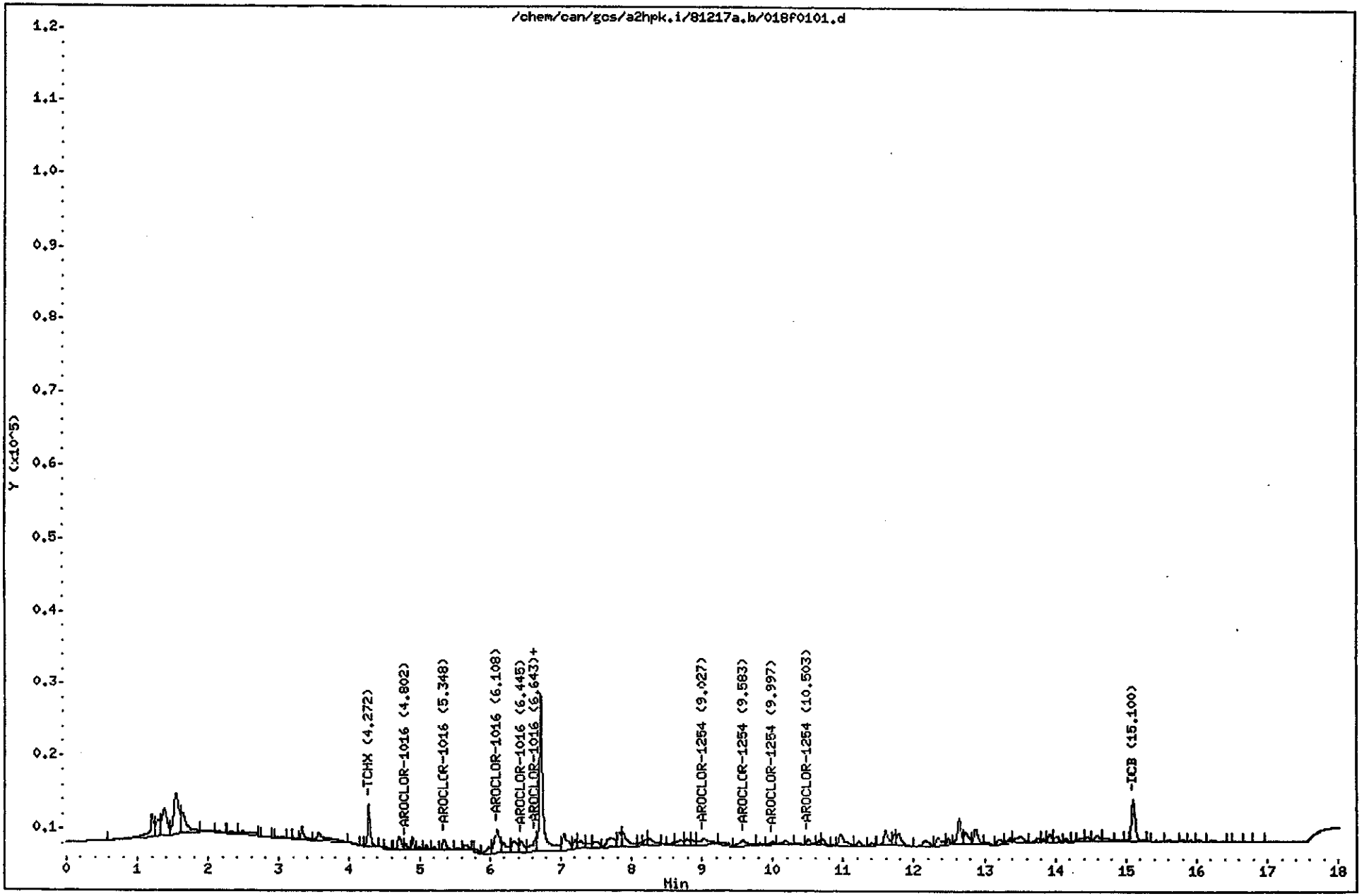
Data File: /chem/can/gcs/a2hpk.i/81217a.b/018f0101.d
Report Date: 21-Dec-1998 07:11

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
7 AROCLOR-1254 (continued)							
10.503	10.548	-0.045	717	0.00911	15.19	151.19- 251.98	8.99
Average of Peak Concentrations =					27.15		
$ 9 DCB					CAS #: 2051-24-3		
15.100	15.097	0.003	5559	0.00422	7.027	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81217a.b/018f0101.d
Date : 17-DEC-1998 21:15
Client ID: S-120198-JH-033
Instrument: a2hpk.i
Sample Info: CNW7E101,5
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 034

Sample WT/Vol: 30 / g
Work Order: CNW7G101
Dilution factor: 100
Moisture %:15

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-034

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3900	U
11104-28-2	Aroclor 1221	3900	U
11141-16-5	Aroclor 1232	3900	U
53469-21-9	**Aroclor 1242**	**64000**	
12672-29-6	Aroclor 1248	3900	U
11097-69-1	Aroclor 1254	3900	U
11096-82-5	Aroclor 1260	3900	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/033f0101.d
Report Date: 22-Dec-1998 14:49

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/033f0101.d
Lab Smp Id: CNW7G101 Client Smp ID: S-120198-JH-034
Inj Date : 17-DEC-1998 05:52
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW7G101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.230	4.272	-0.042	7527	0.00459	153.0	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.798	4.802	-0.004	60285	2.26607	75540	80.00- 120.00	28.54(M)
	5.353	5.347	0.006	71246	1.59049	53020	116.22- 193.70	33.73
	6.103	6.103	0.000	138000	2.07027	69010	190.61- 317.68	65.33
	6.330	6.330	0.000	24103	0.63993	21330	107.39- 178.98	11.41
	6.440	6.442	-0.002	43978	1.64137	54710	79.45- 132.42	20.82
Average of Peak Concentrations =						54720		
$ 9 DCB						CAS #: 2051-24-3		
	15.105	15.105	0.000	384	0.000291	9.708	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/033f0101.d
Report Date: 22-Dec-1998 14:49

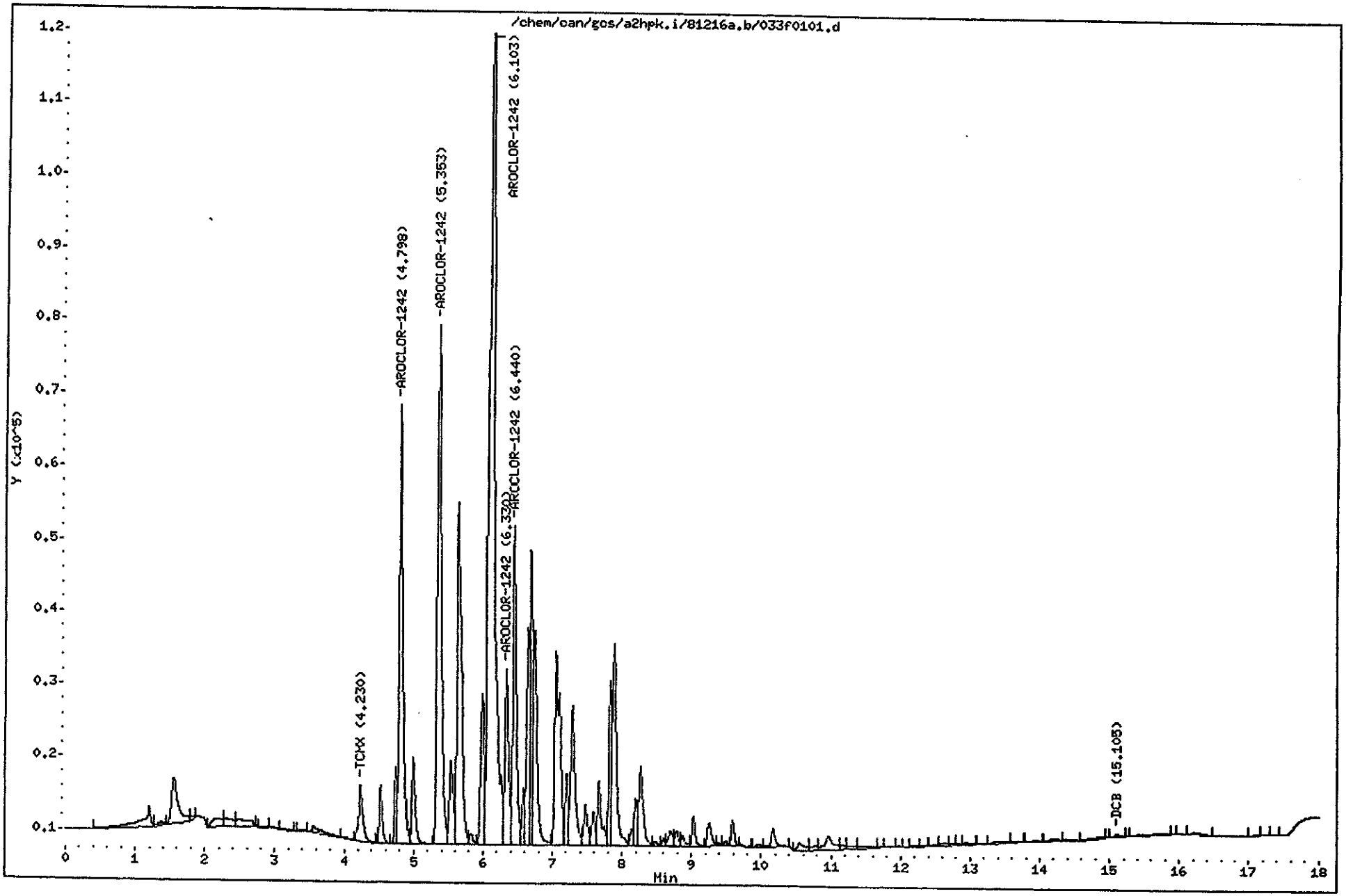
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81216a.b/033f0101.d
Date : 17-DEC-1998 05:52
Client ID: S-120198-JH-034
Sample Info: CNW7G101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020132 035

Sample WT/Vol: 30 / g
Work Order: CNW7H101
Dilution factor: 100
Moisture %:23

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120198-JH-035

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	4300	U
11104-28-2	Aroclor 1221	4300	U
11141-16-5	Aroclor 1232	4300	U
53469-21-9	**Aroclor 1242**	**39000**	
12672-29-6	Aroclor 1248	4300	U
11097-69-1	Aroclor 1254	4300	U
11096-82-5	Aroclor 1260	4300	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/034f0101.d
Report Date: 22-Dec-1998 14:49

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/034f0101.d
Lab Smp Id: CNW7H101 Client Smp ID: S-120198-JH-035
Inj Date : 17-DEC-1998 06:13
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNW7H101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.230	4.272	-0.042	4324	0.00264	87.88	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
4.800	4.802	-0.002	31817	1.19598	39860	80.00- 120.00	28.81(M)
5.353	5.347	0.006	39761	0.88762	29590	116.22- 193.70	36.00
6.103	6.103	0.000	76496	1.14759	38250	190.61- 317.68	69.26
6.332	6.330	0.002	14830	0.39373	13120	107.39- 178.98	13.43
6.442	6.442	0.000	24448	0.91246	30420	79.45- 132.42	22.13
Average of Peak Concentrations =					30250		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	388	0.000294	9.809	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/034f0101.d
Report Date: 22-Dec-1998 14:49

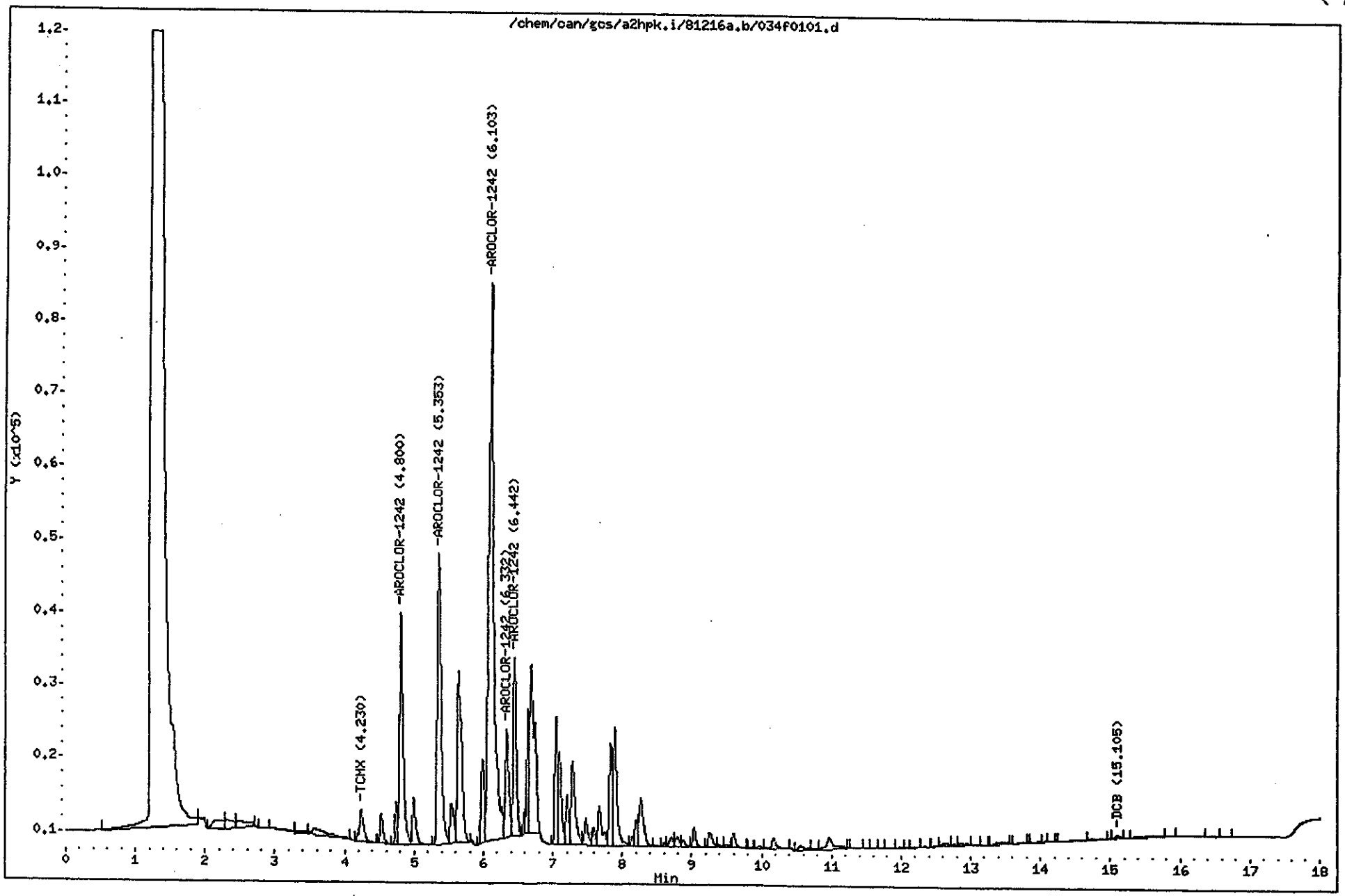
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chem/oan/gcs/a2hpk.i/81216a.b/034f0101.d
Date : 17-DEC-1998 06:13
Client ID: S-120198-JH-035
Sample Info: CNW7H101.100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



POLYCHLORINATED BIPHENYLS STANDARD DATA

Report Date : 03-Nov-1998 07:26

QUANTERRA-NORTH CANTON

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-1998 19:12
End Cal Date : 03-NOV-1998 03:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.40
Integrator : Falcon
Method file : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Cal Date : 03-Nov-1998 07:23 a
Curve Type : Average

Calibration File Names:
Level 1: /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Level 2: /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Level 3: /chem/can/gcs/a2hpk.i/81102ic.b/033f0101.d
Level 4: /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Level 5: /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d

Compound	0.10000 Level 1	0.20000 Level 2	0.50000 Level 3	1.000 Level 4	2.000 Level 5	___ RRF	% RSD	
2 AROCLOR-1221	(1)	21460	20730	20190	17924	16131	19287	11.430	
	(2)	16100	15495	14828	12623	11417	14093	14.128	
	(3)	54310	50655	46518	39154	34580	45044	18.025	
3 AROCLOR-1016	(1)	36790	34585	30874	27590	25098	30988	15.548	
	(2)	68020	62015	53172	46229	40652	54018	20.698	<-
	(3)	95450	91205	84420	77017	71084	83835	11.908	<-
	(4)	37260	36240	34612	32368	30694	34235	7.910	<-
	(5)	44370	40335	35072	30878	27392	35609	19.318	<-
4 AROCLOR-1232	(1)	14570	13965	13636	12490	11190	13170	10.180	
	(2)	44780	41635	38238	33204	28606	37292	17.378	
	(3)	31460	29150	26666	23094	19667	26007	18.109	
	(4)	40820	39330	39264	35707	32122	37448	9.404	
	(5)	24030	22405	22566	20457	18176	21527	10.513	
5 AROCLOR-1242	(1)	31840	30125	27060	23943	20048	26603	17.838	
	(2)	56560	52325	45014	38604	31472	44795	22.628	<-
	(3)	75200	73520	68926	62323	53320	66658	13.457	<-
	(4)	42720	41435	39098	35261	29812	37665	13.876	<-
	(5)	27900	27675	28504	26690	23198	26793	7.888	<-
6 AROCLOR-1248	(1)	29320	27330	25062	20952	18260	24185	18.788	
	(2)	44030	42975	43582	38093	34856	40707	9.942	
	(3)	67850	63805	60072	50051	44158	57187	17.189	
	(4)	37480	34790	34958	30333	28032	33119	11.579	
	(5)	24310	23460	24076	20988	19650	22497	9.189	
7 AROCLOR-1254	(1)	50240	45555	41024	34541	29584	40189	20.627	<-
	(2)	112520	106390	100994	87149	78194	97050	14.533	<-
	(3)	79920	75180	73302	63530	57108	69808	13.285	<-
	(4)	65830	60935	56698	48419	42828	54942	16.948	<-
	(5)	91290	84715	81994	71097	64358	78691	13.761	<-

Report Date : 03-Nov-1998 07:26

QUANTERRA-NORTH CANTON

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-1998 19:12
End Cal Date : 03-NOV-1998 03:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.40
Integrator : Falcon
Method file : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Cal Date : 03-Nov-1998 07:23 a
Curve Type : Average

Compound	0.10000 Level 1	0.20000 Level 2	0.50000 Level 3	1.000 Level 4	2.000 Level 5	___ RRF	% RSD	
8 AROCLOR-1260 (1)	41870	38700	34348	30809	28066	34759	16.190	
(2)	99700	91190	76716	67402	60600	79122	20.529	<-
(3)	114350	105560	90302	79608	72222	92428	18.994	<-
(4)	105850	99095	89990	82641	76873	90890	12.977	<-
(5)	146110	136360	125742	116497	111328	127207	11.187	<-
10 AROCLOR-1262 (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
11 AROCLOR-1268 (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
$ 1 TCMX	1809400	1745600	1665280	1571180	1408790	1640050	9.577	
$ 9 DCB	1493200	1454700	1321880	1224460	1098450	1318538	12.366	

Report Date: 05-Nov-1998 17:03

Calibration History

Method : /chem/can/gcs/a2hpk.i/81102a.b/kfpcbIII.m
Start Cal Date: 21-SEP-1998 13:45
End Cal Date : 13-OCT-1998 18:00

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.1000		
13-OCT-1998 16:15	AR1262	012f0101.d
23-SEP-1998 11:27	AR1232	013f0101.d
23-SEP-1998 09:42	AR1242	008f0101.d
21-SEP-1998 17:15	AR1248	013f0101.d
21-SEP-1998 15:30	AR2154	008f0101.d
21-SEP-1998 13:45	AR1660td	003f0101.d
Cal Level: 2 , Cal Amount: 0.2000		
13-OCT-1998 16:36	AR1262	013f0101.d
23-SEP-1998 11:48	AR1232	014f0101.d
23-SEP-1998 10:03	AR1242	009f0101.d
21-SEP-1998 17:36	AR1248	014f0101.d
21-SEP-1998 15:51	AR2154	009f0101.d
21-SEP-1998 14:06	AR1660td	004f0101.d
Cal Level: 3 , Cal Amount: 0.5000		
13-OCT-1998 16:57	AR1262	014f0101.d
13-OCT-1998 18:00	AR1268	017f0101.d
23-SEP-1998 12:09	AR1232	015f0101.d
23-SEP-1998 10:24	AR1242	010f0101.d
21-SEP-1998 17:57	AR1248	015f0101.d
21-SEP-1998 16:12	AR2154	010f0101.d
21-SEP-1998 14:27	AR1660td	005f0101.d
Cal Level: 4 , Cal Amount: 1.000		
13-OCT-1998 17:18	AR1262	015f0101.d
23-SEP-1998 12:30	AR1232	016f0101.d
23-SEP-1998 10:45	AR1242	011f0101.d
21-SEP-1998 18:18	AR1248	016f0101.d
21-SEP-1998 16:33	AR2154	011f0101.d
21-SEP-1998 14:48	AR1660td	006f0101.d
Cal Level: 5 , Cal Amount: 2.000		
13-OCT-1998 17:39	AR1262	016f0101.d
23-SEP-1998 12:51	AR1232	017f0101.d
23-SEP-1998 11:06	AR1242	012f0101.d
21-SEP-1998 18:39	AR1248	017f0101.d

21-SEP-1998 15:09	AR1660td	007f0101.d

Continuing Calibration

02-NOV-1998 14:10	AR1660td	017f0101.d
02-NOV-1998 10:09	AR1232	007f0101.d
02-NOV-1998 09:48	AR1242	006f0101.d
02-NOV-1998 09:27	AR1248	005f0101.d
02-NOV-1998 09:06	AR2154	004f0101.d
02-NOV-1998 13:18	AR1660td	016f0101.d
02-NOV-1998 08:45	AR1660td	003f0101.d

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/011f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/011f0101.d
Lab Smp Id: 1660 C064
Inj Date : 02-NOV-1998 19:12
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C064,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 19:12 Cal File: 011f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.298	4.297	0.001	9047	0.00500	0.005000	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.837	4.828	0.009	3679	0.10000	0.1000	75.00- 125.00	100.00
5.382	5.380	0.002	6802	0.10000	0.1000	129.17- 215.28	184.89
6.147	6.138	0.009	9545	0.10000	0.1000	205.08- 341.79	259.45
6.487	6.480	0.007	3726	0.10000	0.1000	84.08- 140.13	101.28
6.685	6.680	0.005	4437	0.10000	0.1000	85.20- 142.00	120.60
Average of Peak Amounts =					0.1		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.287	8.282	0.005	4187	0.10000	0.1000	75.00- 125.00	100.00
9.445	9.440	0.005	9970	0.10000	0.1000	167.51- 279.19	238.12
10.012	10.007	0.005	11435	0.10000	0.1000	197.18- 328.63	273.11
10.605	10.600	0.005	10585	0.10000	0.1000	196.50- 327.49	252.81
12.033	12.030	0.003	14611	0.10000	0.1000	274.56- 457.60	348.96
Average of Peak Amounts =					0.1		
$ 9 DCB					CAS #: 2051-24-3		
15.180	15.177	0.003	7466	0.00500	0.005000	75.00- 125.00	100.00

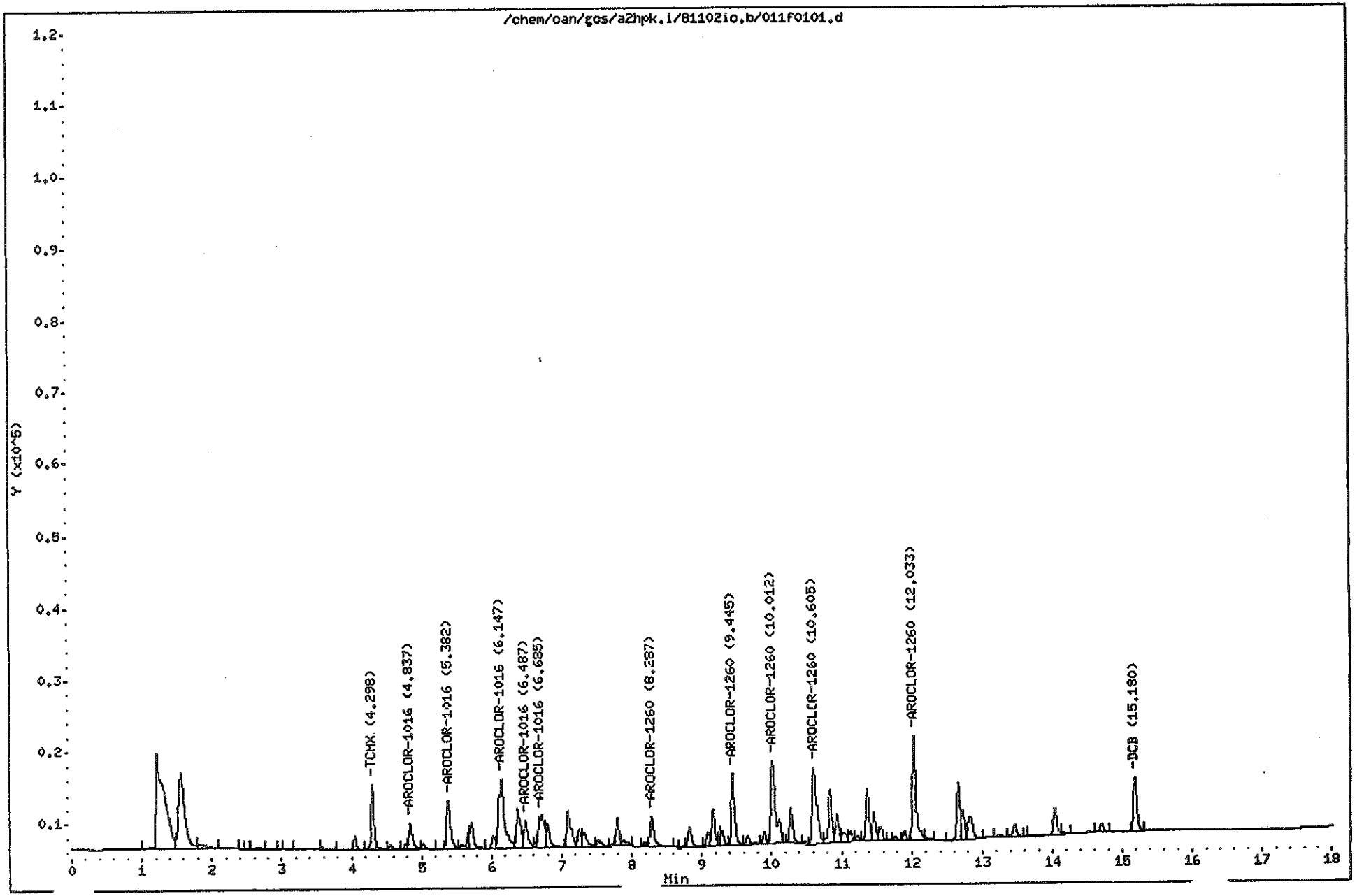
Data File: /chem/can/gcs/a2hpk.i/81102ic.b/011f0101.d
Date : 02-NOV-1998 19:12
Client ID:
Sample Info: 1660 C064,,1,1

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

CO 15 1



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/012f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/012f0101.d
Lab Smp Id: 1660 C065
Inj Date : 02-NOV-1998 19:33
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C065,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 19:33 Cal File: 012f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

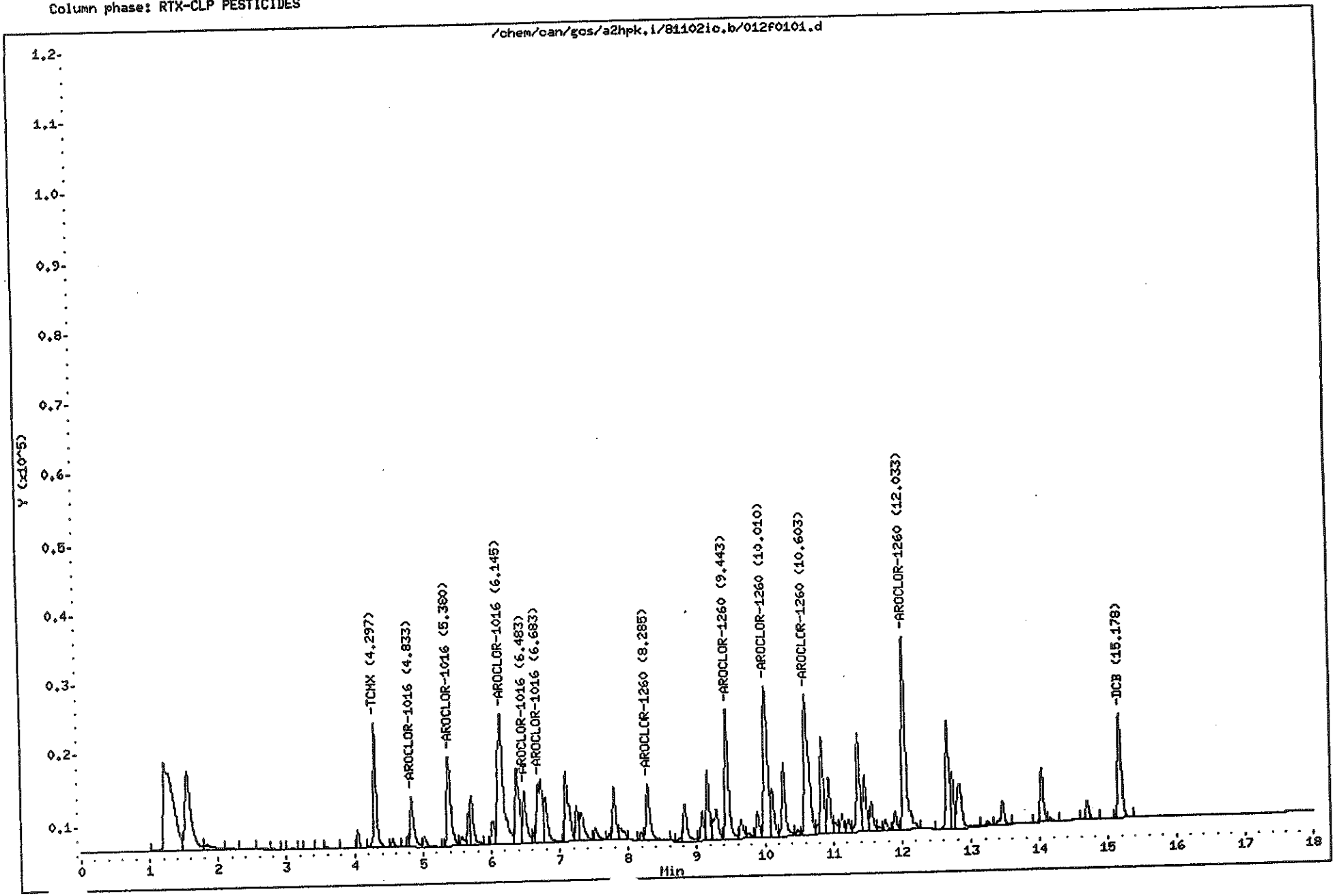
				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.297	4.297	0.000	17456	0.01000	0.009820	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.833	4.828	0.005	6917	0.20000	0.1938	75.00- 125.00	100.00
5.380	5.380	0.000	12403	0.20000	0.1908	129.17- 215.28	179.31
6.145	6.138	0.007	18241	0.20000	0.1954	205.08- 341.79	263.71
6.483	6.480	0.003	7248	0.20000	0.1972	84.08- 140.13	104.79
6.683	6.680	0.003	8067	0.20000	0.1905	85.20- 142.00	116.63
Average of Peak Amounts =					0.194		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.285	8.282	0.003	7740	0.20000	0.1921	75.00- 125.00	100.00
9.443	9.440	0.003	18238	0.20000	0.1911	167.51- 279.19	235.63
10.010	10.007	0.003	21132	0.20000	0.1921	197.18- 328.63	273.02
10.603	10.600	0.003	19819	0.20000	0.1934	196.50- 327.49	256.06
12.033	12.030	0.003	27272	0.20000	0.1931	274.56- 457.60	352.35
Average of Peak Amounts =					0.192		
$ 9 DCB					CAS #: 2051-24-3		
15.178	15.177	0.001	14547	0.01000	0.009869	75.00- 125.00	100.00

Data File: /chem/can/gos/a2hpk.i/81102ic.b/012f0101.d
Date : 02-NOV-1998 19:33
Client ID:
Sample Info: 1660 C065,,1,2

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/013f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/013f0101.d
Lab Smp Id: 1660 C066
Inj Date : 02-NOV-1998 19:54
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C066,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 19:54 Cal File: 013f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

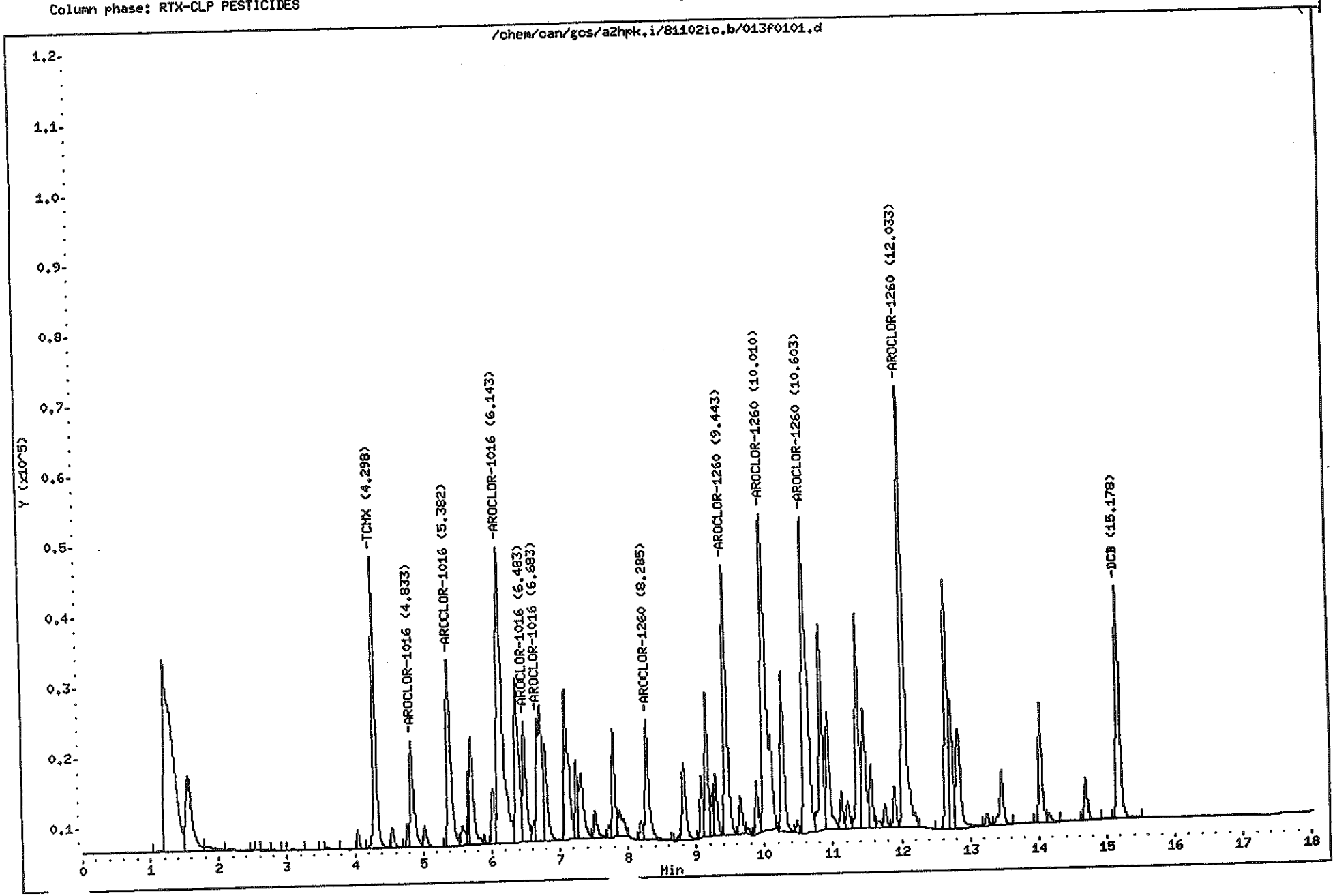
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.298	4.297	0.001	41632	0.02500	0.02392	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.833	4.828	0.005	15437	0.50000	0.4529	75.00- 125.00	100.00
5.382	5.380	0.002	26586	0.50000	0.4353	129.17- 215.28	172.22
6.143	6.138	0.005	42210	0.50000	0.4671	205.08- 341.79	273.43
6.483	6.480	0.003	17306	0.50000	0.4802	84.08- 140.13	112.11
6.683	6.680	0.003	17536	0.50000	0.4392	85.20- 142.00	113.60
Average of Peak Amounts =					0.455		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.285	8.282	0.003	17174	0.50000	0.4483	75.00- 125.00	100.00
9.443	9.440	0.003	38358	0.50000	0.4300	167.51- 279.19	223.35
10.010	10.007	0.003	45151	0.50000	0.4365	197.18- 328.63	262.90
10.603	10.600	0.003	44995	0.50000	0.4577	196.50- 327.49	261.99
12.033	12.030	0.003	62871	0.50000	0.4620	274.56- 457.60	366.08
Average of Peak Amounts =					0.447		
$ 9 DCB					CAS #: 2051-24-3		
15.178	15.177	0.001	33047	0.02500	0.02322	75.00- 125.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/013f0101.d
Date : 02-NOV-1998 19:54
Client ID:
Sample Info: 1660 C066,,1,3

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/014f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/014f0101.d
Lab Smp Id: 1660 C067
Inj Date : 02-NOV-1998 20:15
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C067,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 20:15 Cal File: 014f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

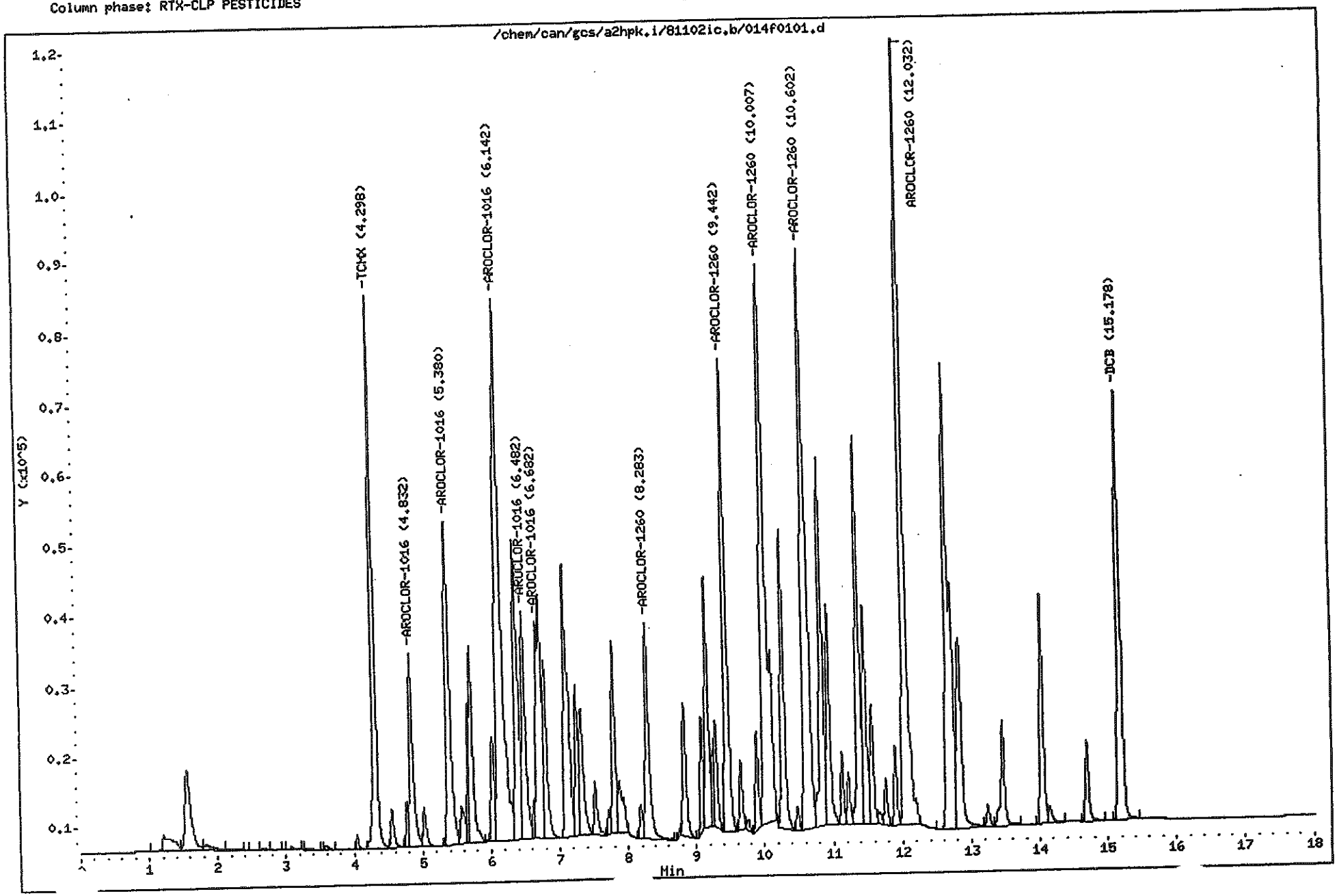
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.298	4.297	0.001	78559	0.05000	0.04627	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.832	4.828	0.004	27590	1.00000	0.8500	75.00- 125.00	100.00
5.380	5.380	0.000	46229	1.00000	0.8060	129.17- 215.28	167.56
6.142	6.138	0.004	77017	1.00000	0.8850	205.08- 341.79	279.15
6.482	6.480	0.002	32368	1.00000	0.9216	84.08- 140.13	117.32
6.682	6.680	0.002	30878	1.00000	0.8198	85.20- 142.00	111.92
Average of Peak Amounts =					0.856		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.283	8.282	0.001	30809	1.00000	0.8457	75.00- 125.00	100.00
9.442	9.440	0.002	67402	1.00000	0.8048	167.51- 279.19	218.77
10.007	10.007	0.000	79608	1.00000	0.8166	197.18- 328.63	258.39
10.602	10.600	0.002	82641	1.00000	0.8755	196.50- 327.49	268.24
12.032	12.030	0.002	116497	1.00000	0.8881	274.56- 457.60	378.13
Average of Peak Amounts =					0.846		
$ 9 DCB					CAS #: 2051-24-3		
15.178	15.177	0.001	61223	0.05000	0.04457	75.00- 125.00	100.00

Data File: /chem/can/gcs/a2hpk.i/811021c.b/014f0101.d
Date : 02-NOV-1998 20:15
Client ID:
Sample Info: 1660 C067,,1,4

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/015f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/015f0101.d
Lab Smp Id: 1660 C068
Inj Date : 02-NOV-1998 20:36
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C068,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 20:36 Cal File: 015f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

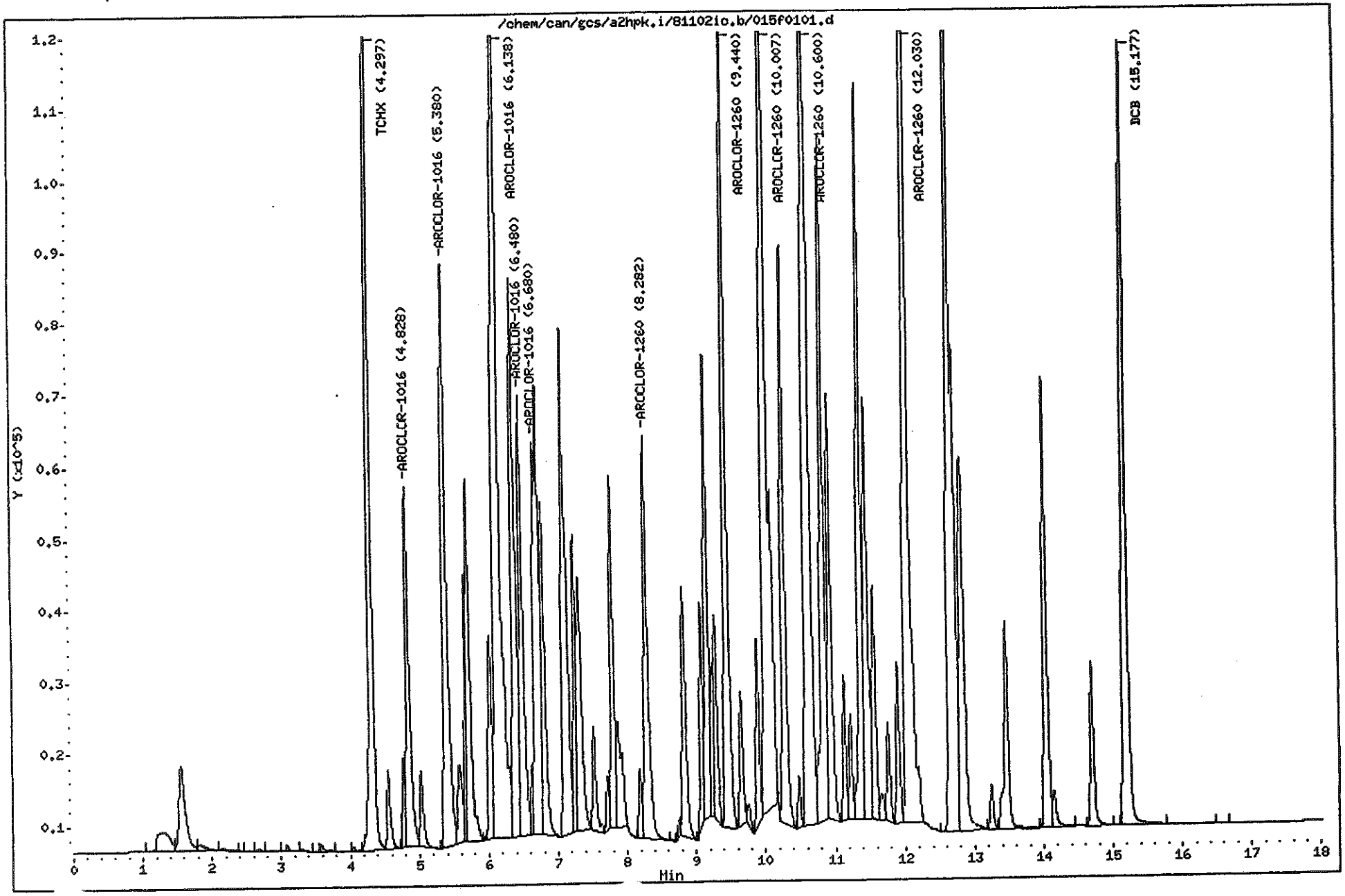
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
$ 1 TCMX						CAS #: 877-09-8		
4.297	4.297	0.000	140879	0.10000	0.08590	75.00- 125.00		100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
4.828	4.828	0.000	50197	2.00000	1.620	75.00- 125.00		100.00
5.380	5.380	0.000	81304	2.00000	1.505	129.17- 215.28		161.97
6.138	6.138	0.000	142169	2.00000	1.696	205.08- 341.79		283.22
6.480	6.480	0.000	61389	2.00000	1.793	84.08- 140.13		122.30
6.680	6.680	0.000	54783	2.00000	1.538	85.20- 142.00		109.14
Average of Peak Amounts =					1.63			
8 AROCLOR-1260						CAS #: 11096-82-5		
8.282	8.282	0.000	56132	2.00000	1.615	75.00- 125.00		100.00
9.440	9.440	0.000	121200	2.00000	1.532	167.51- 279.19		215.92
10.007	10.007	0.000	144445	2.00000	1.563	197.18- 328.63		257.33
10.600	10.600	0.000	153746	2.00000	1.692	196.50- 327.49		273.90
12.030	12.030	0.000	222656	2.00000	1.750	274.56- 457.60		396.67
Average of Peak Amounts =					1.63			
$ 9 DCB						CAS #: 2051-24-3		
15.177	15.177	0.000	109845	0.10000	0.08331	75.00- 125.00		100.00

Data File: /chem/can/gcs/a2hpk.i/811021c.b/015f0101.d
Date : 02-NOV-1998 20:36
Client ID:
Sample Info: 1660 C068,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/016f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/016f0101.d
Lab Smp Id: 2154 C059
Inj Date : 02-NOV-1998 20:57
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C059,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 20:57 Cal File: 016f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

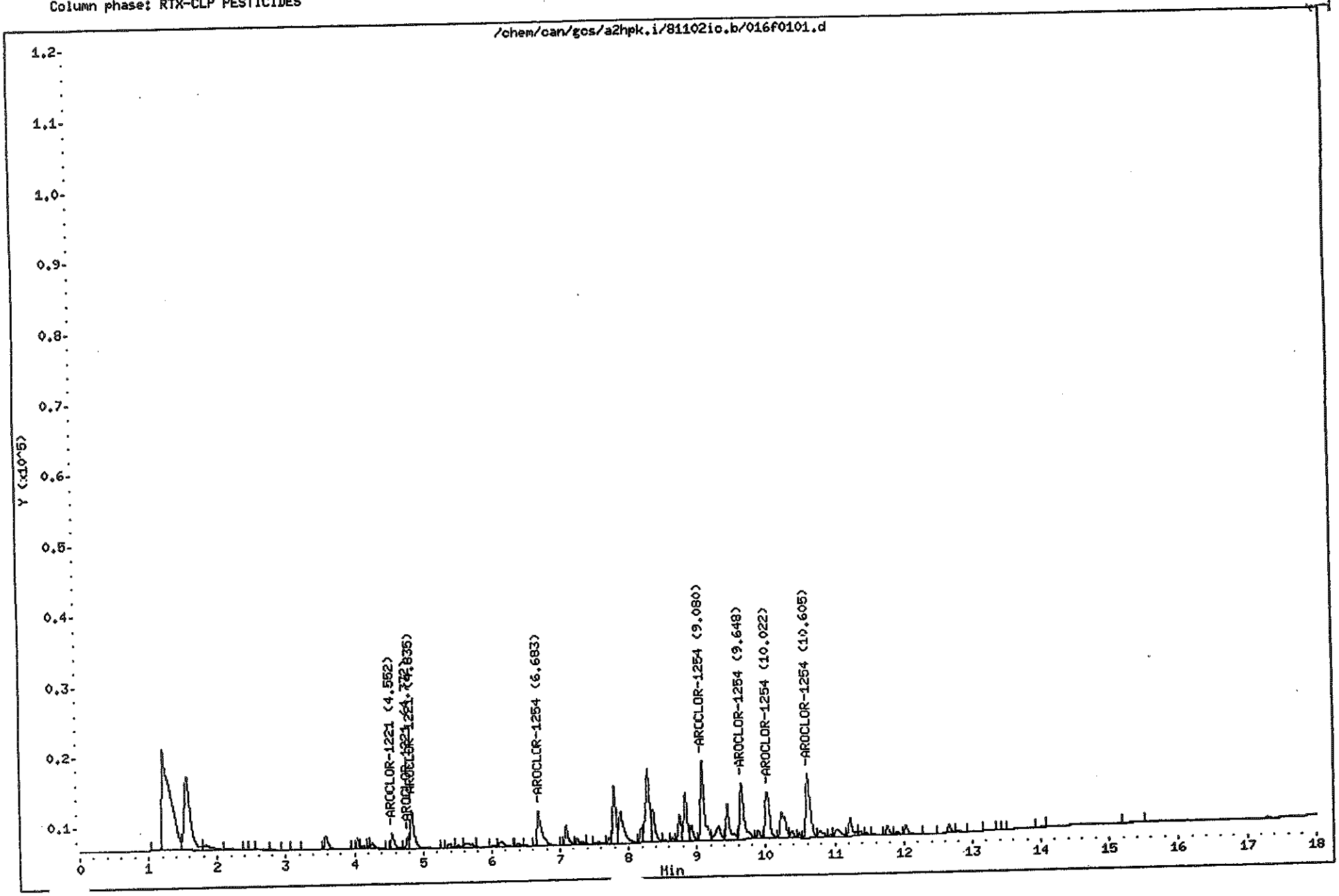
				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.683	6.680	0.003	5024	0.10000	0.1000	75.00- 125.00	100.00
9.080	9.077	0.003	11252	0.10000	0.1000	184.64- 307.73	223.96
9.648	9.640	0.008	7992	0.10000	0.1000	134.01- 223.35	159.08
10.022	10.022	0.000	6583	0.10000	0.1000	103.66- 172.76	131.03
10.605	10.602	0.003	9129	0.10000	0.1000	149.90- 249.84	181.71
Average of Peak Amounts =					0.1		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.552	4.547	0.005	2146	0.10000	0.1000	75.00- 125.00	100.00
4.772	4.765	0.007	1610	0.10000	0.1000	55.08- 91.80	75.02
4.835	4.828	0.007	5431	0.10000	0.1000	172.80- 288.00	253.08
Average of Peak Amounts =					0.1		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/016f0101.d
Date : 02-NOV-1998 20:57
Client ID:
Sample Info: 2154 C059,,1,1

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/017f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/017f0101.d
Lab Smp Id: 2154 C060
Inj Date : 02-NOV-1998 21:18
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C060,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 21:18 Cal File: 017f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.683	6.680	0.003	9111	0.20000	0.1902	75.00- 125.00	100.00
9.080	9.077	0.003	21278	0.20000	0.1944	184.64- 307.73	233.54
9.648	9.640	0.008	15036	0.20000	0.1939	134.01- 223.35	165.03
10.022	10.022	0.000	12187	0.20000	0.1923	103.66- 172.76	133.76
10.603	10.602	0.001	16943	0.20000	0.1925	149.90- 249.84	185.96
Average of Peak Amounts =					0.193		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.550	4.547	0.003	4146	0.20000	0.1965	75.00- 125.00	100.00
4.770	4.765	0.005	3099	0.20000	0.1962	55.08- 91.80	74.75
4.833	4.828	0.005	10131	0.20000	0.1930	172.80- 288.00	244.36
Average of Peak Amounts =					0.195		

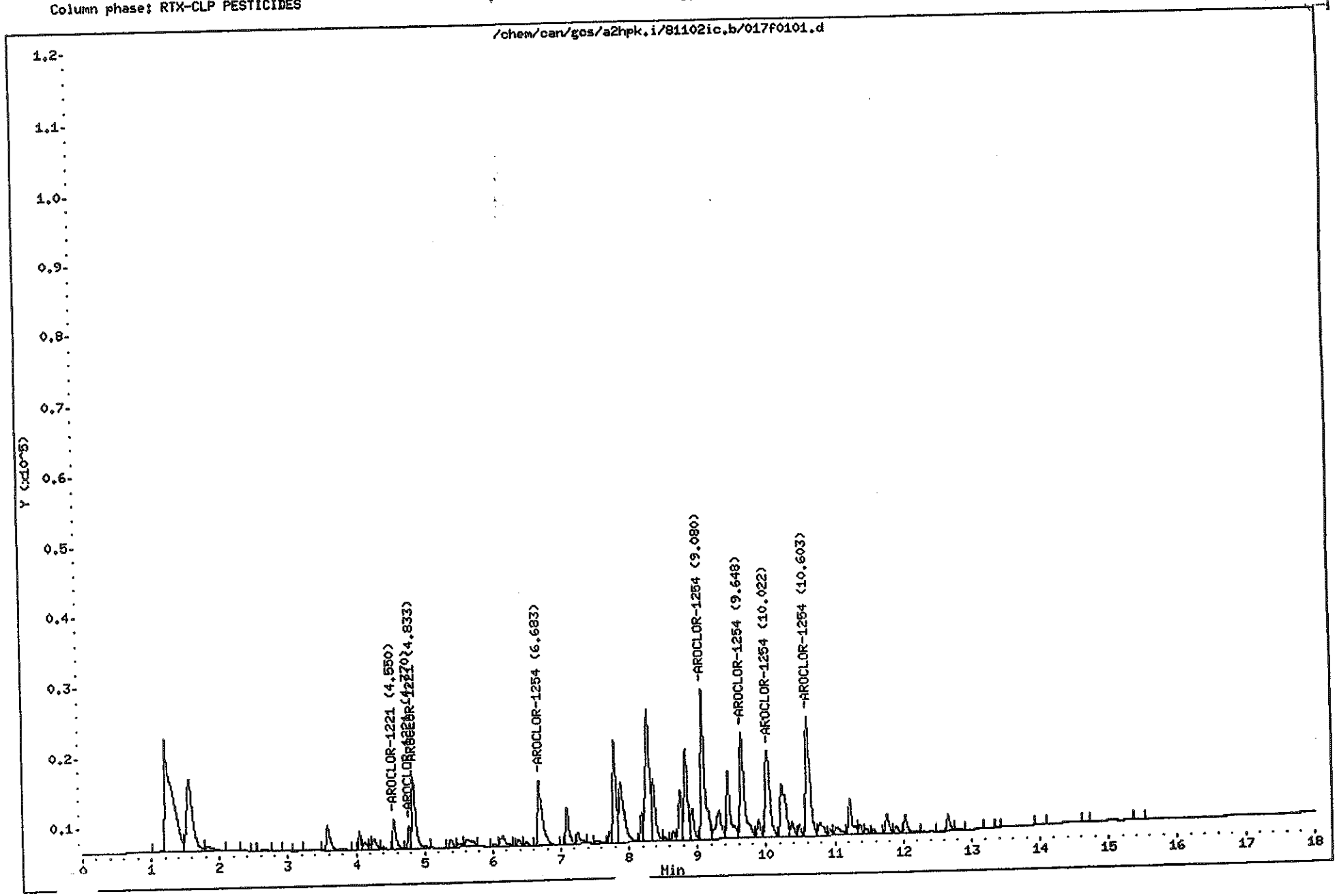
Data File: /chem/can/gcs/a2hpk.i/81102ic.b/017f0101.d
Date : 02-NOV-1998 21:18
Client ID:
Sample Info: 2154 C060,,1,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

017



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Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/018f0101.d
Lab Smp Id: 2154 C061
Inj Date : 02-NOV-1998 21:39
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C061,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 21:39 Cal File: 018f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.682	6.680	0.002	20512	0.50000	0.4498	75.00- 125.00	100.00
9.078	9.077	0.001	50497	0.50000	0.4736	184.64- 307.73	246.18
9.643	9.640	0.003	36651	0.50000	0.4814	134.01- 223.35	178.68
10.022	10.022	0.000	28349	0.50000	0.4636	103.66- 172.76	138.21
10.602	10.602	0.000	40997	0.50000	0.4767	149.90- 249.84	199.87
Average of Peak Amounts =					0.469		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.548	4.547	0.001	10095	0.50000	0.4855	75.00- 125.00	100.00
4.768	4.765	0.003	7414	0.50000	0.4791	55.08- 91.80	73.44
4.830	4.828	0.002	23259	0.50000	0.4606	172.80- 288.00	230.40
Average of Peak Amounts =					0.475		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/018f0101.d
Date : 02-NOV-1998 21:39
Client ID:
Sample Info: 2154 C061,,1,3

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

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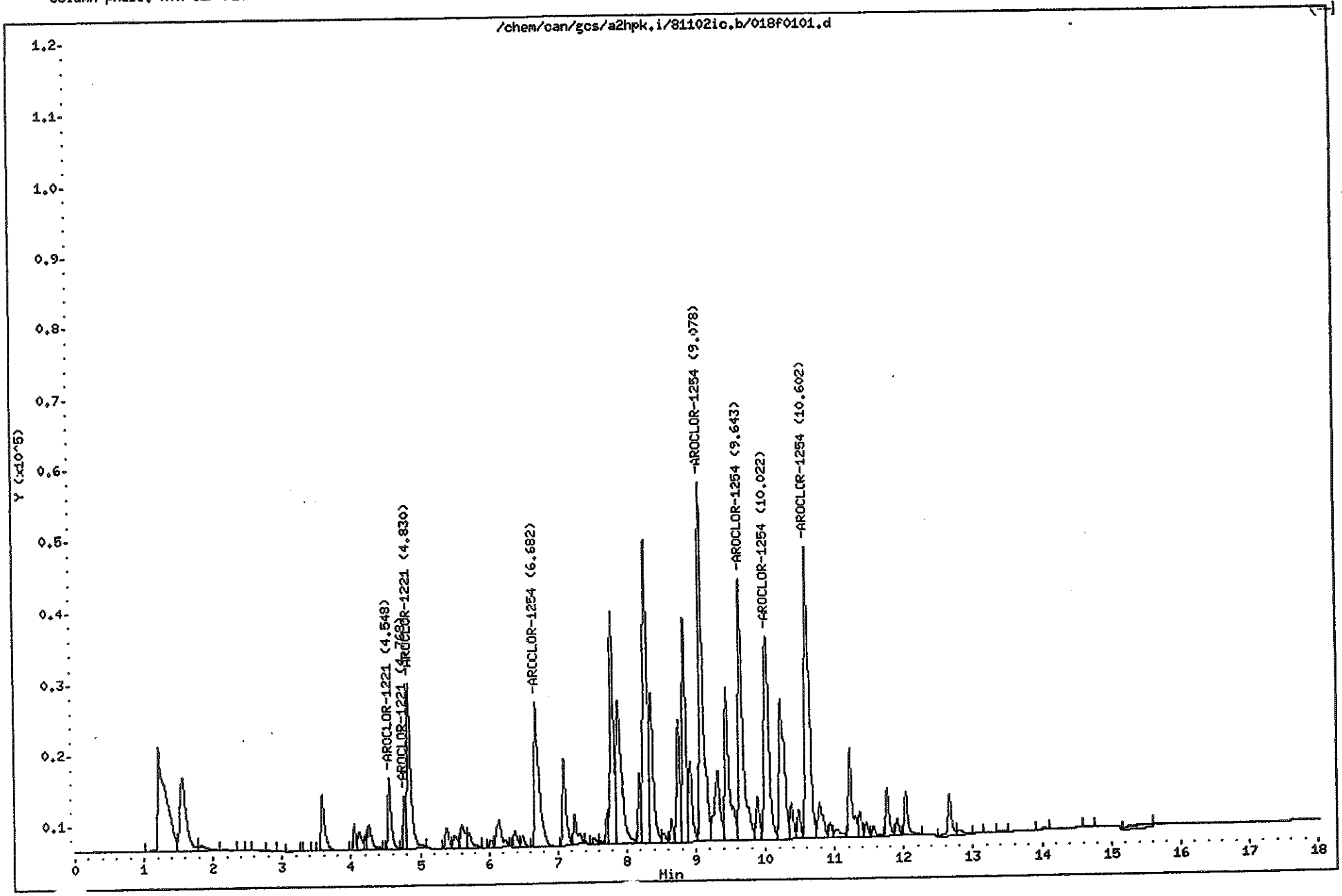

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Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/019f0101.d
Lab Smp Id: 2154 C062
Inj Date : 02-NOV-1998 22:00
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C062,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 22:00 Cal File: 019f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

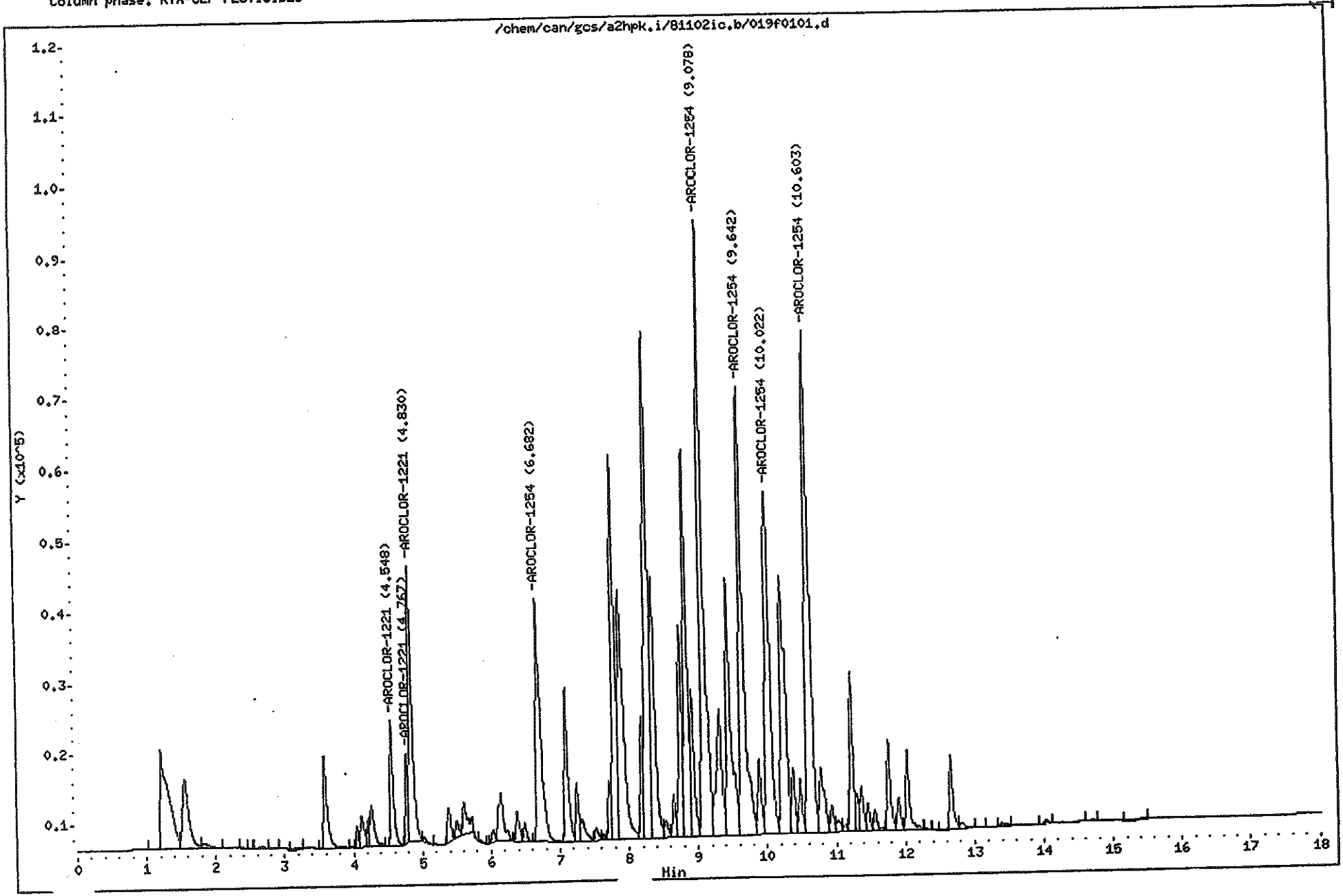
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
7 AROCLOR-1254					CAS #: 11097-69-1			
6.682	6.680	0.002	34541	1.00000	0.8063	75.00-	125.00	100.00
9.078	9.077	0.001	87149	1.00000	0.8564	184.64-	307.73	252.31
9.642	9.640	0.002	63530	1.00000	0.8705	134.01-	223.35	183.93
10.022	10.022	0.000	48419	1.00000	0.8352	103.66-	172.76	140.18
10.603	10.602	0.001	71097	1.00000	0.8641	149.90-	249.84	205.83
Average of Peak Amounts =					0.847			
2 AROCLOR-1221					CAS #: 11104-28-2			
4.548	4.547	0.001	17924	1.00000	0.8928	75.00-	125.00	100.00
4.767	4.765	0.002	12623	1.00000	0.8551	55.08-	91.80	70.43
4.830	4.828	0.002	39154	1.00000	0.8215	172.80-	288.00	218.44
Average of Peak Amounts =					0.856			

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/019f0101.d
Date : 02-NOV-1998 22:00
Client ID:
Sample Info: 2154 C062,,1,4

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/020f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/020f0101.d
Lab Smp Id: 2154 C063
Inj Date : 02-NOV-1998 22:21
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C063,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 22:21 Cal File: 020f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

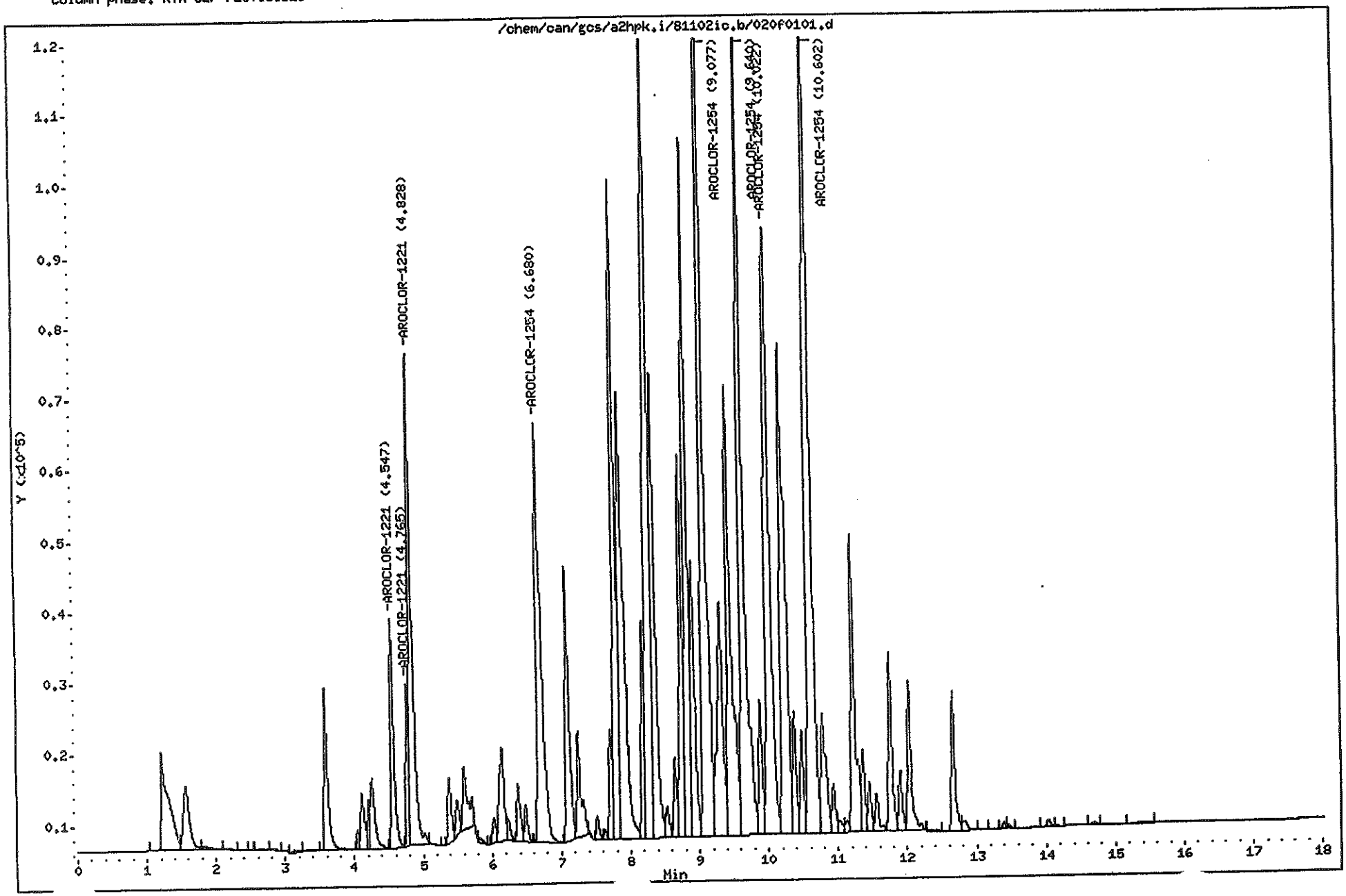
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.680	6.680	0.000	59167	2.00000	1.472	75.00- 125.00	100.00
9.077	9.077	0.000	156389	2.00000	1.611	184.64- 307.73	264.32
9.640	9.640	0.000	114215	2.00000	1.636	134.01- 223.35	193.04
10.022	10.022	0.000	85657	2.00000	1.559	103.66- 172.76	144.77
10.602	10.602	0.000	128716	2.00000	1.636	149.90- 249.84	217.55
Average of Peak Amounts =					1.58		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.547	4.547	0.000	32262	2.00000	1.673	75.00- 125.00	100.00
4.765	4.765	0.000	22834	2.00000	1.620	55.08- 91.80	70.78
4.828	4.828	0.000	69161	2.00000	1.535	172.80- 288.00	214.37
Average of Peak Amounts =					1.61		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/020f0101.d
Date : 02-NOV-1998 22:21
Client ID:
Sample Info: 2154 C063,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/021f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/021f0101.d
Lab Smp Id: 1248 C054
Inj Date : 02-NOV-1998 22:42
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C054,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 22:42 Cal File: 021f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
**	******	********	********	*******	*******	**********	******
6 AROCLOR-1248					CAS #: 12672-29-6		
5.377	5.375	0.002	2932	0.10000	0.1000	75.00- 125.00	100.00
6.147	6.140	0.007	4403	0.10000	0.1000	130.42- 217.37	150.17
7.090	7.087	0.003	6785	0.10000	0.1000	179.77- 299.62	231.41
9.082	9.078	0.004	3748	0.10000	0.1000	104.61- 174.36	127.83
9.650	9.643	0.007	2431	0.10000	0.1000	72.05- 120.08	82.91
Average of Peak Amounts =					0.1		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/021f0101.d
Date : 02-NOV-1998 22:42
Client ID:
Sample Info: 1248 C054,,1,1

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

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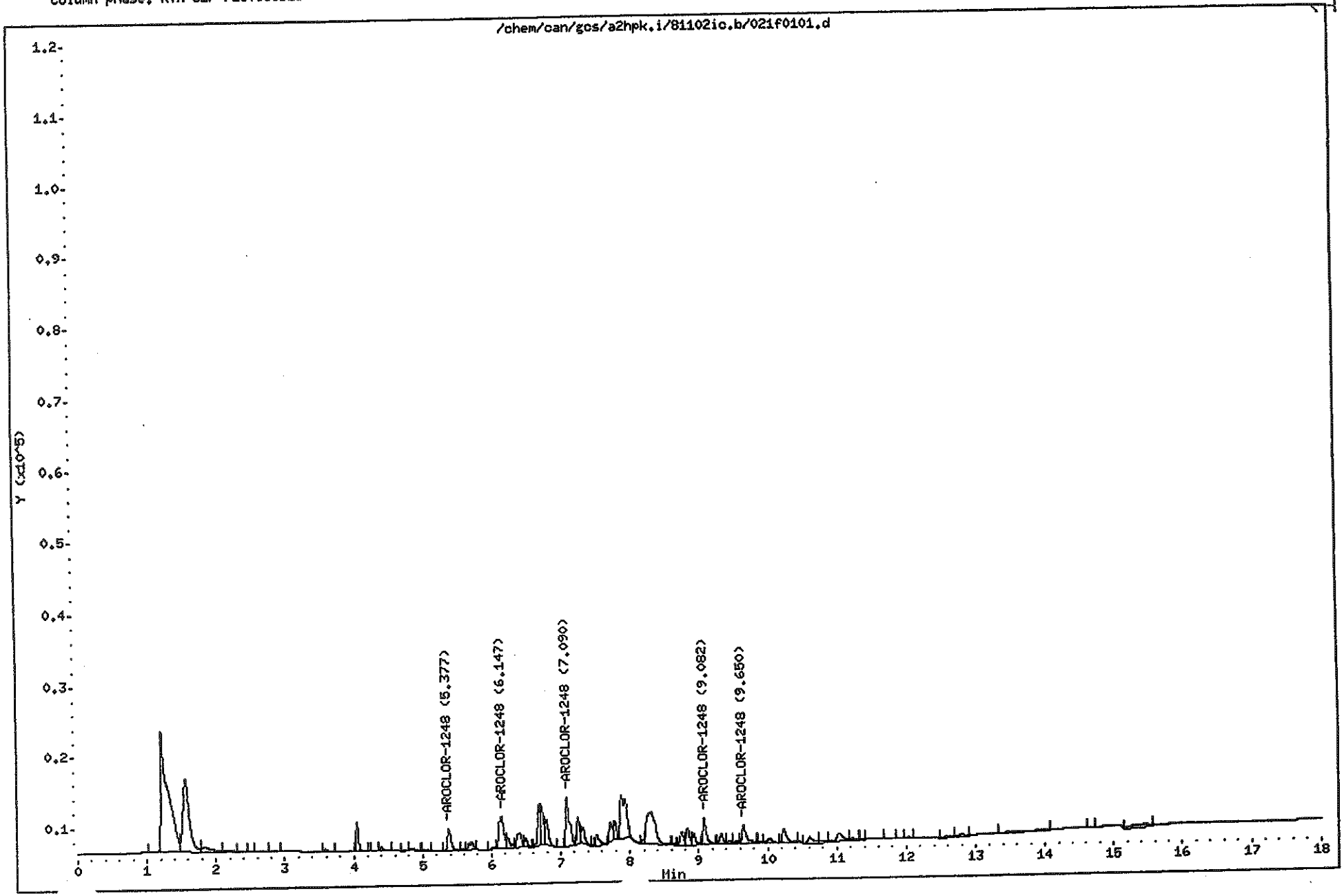


Data File: /chem/can/gcs/a2hpk.i/81102ic.b/022f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/022f0101.d
Lab Smp Id: 1248 C055
Inj Date : 02-NOV-1998 23:03
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C055,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 23:03 Cal File: 022f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

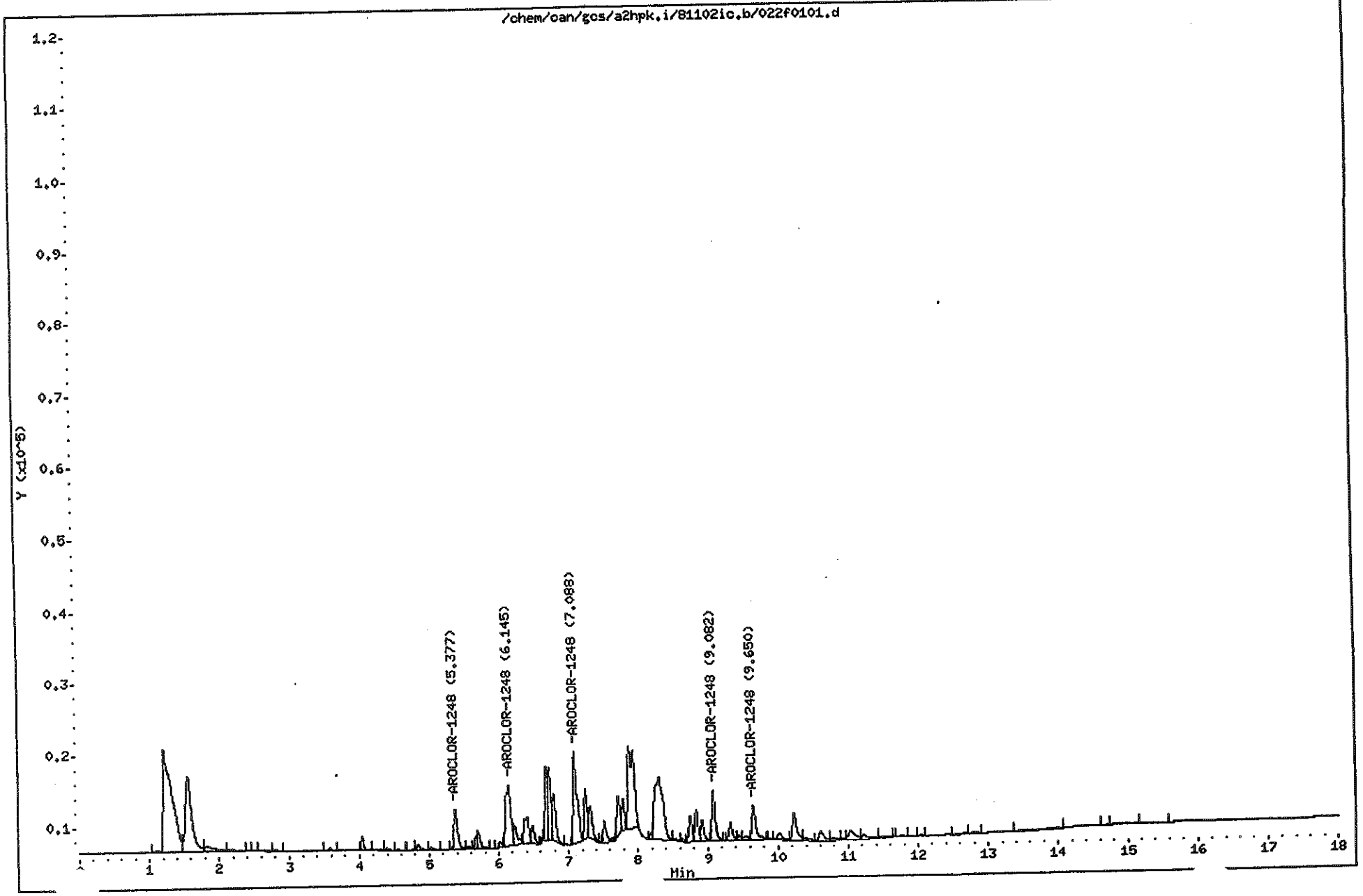
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.377	5.375	0.002	5466	0.20000	0.1930	75.00- 125.00	100.00
6.145	6.140	0.005	8595	0.20000	0.1976	130.42- 217.37	157.24
7.088	7.087	0.001	12761	0.20000	0.1938	179.77- 299.62	233.46
9.082	9.078	0.004	6958	0.20000	0.1926	104.61- 174.36	127.30
9.650	9.643	0.007	4692	0.20000	0.1964	72.05- 120.08	85.84
Average of Peak Amounts =					0.195		

Data File: /chem/oan/gcs/a2hpk.i/81102ic.b/022f0101.d
Date : 02-NOV-1998 23:03
Client ID:
Sample Info: 1248 C055,,1,2

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/023f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/023f0101.d
Lab Smp Id: 1248 C056
Inj Date : 02-NOV-1998 23:24
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C056,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 23:24 Cal File: 023f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

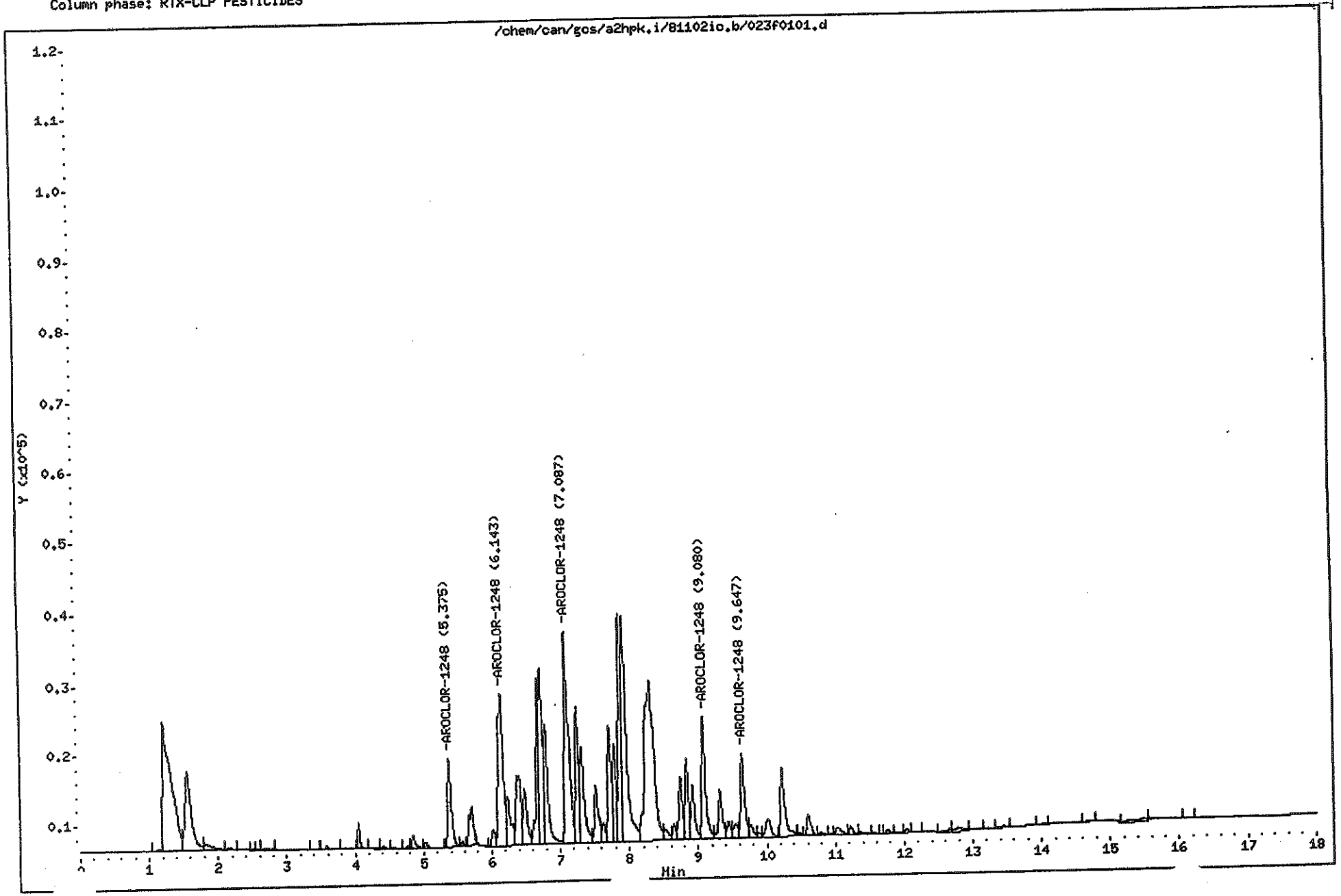
				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.375	5.375	0.000	12531	0.50000	0.4601	75.00- 125.00	100.00
6.143	6.140	0.003	21791	0.50000	0.5006	130.42- 217.37	173.90
7.087	7.087	0.000	30036	0.50000	0.4700	179.77- 299.62	239.69
9.080	9.078	0.002	17479	0.50000	0.4890	104.61- 174.36	139.49
9.647	9.643	0.004	12038	0.50000	0.5026	72.05- 120.08	96.07
Average of Peak Amounts =					0.484		

Data File: /chem/can/gos/a2hpk.i/81102ic.b/023f0101.d
Date : 02-NOV-1998 23:24
Client ID:
Sample Info: 1248 C056,,1,3

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/024f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/024f0101.d
Lab Smp Id: 1248 C057
Inj Date : 02-NOV-1998 23:45
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C057,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 23:45 Cal File: 024f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

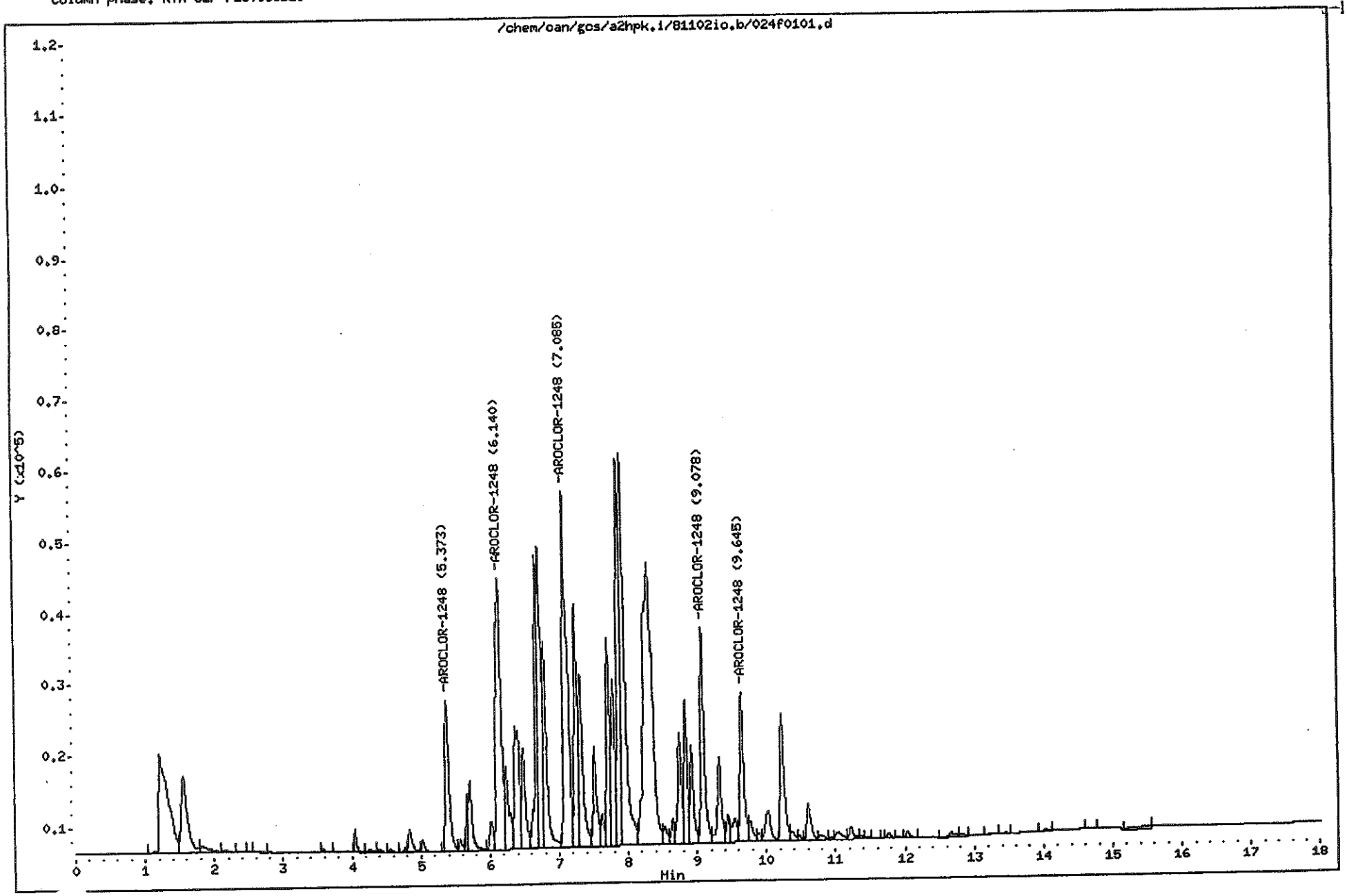
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
6 AROCLOR-1248						CAS #: 12672-29-6		
5.373	5.375	-0.002	20952	1.00000	0.8163	75.00-	125.00	100.00
6.140	6.140	0.000	38093	1.00000	0.9033	130.42-	217.37	181.81
7.085	7.087	-0.002	50051	1.00000	0.8280	179.77-	299.62	238.88
9.078	9.078	0.000	30333	1.00000	0.8820	104.61-	174.36	144.77
9.645	9.643	0.002	20988	1.00000	0.9043	72.05-	120.08	100.17
		Average of Peak Amounts =			0.867			

Data File: /chem/can/gcs/a2hpk.i/81102io.b/024f0101.d
Date : 02-NOV-1998 23:45
Client ID:
Sample Info: 1248 C057,,1,4

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/025f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/025f0101.d
Lab Smp Id: 1248 C058
Inj Date : 03-NOV-1998 00:06
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C058,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 00:06 Cal File: 025f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

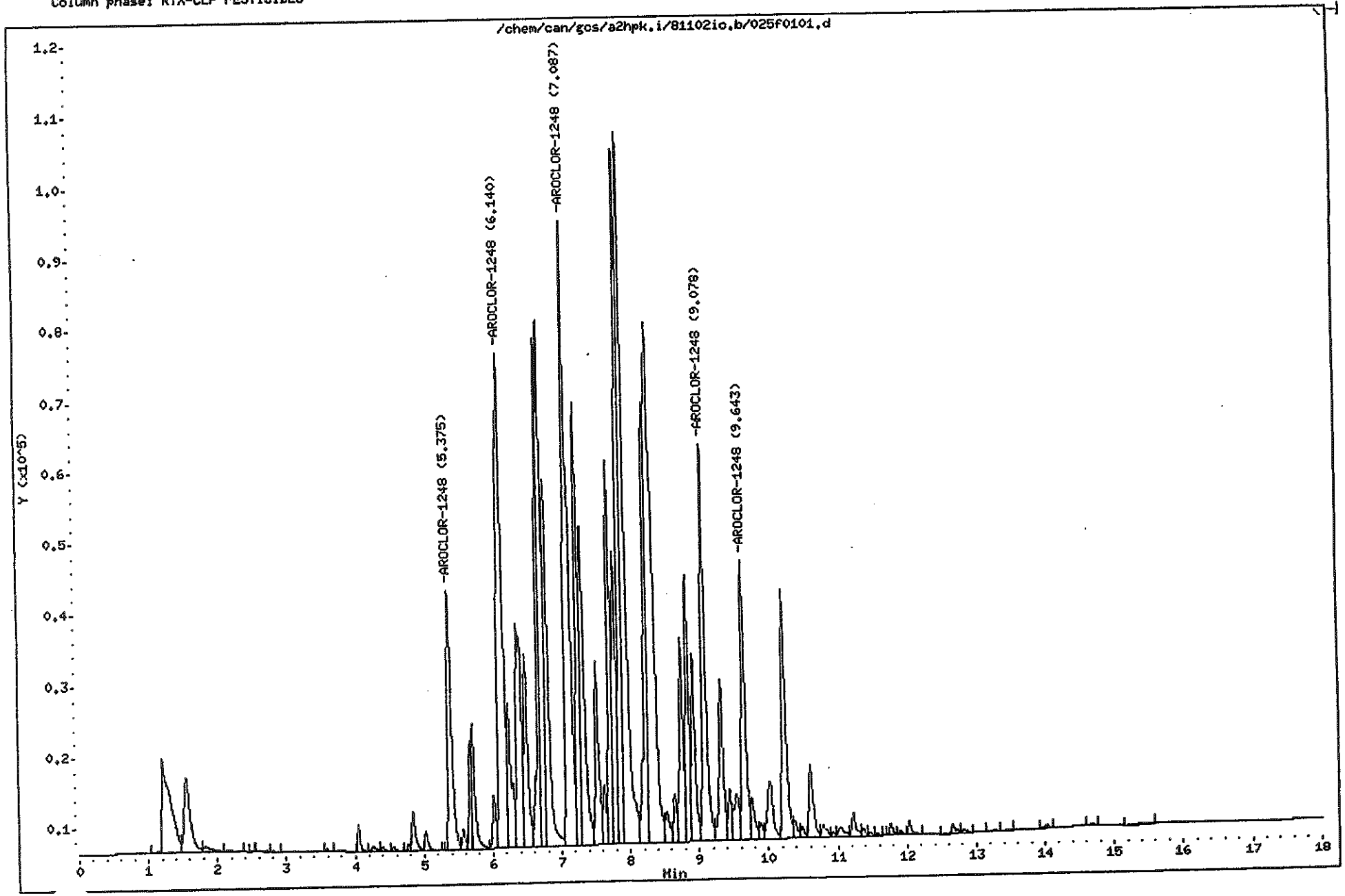
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.375	5.375	0.000	36520	2.00000	1.510	75.00- 125.00	100.00
6.140	6.140	0.000	69713	2.00000	1.712	130.42- 217.37	190.89
7.087	7.087	0.000	88316	2.00000	1.544	179.77- 299.62	241.83
9.078	9.078	0.000	56065	2.00000	1.693	104.61- 174.36	153.52
9.643	9.643	0.000	39299	2.00000	1.747	72.05- 120.08	107.61
		Average of Peak Amounts =			1.64		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/025f0101.d
Date : 03-NOV-1998 00:06
Client ID:
Sample Info: 1248 C058,,1,5

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/026f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/026f0101.d
Lab Smp Id: 1242 C049
Inj Date : 03-NOV-1998 00:27
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C049,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 00:27 Cal File: 026f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

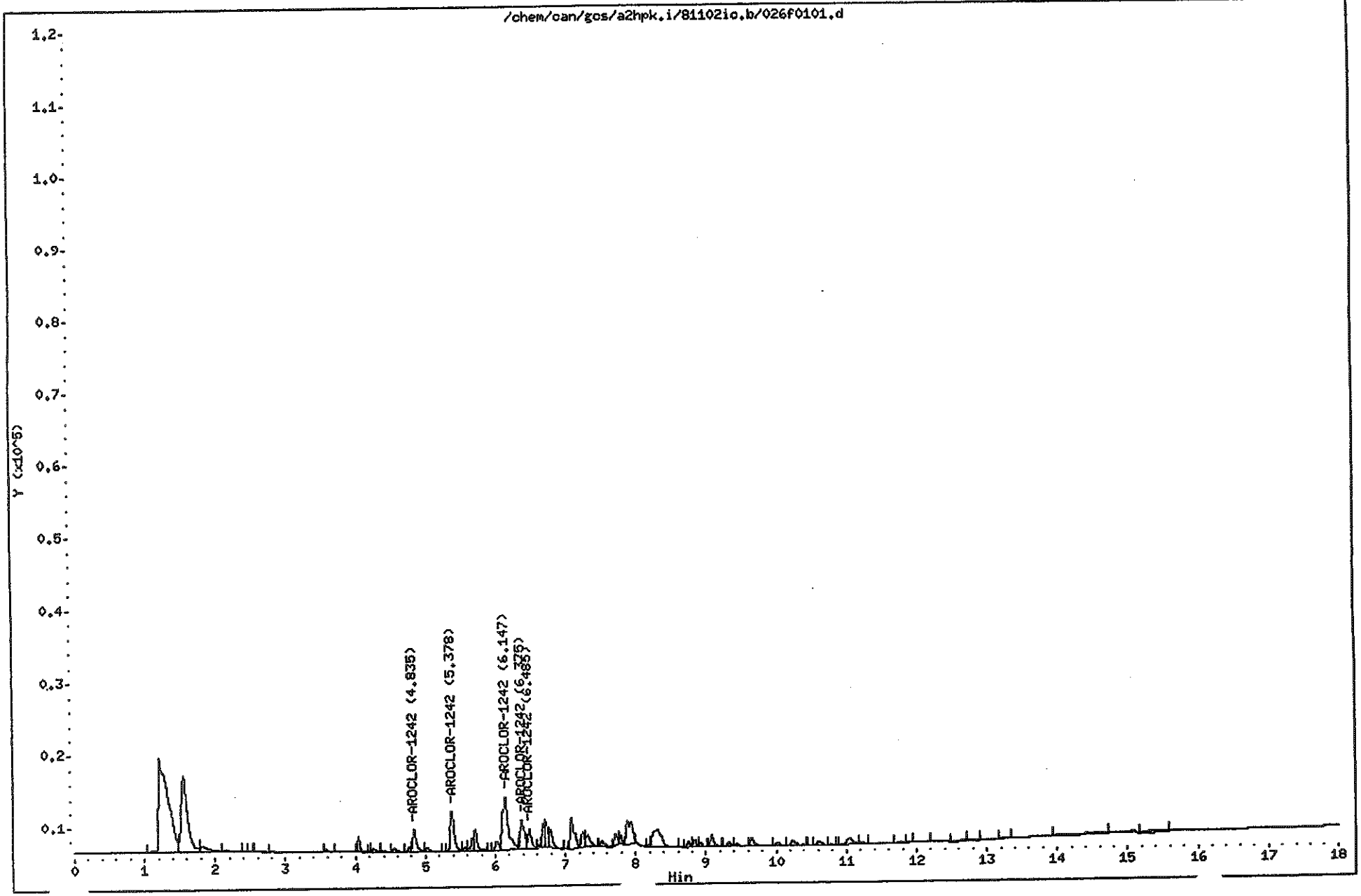
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.835	4.828	0.007	3184	0.10000	0.1000	75.00- 125.00	100.00
5.378	5.378	0.000	5656	0.10000	0.1000	124.76- 207.94	177.64
6.147	6.138	0.009	7520	0.10000	0.1000	191.04- 318.39	236.18
6.375	6.367	0.008	4272	0.10000	0.1000	108.36- 180.61	134.17
6.485	6.480	0.005	2790	0.10000	0.1000	79.00- 131.67	87.63
		Average of Peak Amounts =			0.1		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/026f0101.d
Date : 03-NOV-1998 00:27
Client ID:
Sample Info: 1242 C049,,1,1

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/027f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/027f0101.d
Lab Smp Id: 1242 C050
Inj Date : 03-NOV-1998 00:48
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C050,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 00:48 Cal File: 027f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

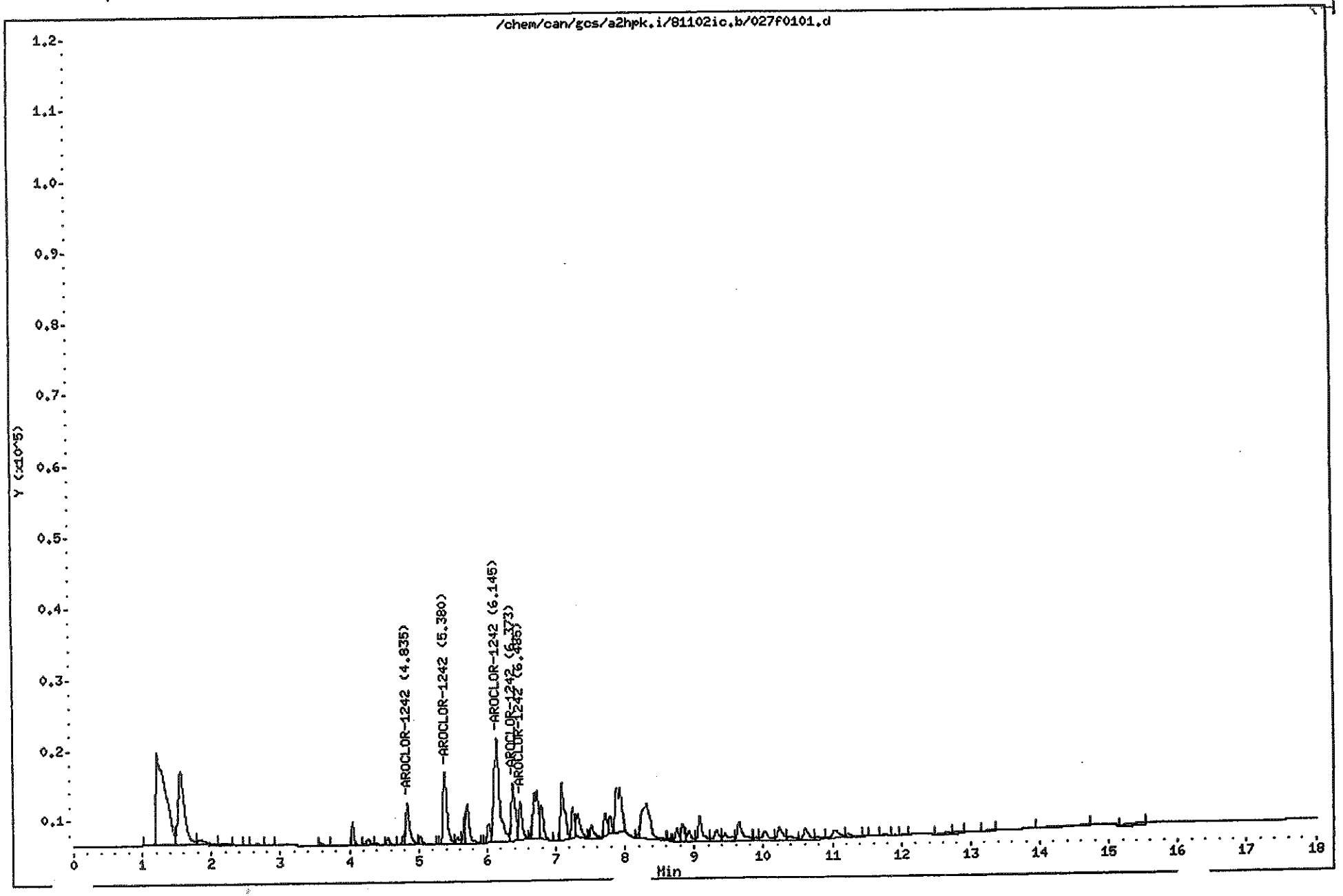
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
5 AROCLOR-1242					CAS #: 53469-21-9			
4.835	4.828	0.007	6025	0.20000	0.1945	75.00-	125.00	100.00
5.380	5.378	0.002	10465	0.20000	0.1922	124.76-	207.94	173.69
6.145	6.138	0.007	14704	0.20000	0.1977	191.04-	318.39	244.05
6.373	6.367	0.006	8287	0.20000	0.1969	108.36-	180.61	137.54
6.485	6.480	0.005	5535	0.20000	0.1992	79.00-	131.67	91.87
Average of Peak Amounts =					0.196			

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/027f0101.d
Date : 03-NOV-1998 00:48
Client ID:
Sample Info: 1242 C050,,1,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/028f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/028f0101.d
Lab Smp Id: 1242 C051
Inj Date : 03-NOV-1998 01:09
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C051,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 01:09 Cal File: 028f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
5 AROCLOR-1242					CAS #: 53469-21-9			
4.832	4.828	0.004	13530	0.50000	0.4559	75.00-	125.00	100.00
5.380	5.378	0.002	22507	0.50000	0.4387	124.76-	207.94	166.35
6.143	6.138	0.005	34463	0.50000	0.4750	191.04-	318.39	254.72
6.370	6.367	0.003	19549	0.50000	0.4758	108.36-	180.61	144.49
6.482	6.480	0.002	14252	0.50000	0.5085	79.00-	131.67	105.34
Average of Peak Amounts =					0.471			

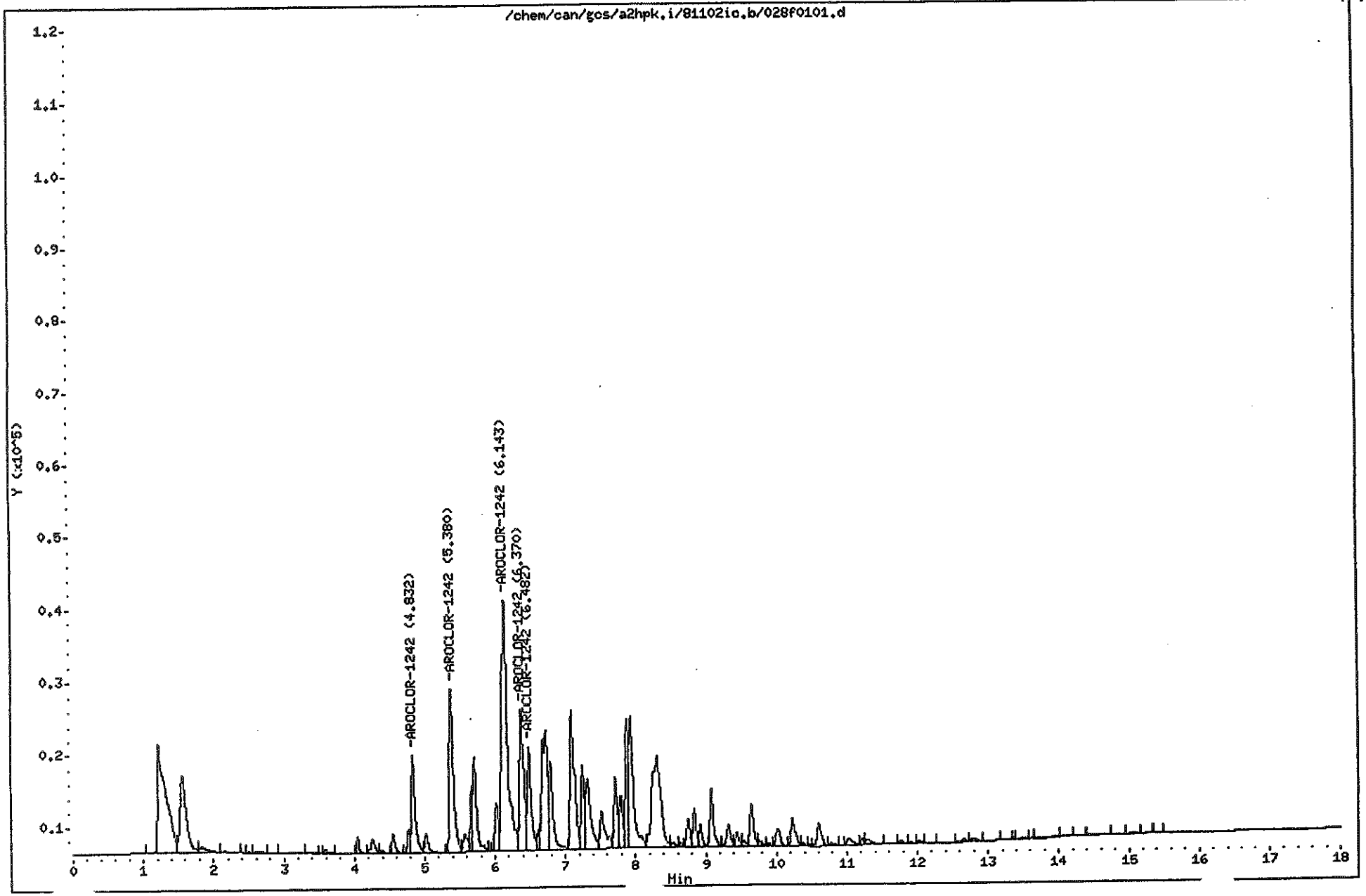
Data File: /chem/can/gcs/a2hpk.i/81102ic.b/028f0101.d
Date : 03-NOV-1998 01:09
Client ID:
Sample Info: 1242 C051,,1,3

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

92



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/029f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/029f0101.d
Lab Smp Id: 1242 C052
Inj Date : 03-NOV-1998 01:29
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C052,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 01:29 Cal File: 029f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

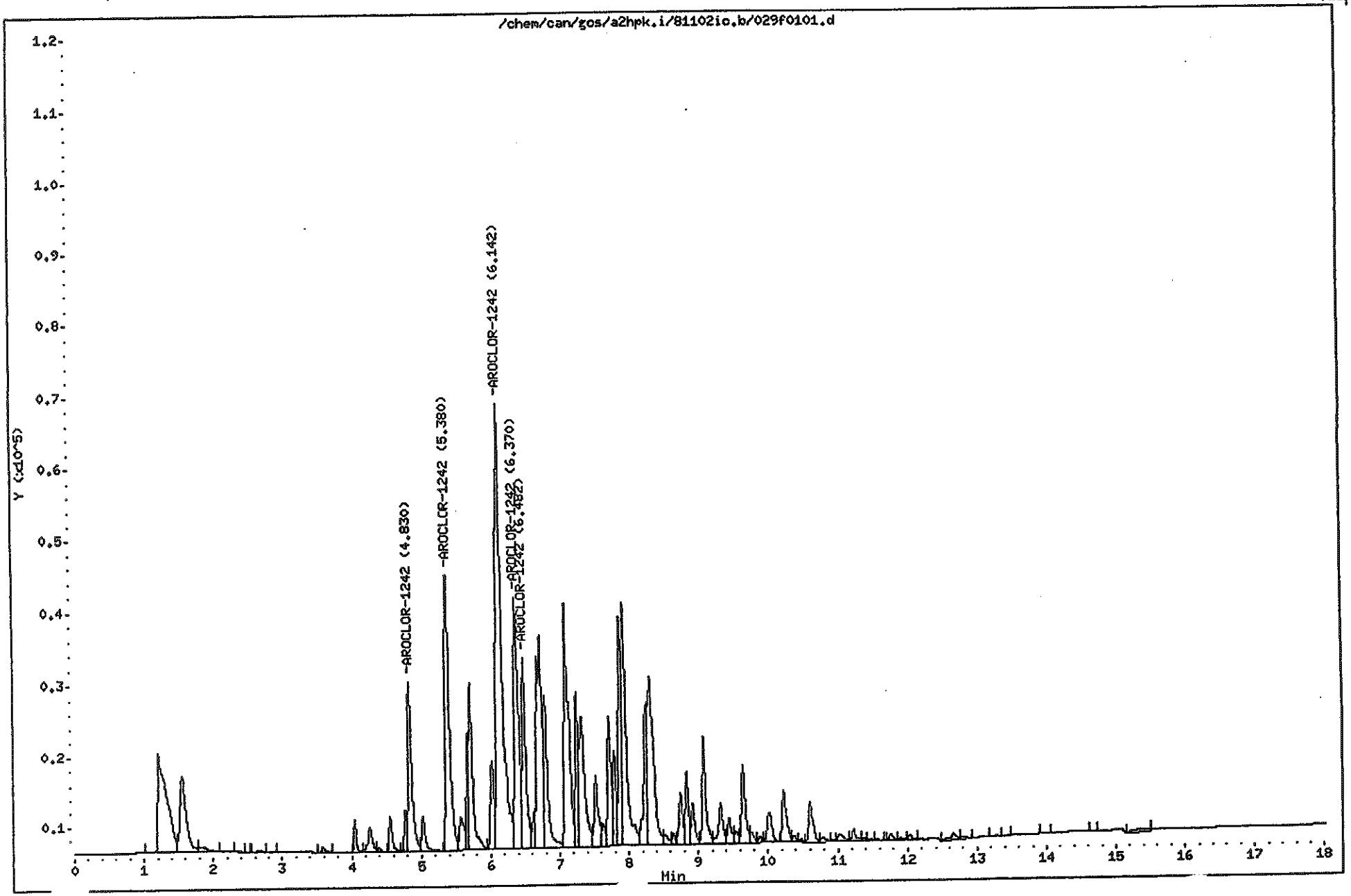
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.830	4.828	0.002	23943	1.00000	0.8478	75.00- 125.00	100.00
5.380	5.378	0.002	38604	1.00000	0.8021	124.76- 207.94	161.23
6.142	6.138	0.004	62323	1.00000	0.8904	191.04- 318.39	260.30
6.370	6.367	0.003	35261	1.00000	0.8898	108.36- 180.61	147.27
6.482	6.480	0.002	26690	1.00000	0.9638	79.00- 131.67	111.47
Average of Peak Amounts =					0.879		

Data File: /chem/can/gos/a2hpk.i/81102ic.b/029f0101.d
Date : 03-NOV-1998 01:29
Client ID:
Sample Info: 1242 C052,,1,4

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/030f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/030f0101.d
Lab Smp Id: 1242 C053
Inj Date : 03-NOV-1998 01:50
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C053,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 01:50 Cal File: 030f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

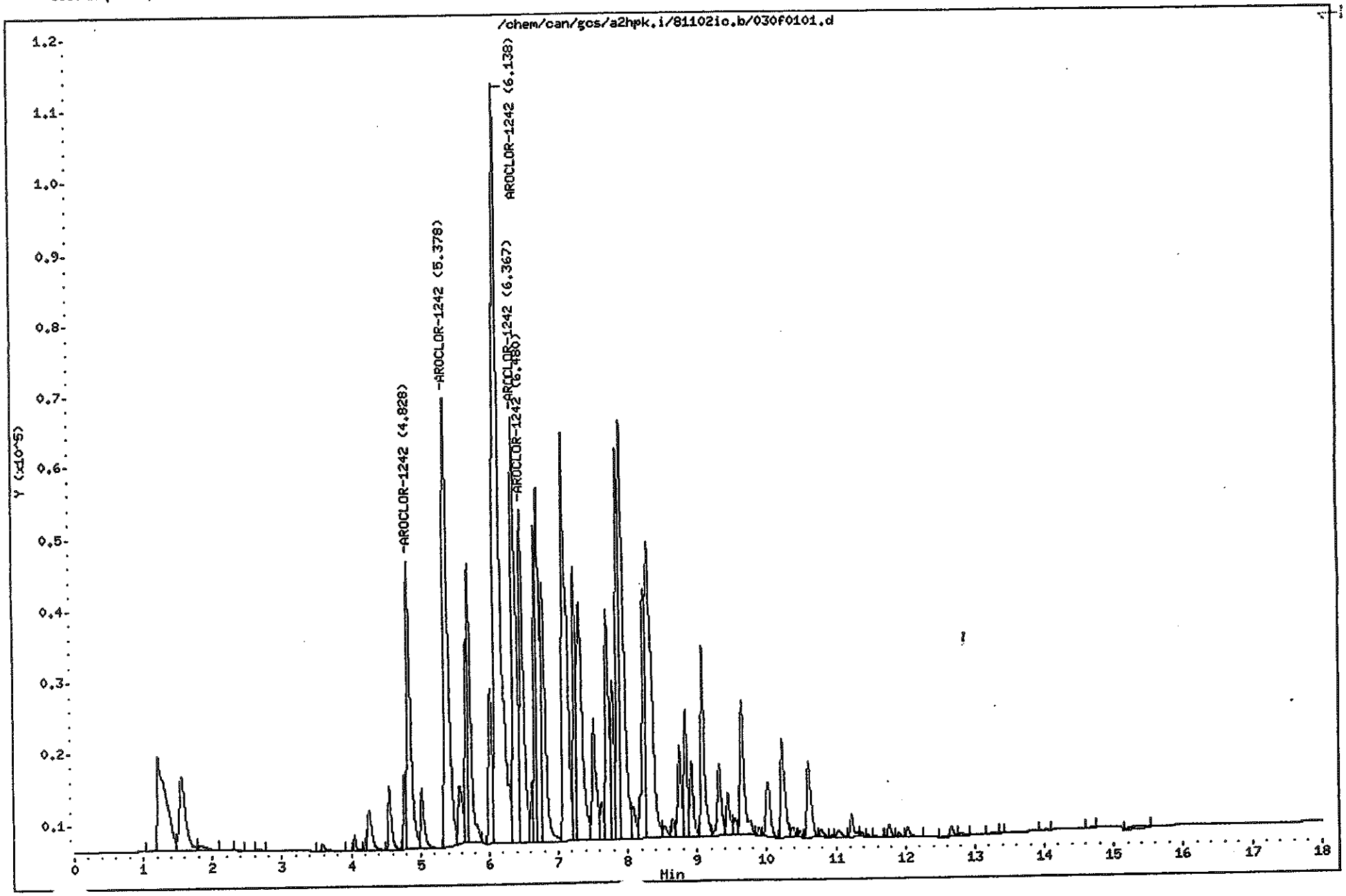
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.828	4.828	0.000	40097	2.00000	1.507	75.00- 125.00	100.00
5.378	5.378	0.000	62945	2.00000	1.405	124.76- 207.94	156.98
6.138	6.138	0.000	106641	2.00000	1.600	191.04- 318.39	265.96
6.367	6.367	0.000	59625	2.00000	1.583	108.36- 180.61	148.70
6.480	6.480	0.000	46396	2.00000	1.732	79.00- 131.67	115.71
		Average of Peak Amounts =			1.57		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/030f0101.d
Date : 03-NOV-1998 01:50
Client ID:
Sample Info: 1242 C053,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Lab Smp Id: 1232 C044
Inj Date : 03-NOV-1998 02:11
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C044,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 02:11 Cal File: 031f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

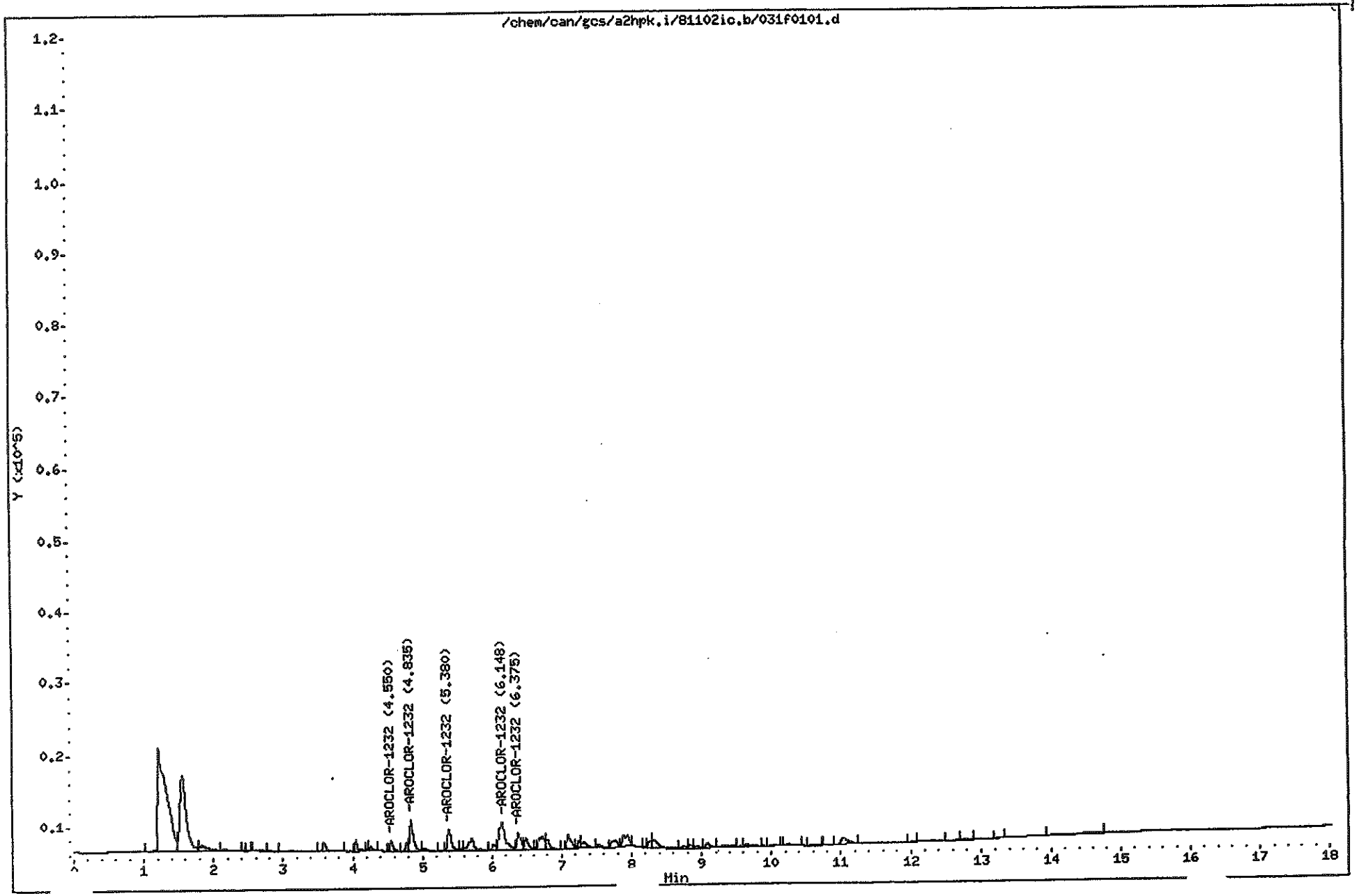
				AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)		
RT	EXP RT	DLT RT	RESPONSE			TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.550	4.547	0.003	1457	0.10000	0.1000	75.00- 125.00	100.00
4.835	4.827	0.008	4478	0.10000	0.1000	210.31- 350.52	307.34
5.380	5.378	0.002	3146	0.10000	0.1000	146.67- 244.44	215.92
6.148	6.140	0.008	4082	0.10000	0.1000	215.96- 359.93	280.16
6.375	6.368	0.007	2403	0.10000	0.1000	124.12- 206.86	164.93
Average of Peak Amounts =					0.1		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Date : 03-NOV-1998 02:11
Client ID:
Sample Info: 1232 C044,,1,1

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Lab Smp Id: 1232 C045
Inj Date : 03-NOV-1998 02:33
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C045,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 02:33 Cal File: 032f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

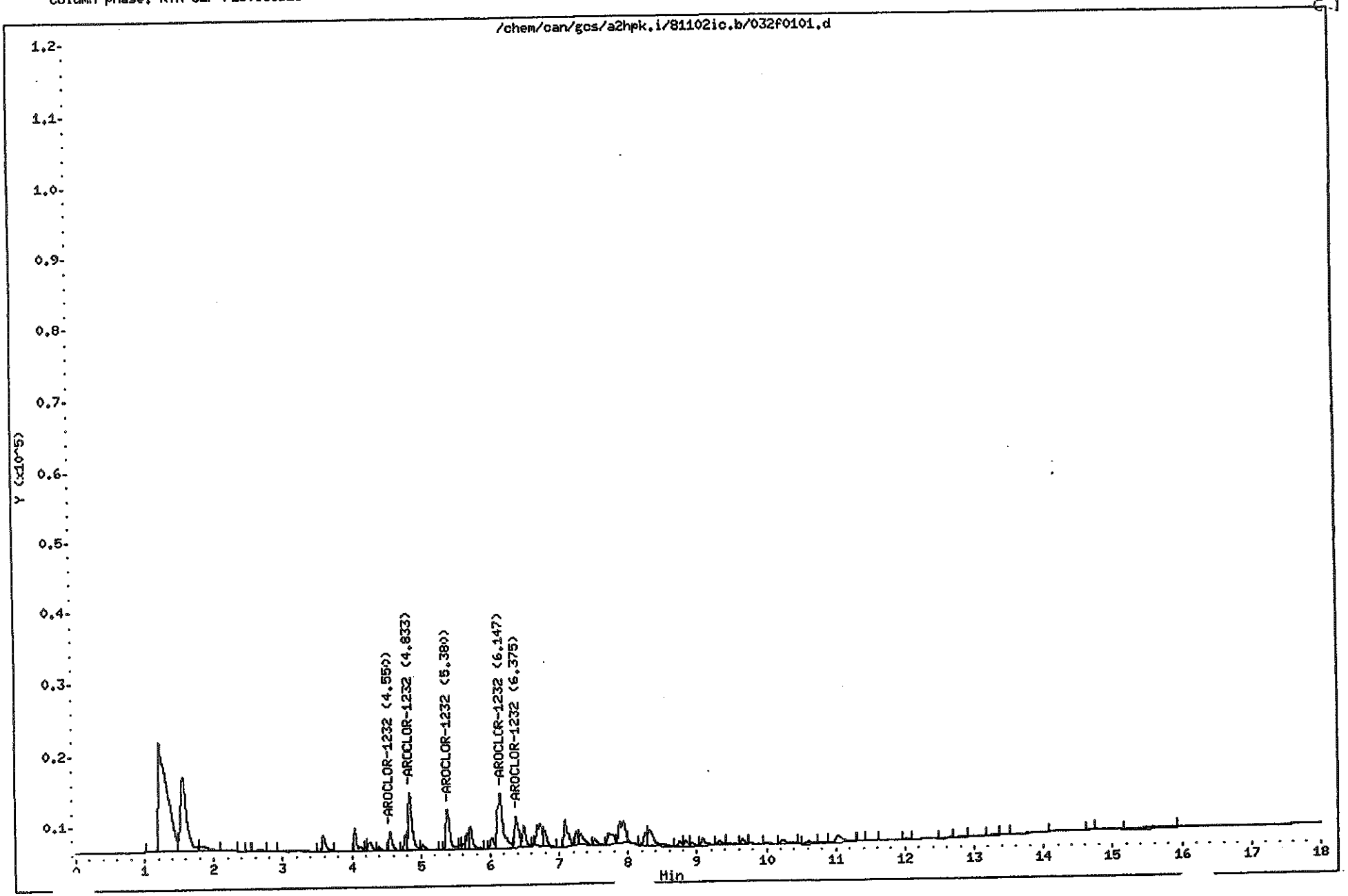
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.550	4.547	0.003	2793	0.20000	0.1958	75.00- 125.00	100.00
4.833	4.827	0.006	8327	0.20000	0.1927	210.31- 350.52	298.14
5.380	5.378	0.002	5830	0.20000	0.1924	146.67- 244.44	208.74
6.147	6.140	0.007	7866	0.20000	0.1963	215.96- 359.93	281.63
6.375	6.368	0.007	4481	0.20000	0.1930	124.12- 206.86	160.44
Average of Peak Amounts =					0.194		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Date : 03-NOV-1998 02:33
Client ID:
Sample Info: 1232 C045,,1,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/033f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/033f0101.d
Lab Smp Id: 1232 C046
Inj Date : 03-NOV-1998 02:53
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C046,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 02:53 Cal File: 033f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

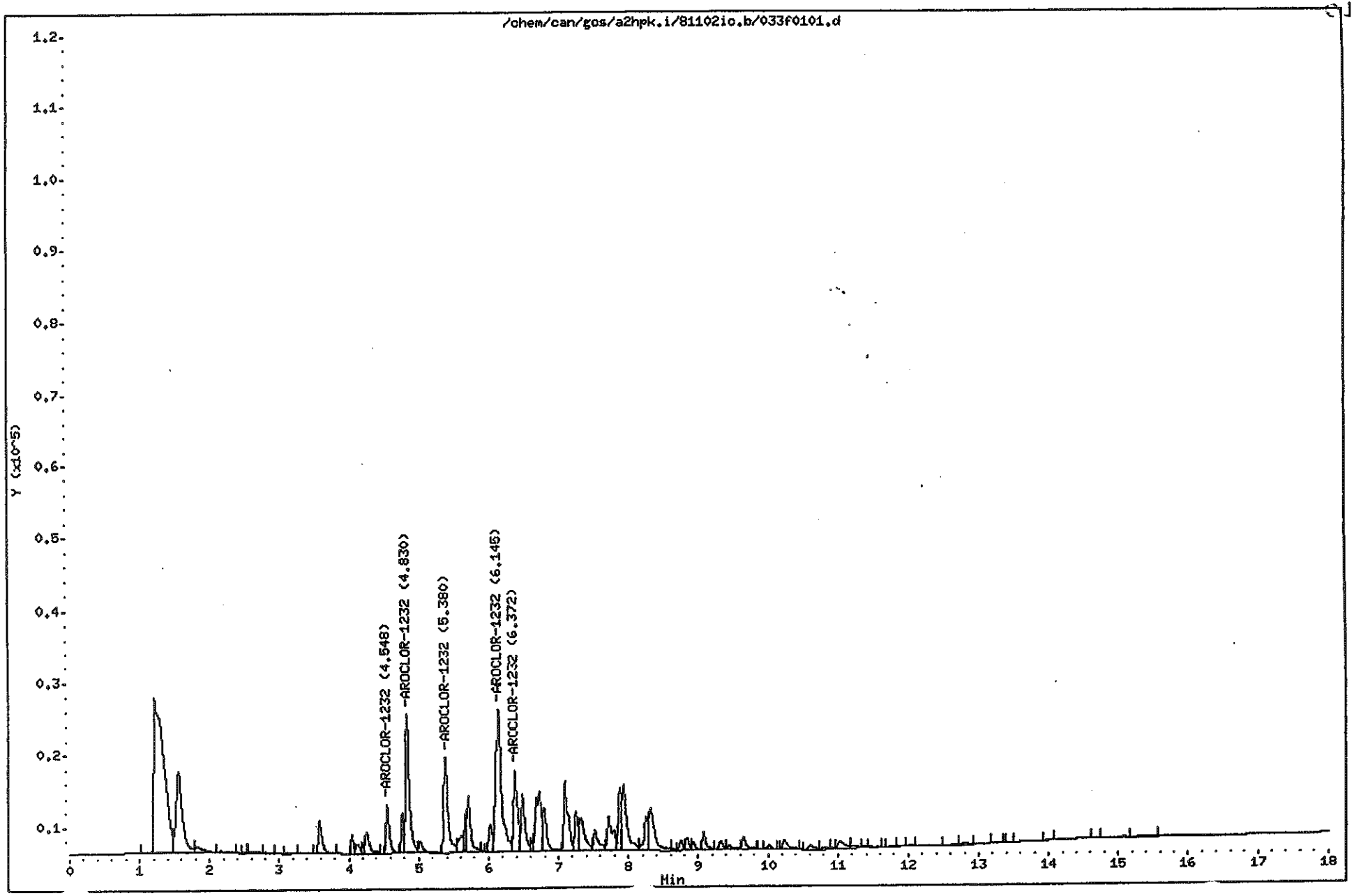
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.548	4.547	0.001	6818	0.50000	0.4850	75.00- 125.00	100.00
4.830	4.827	0.003	19119	0.50000	0.4601	210.31- 350.52	280.42
5.380	5.378	0.002	13333	0.50000	0.4583	146.67- 244.44	195.56
6.145	6.140	0.005	19632	0.50000	0.4932	215.96- 359.93	287.94
6.372	6.368	0.004	11283	0.50000	0.4906	124.12- 206.86	165.49
Average of Peak Amounts =					0.477		

Data File: /chem/can/gos/a2hpk.i/81102ic.b/033f0101.d
Date : 03-NOV-1998 02:53
Client ID:
Sample Info: 1232 C046,,1,3

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Lab Smp Id: 1232 C047
Inj Date : 03-NOV-1998 03:14
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C047,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 03:14 Cal File: 034f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

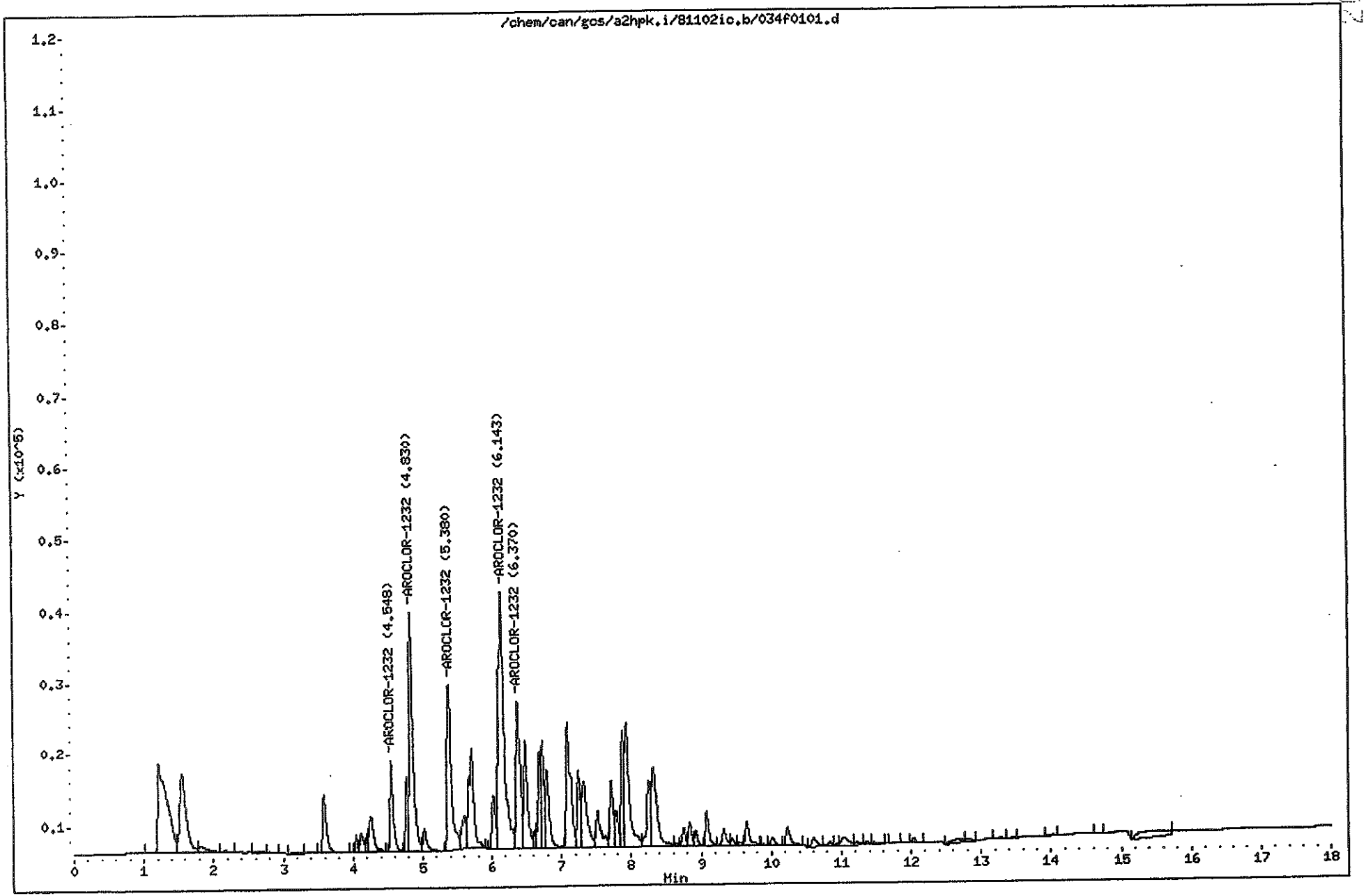
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.548	4.547	0.001	12490	1.00000	0.9140	75.00- 125.00	100.00
4.830	4.827	0.003	33204	1.00000	0.8414	210.31- 350.52	265.84
5.380	5.378	0.002	23094	1.00000	0.8370	146.67- 244.44	184.90
6.143	6.140	0.003	35707	1.00000	0.9208	215.96- 359.93	285.88
6.370	6.368	0.002	20457	1.00000	0.9147	124.12- 206.86	163.79
Average of Peak Amounts =					0.886		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Date : 03-NOV-1998 03:14
Client ID:
Sample Info: 1232 C047,,1,4

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d
Lab Smp Id: 1232 C048
Inj Date : 03-NOV-1998 03:35
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C048,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 03:35 Cal File: 035f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

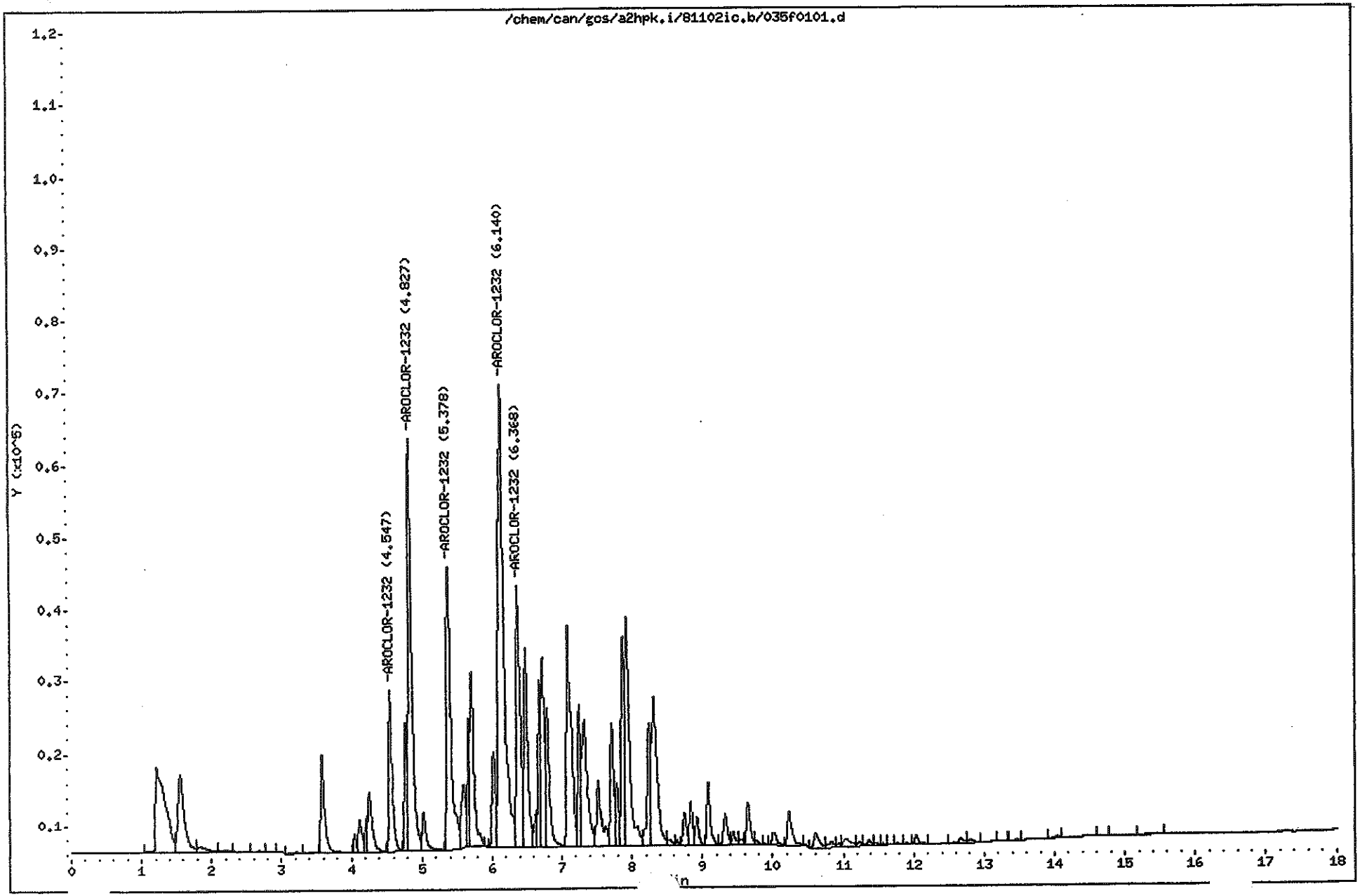
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.547	4.547	0.000	22381	2.00000	1.699	75.00- 125.00	100.00
4.827	4.827	0.000	57211	2.00000	1.534	210.31- 350.52	255.62
5.378	5.378	0.000	39334	2.00000	1.512	146.67- 244.44	175.75
6.140	6.140	0.000	64243	2.00000	1.716	215.96- 359.93	287.04
6.368	6.368	0.000	36353	2.00000	1.689	124.12- 206.86	162.43
		Average of Peak Amounts =			1.63		

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d
Date : 03-NOV-1998 03:35
Client ID:
Sample Info: 1232 C048,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L020J

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.27 S2 : 15.11

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		1660 C110	12/16/98	2106	4.27	15.11
02		2154 C061	12/16/98	2127		
03		1248 C056	12/16/98	2148		
04		1242 C051	12/16/98	2209		
05		1232 C046	12/16/98	2230		
06	S-120198-JH-	CNW6H101	12/17/98	0201	4.23	15.11
07	S-120198-JH-	CNW6T101	12/17/98	0222	4.23	15.11
08	S-120198-JH-	CNW6V101	12/17/98	0243	4.23	15.10
09	S-120198-JH-	CNW6W101	12/17/98	0304	4.23	15.01
10	S-120198-JH-	CNW6X101	12/17/98	0325	4.23	15.11
11	S-120198-JH-	CNW7A101	12/17/98	0346	4.23	15.1[illegible]
12		1660 C110	12/17/98	0428	4.27	15.[illegible]
13	S-120198-JH-	CNW7C101	12/17/98	0510	4.27	15.1[illegible]
14	S-120198-JH-	CNW7G101	12/17/98	0552	4.23	15.11
15	S-120198-JH-	CNW7H101	12/17/98	0613	4.23	15.11
16	S-120198-JH-	CNW71101	12/17/98	0634	4.23	
17	S-120198-JH-	CNW74101	12/17/98	0716	4.23	15.11
18	S-120198-JH-	CNW76101	12/17/98	0737	4.23	
19	S-120198-JH-	CNW78101	12/17/98	0758	4.23	15.12
20	CPO7RBLK	CP07R101	12/17/98	0820	4.27	15.11
21		1660 C110	12/17/98	0902	4.27	15.11
22	CPO7RCHK	CP07R102	12/17/98	0944	4.27	15.11
23	CPO7RCHKDUP	CP07R103	12/17/98	1005	4.27	15.10
24		1660 C110	12/17/98	1150	4.27	15.10
25						
26						
27						
28						
29						
30						
31						
32						

	QC LIMITS
S1 = TCMX	(+/- 0.10 MINUTES)
S2 = DCB	(+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

Data File: /chem/can/gcs/a2hpk.i/81216a.b/008f0101.d
Report Date: 12/17/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 008f0101.d
Analysis Type: NONE

Injection Date: 16-DEC-1998 21:06
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.

COMPOUND	%D
TCMX	1.2
AROCLOR-1016	3.9
AROCLOR-1260	1.0
DCB	0.1

The average of %D's in the continuing calibration is 1.6

Data File: /chem/can/gcs/a2hpk.i/81216a.b/008f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/008f0101.d
Lab Smp Id: 1660 C110
Inj Date : 16-DEC-1998 21:06
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

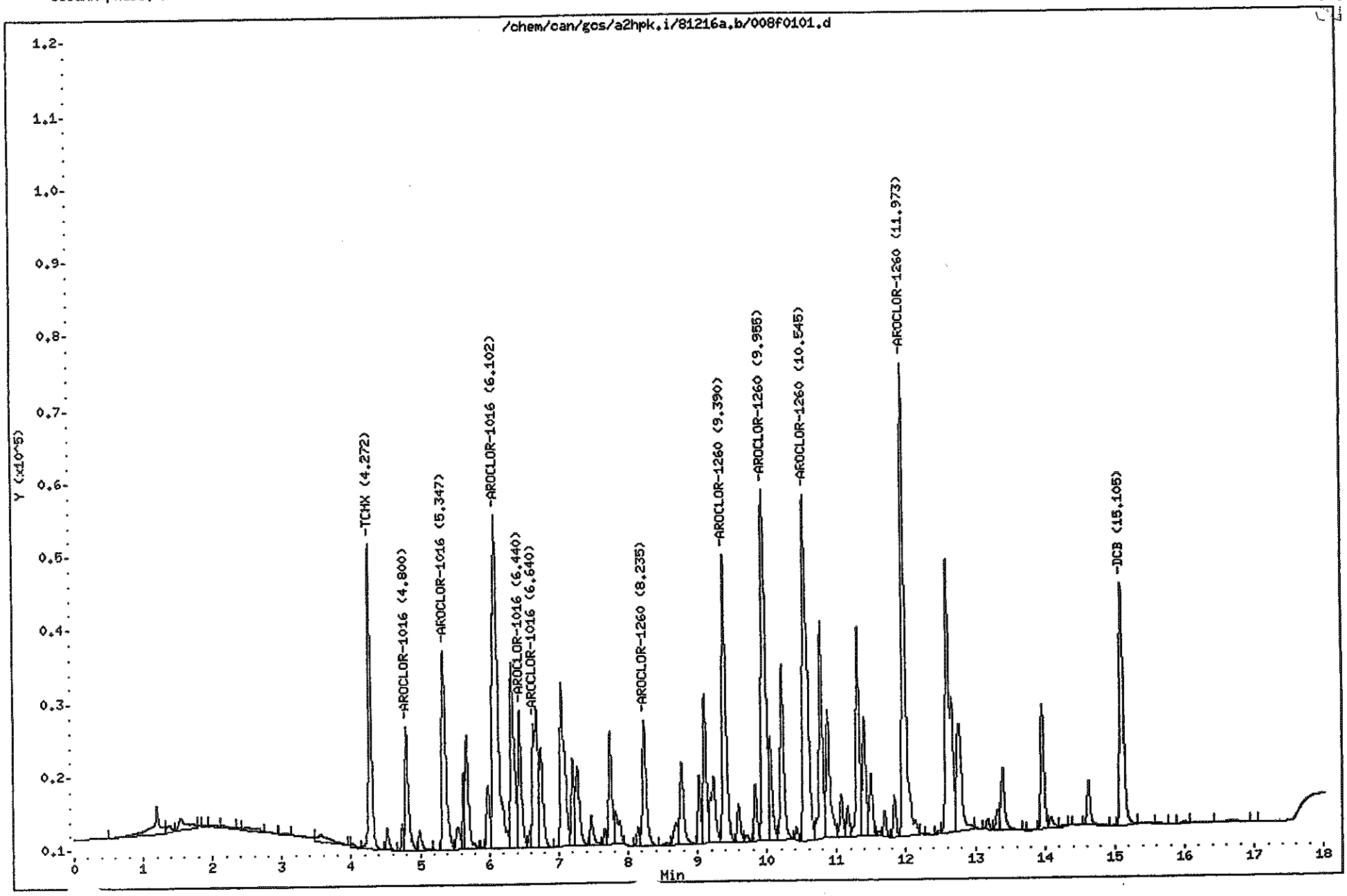
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.272	0.000	41488	0.02500	0.02530	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.800	4.802	-0.002	16792	0.50000	0.5419	80.00- 120.00	100.00
5.347	5.347	0.000	26934	0.50000	0.4986	125.29- 208.81	160.40
6.102	6.105	-0.003	45461	0.50000	0.5423	207.30- 345.49	270.73
6.440	6.442	-0.002	18694	0.50000	0.5460	84.66- 141.09	111.33
6.640	6.642	-0.002	16731	0.50000	0.4698	81.88- 136.47	99.64
Average of Peak Amounts =					0.52		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.235	8.237	-0.002	17092	0.50000	0.4917	80.00- 120.00	100.00
9.390	9.390	0.000	39071	0.50000	0.4938	166.19- 276.99	228.59
9.955	9.955	0.000	47729	0.50000	0.5164	196.82- 328.04	279.25
10.545	10.547	-0.002	47092	0.50000	0.5181	201.36- 335.60	275.52
11.973	11.973	0.000	64343	0.50000	0.5058	281.46- 469.10	376.45
Average of Peak Amounts =					0.505		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	32936	0.02500	0.02498	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/008f0101.d
Date : 16-DEC-1998 21:06
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/009f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/009f0101.d
Lab Smp Id: 2154 C061
Inj Date : 16-DEC-1998 21:27
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

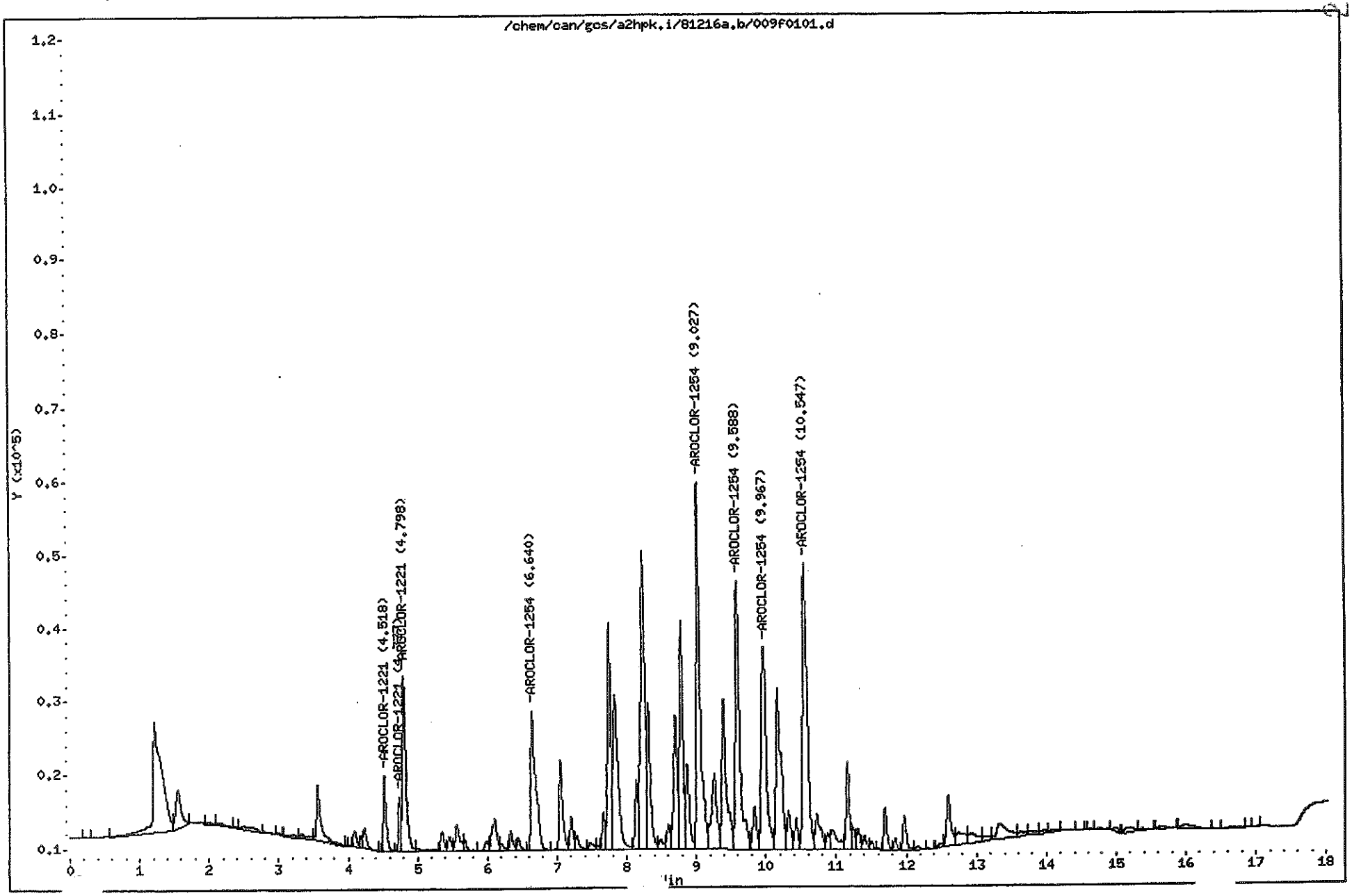
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.640	6.640	0.000	18672	0.50000	0.4646	80.00- 120.00	100.00
9.027	9.027	0.000	49819	0.50000	0.5133	200.11- 333.51	266.81
9.588	9.588	0.000	36366	0.50000	0.5209	146.07- 243.45	194.76
9.967	9.967	0.000	27220	0.50000	0.4954	109.33- 182.22	145.78
10.547	10.547	0.000	38717	0.50000	0.4920	155.51- 259.19	207.35
Average of Peak Amounts =					0.497		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.518	4.518	0.000	10011	0.50000	0.5190	80.00- 120.00	100.00
4.737	4.737	0.000	7195	0.50000	0.5106	53.90- 89.84	71.87
4.798	4.798	0.000	23635	0.50000	0.5247	177.07- 295.11	236.09
Average of Peak Amounts =					0.518		

Data File: /chem/can/gcs/a2hpk.i/81216a.b/009f0101.d
Date : 16-DEC-1998 21:27
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/010f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

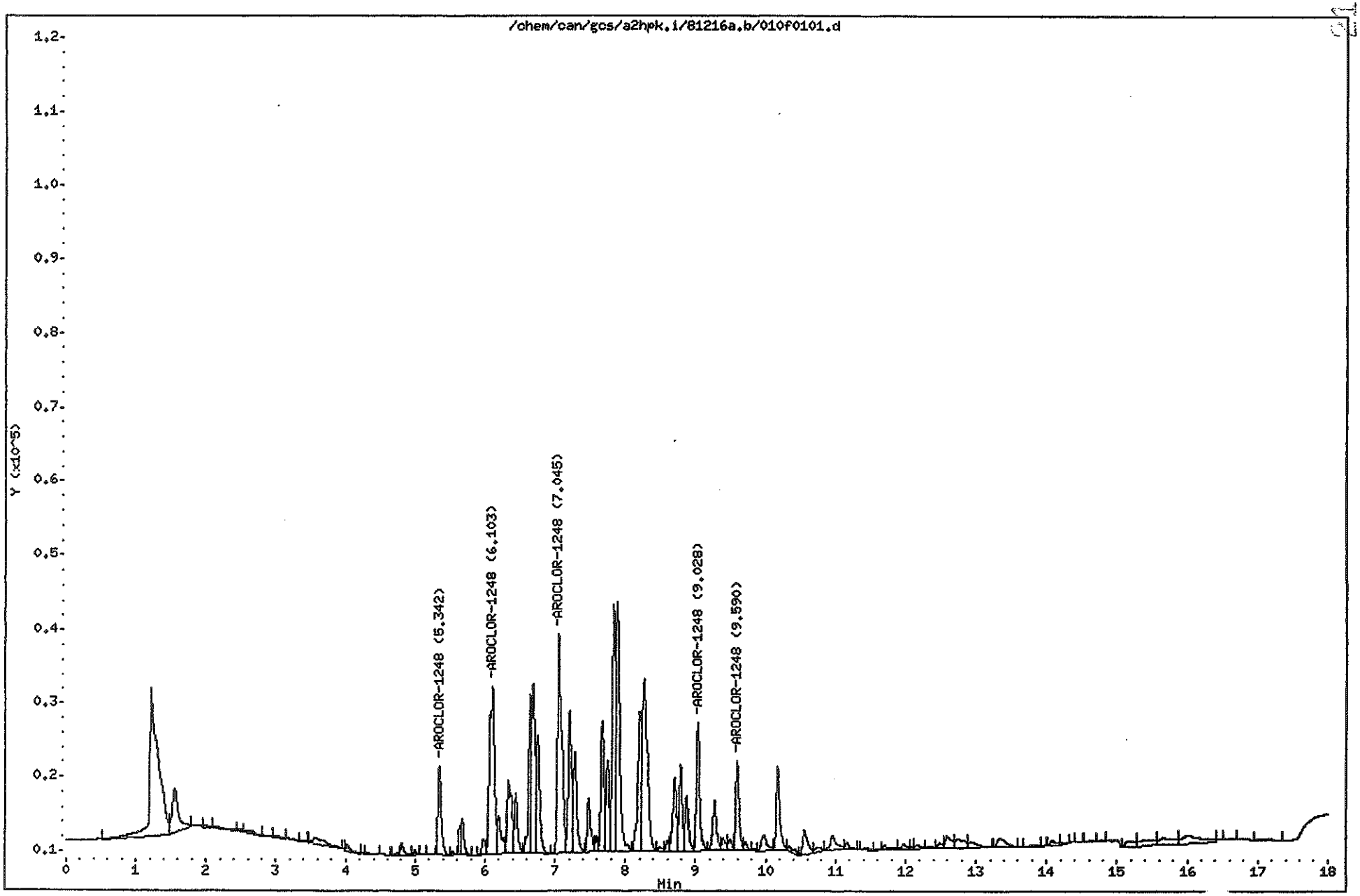
Data file : /chem/can/gcs/a2hpk.i/81216a.b/010f0101.d
Lab Smp Id: 1248 C056
Inj Date : 16-DEC-1998 21:48
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.342	5.342	0.000	11718	0.50000	0.4845	80.00- 120.00	100.00
6.103	6.103	0.000	22570	0.50000	0.5544	144.46- 240.76	192.61
7.045	7.045	0.000	29502	0.50000	0.5159	188.82- 314.71	251.77
9.028	9.028	0.000	17203	0.50000	0.5194	110.11- 183.51	146.81
9.590	9.590	0.000	11829	0.50000	0.5258	75.71- 126.18	100.95
Average of Peak Amounts =					0.52		

Data File: /chem/can/gcs/a2hpk.i/81216a.b/010f0101.d
Date : 16-DEC-1998 21:48
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i

Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81216a.b/011f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/011f0101.d
Lab Smp Id: 1242 C051
Inj Date : 16-DEC-1998 22:09
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

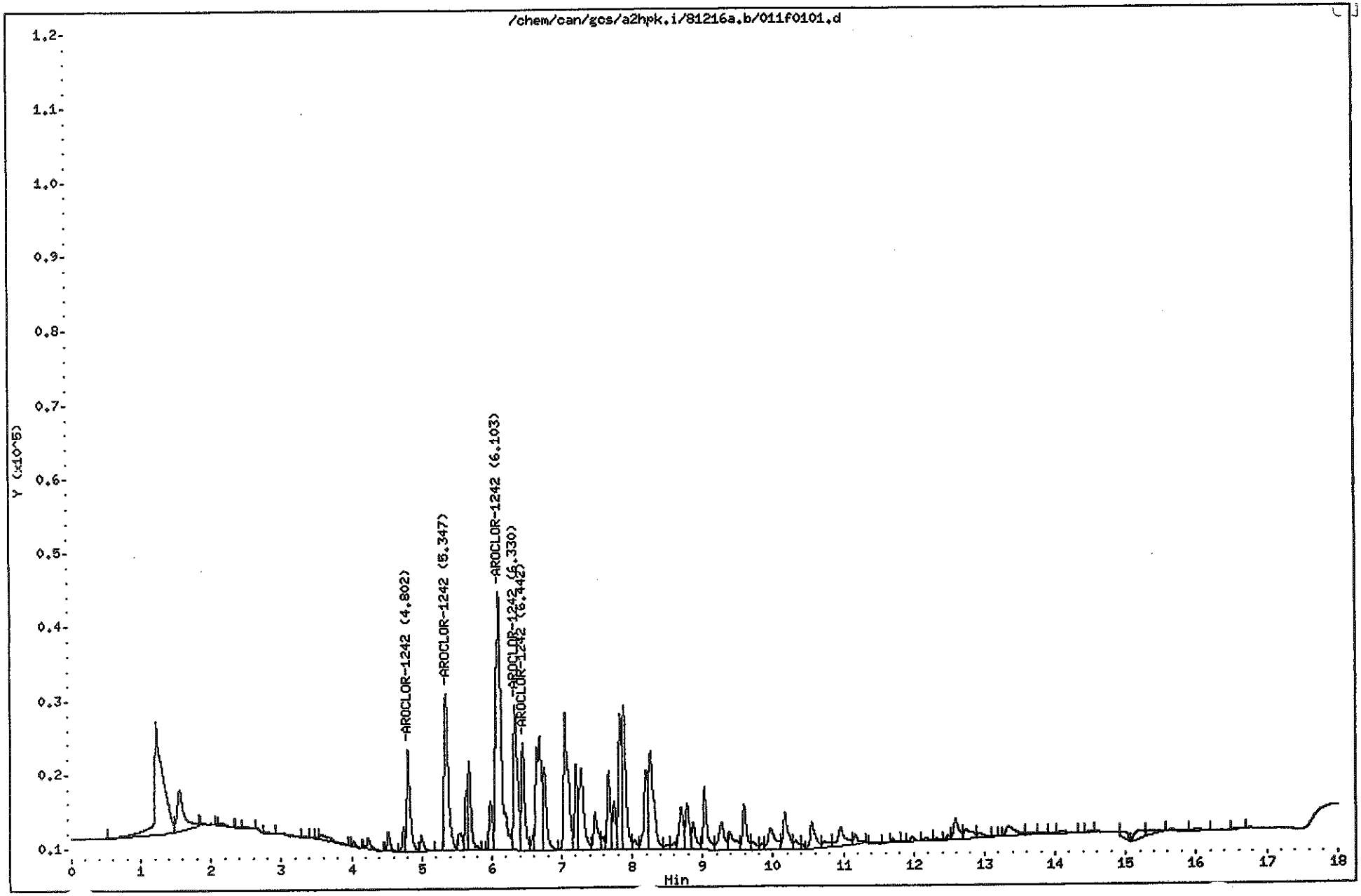
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.802	4.802	0.000	13689	0.50000	0.5146	80.00- 120.00	100.00
5.347	5.347	0.000	21213	0.50000	0.4736	116.22- 193.70	154.96
6.103	6.103	0.000	34790	0.50000	0.5219	190.61- 317.68	254.15
6.330	6.330	0.000	19600	0.50000	0.5204	107.39- 178.98	143.18
6.442	6.442	0.000	14502	0.50000	0.5412	79.45- 132.42	105.94
Average of Peak Amounts =					0.514		

Data File: /chem/can/gcs/a2hpk.i/81216a.b/011f0101.d
Date : 16-DEC-1998 22:09
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/012f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/012f0101.d
Lab Smp Id: 1232 C046
Inj Date : 16-DEC-1998 22:30
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

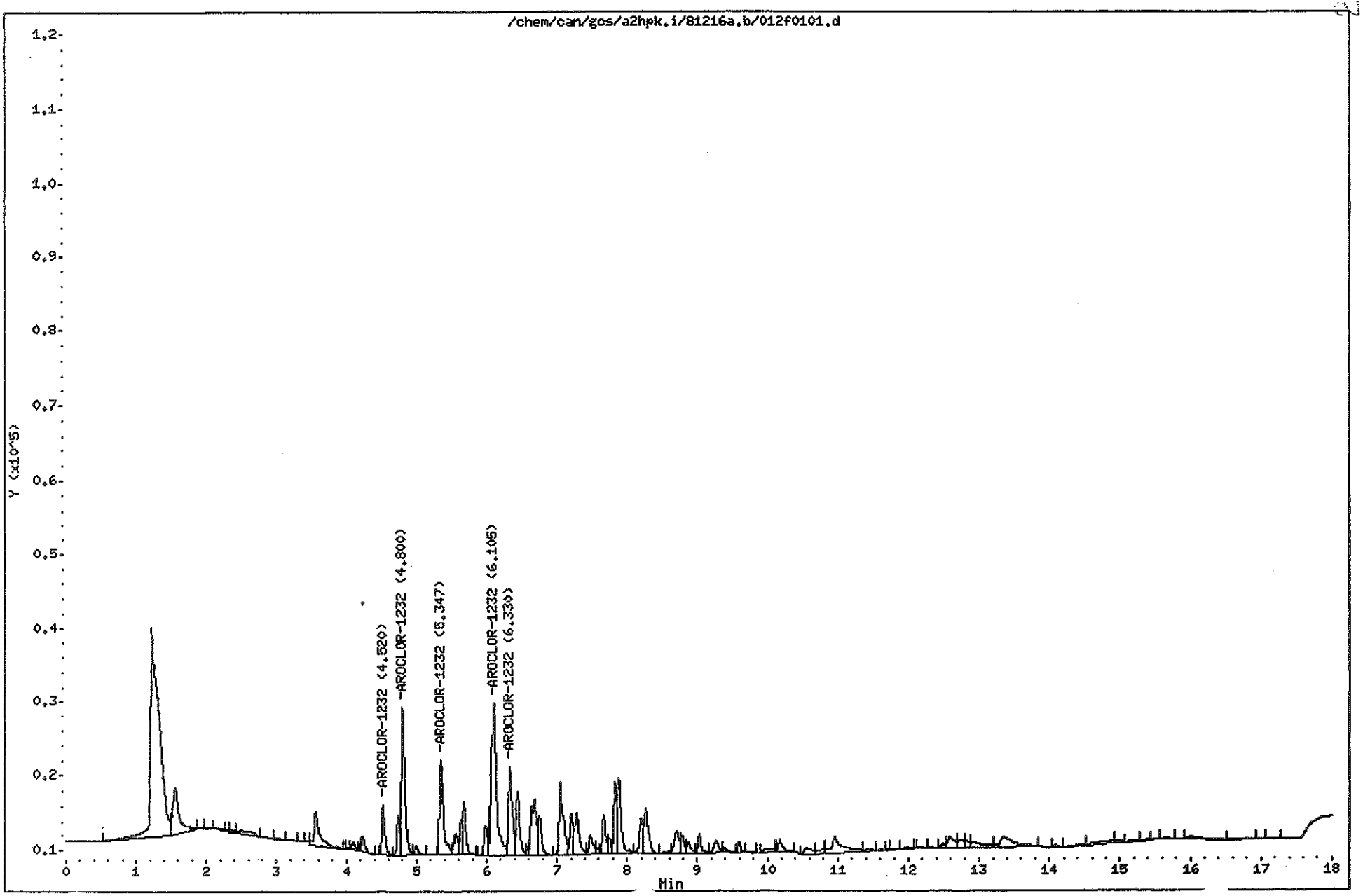
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.520	4.520	0.000	6865	0.50000	0.5212	80.00- 120.00	100.00
4.800	4.800	0.000	19697	0.50000	0.5282	215.19- 358.65	286.92
5.347	5.347	0.000	12523	0.50000	0.4815	136.81- 228.02	182.42
6.105	6.105	0.000	20412	0.50000	0.5451	223.00- 371.67	297.33
6.330	6.330	0.000	11596	0.50000	0.5387	126.69- 211.14	168.91
Average of Peak Amounts =					0.523		

Data File: /chem/can/gcs/a2hpk.i/81216a.b/012f0101.d
Date : 16-DEC-1998 22:30
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Report Date: 12/17/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 029f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 04:28
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.

COMPOUND	%D
TCMX	3.8
AROCLOR-1016	6.7
AROCLOR-1260	4.5
DCB	2.0

The average of %D's in the continuing calibration is 4.3

Data File: /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Report Date: 17-Dec-1998 13:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 04:28
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

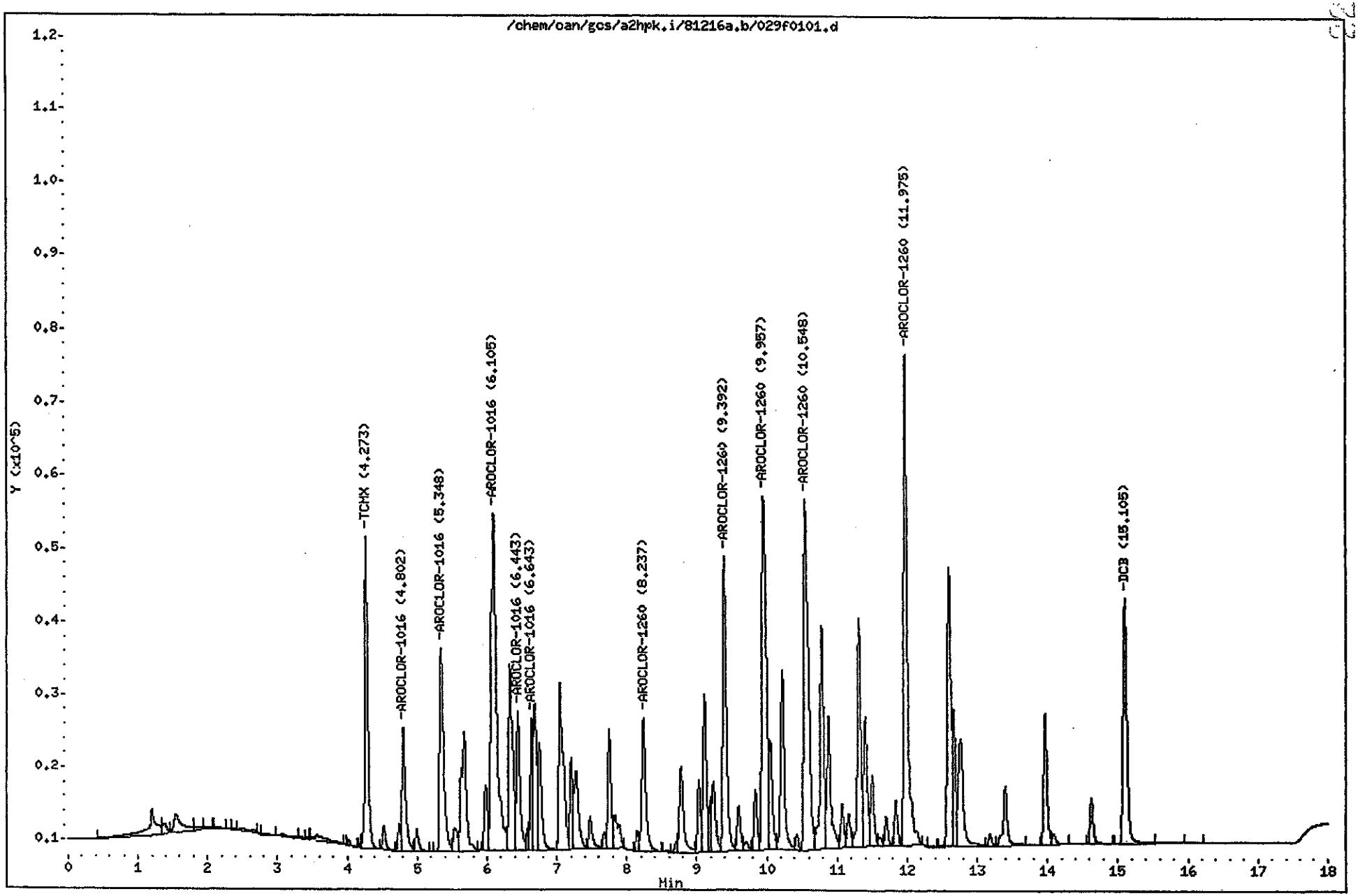
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.273	4.272	0.001	42579	0.02500	0.02596	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.802	0.000	16807	0.50000	0.5424	80.00- 120.00	100.00
5.348	5.347	0.001	27866	0.50000	0.5159	125.29- 208.81	165.80
6.105	6.105	0.000	46100	0.50000	0.5499	207.30- 345.49	274.29
6.443	6.442	0.001	19002	0.50000	0.5550	84.66- 141.09	113.06
6.643	6.642	0.001	17970	0.50000	0.5046	81.88- 136.47	106.92
	Average of Peak Amounts =				0.534		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.237	8.237	0.000	18017	0.50000	0.5183	80.00- 120.00	100.00
9.392	9.390	0.002	40407	0.50000	0.5107	166.19- 276.99	224.27
9.957	9.955	0.002	48437	0.50000	0.5240	196.82- 328.04	268.84
10.548	10.547	0.001	48061	0.50000	0.5288	201.36- 335.60	266.75
11.975	11.973	0.002	67403	0.50000	0.5299	281.46- 469.10	374.11
	Average of Peak Amounts =				0.522		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	33618	0.02500	0.02550	80.00- 120.00	100.00

Da le: /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Dat . 17-DEC-1998 04:28
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Report Date: 12/17/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 042f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 09:02
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.

COMPOUND	%D
TCMX	5.8
AROCLOR-1016	9.1
AROCLOR-1260	7.7
DCB	0.6

The average of %D's in the continuing calibration is 5.8

Data File: /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 09:02
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

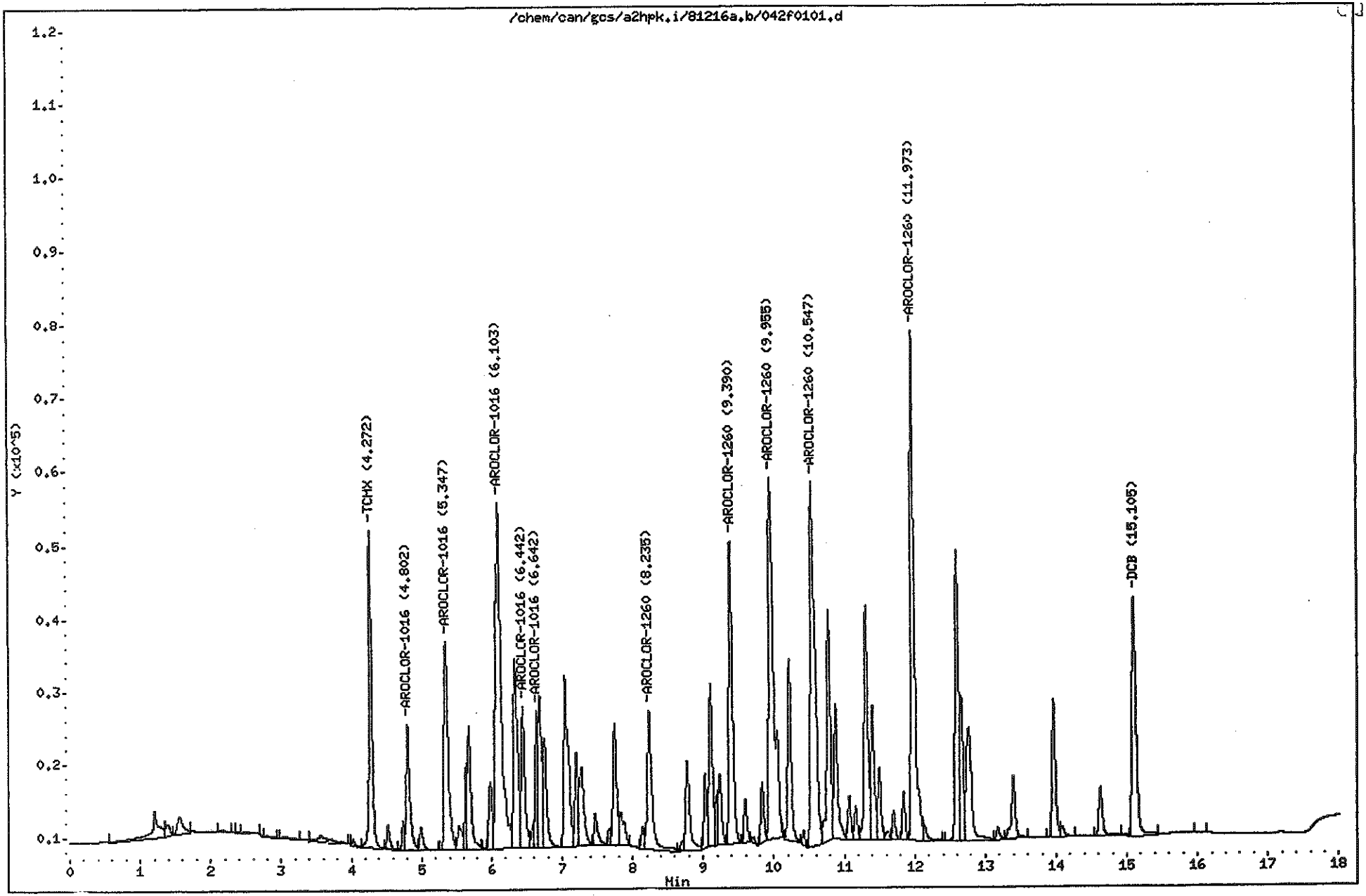
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.272	0.000	43375	0.02500	0.02645	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.802	0.000	17122	0.50000	0.5525	80.00- 120.00	100.00
5.347	5.347	0.000	28545	0.50000	0.5284	125.29- 208.81	166.72
6.103	6.105	-0.002	47226	0.50000	0.5633	207.30- 345.49	275.82
6.442	6.442	0.000	19280	0.50000	0.5632	84.66- 141.09	112.60
6.642	6.642	0.000	18552	0.50000	0.5210	81.88- 136.47	108.35
Average of Peak Amounts =					0.546		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.235	8.237	-0.002	18872	0.50000	0.5429	80.00- 120.00	100.00
9.390	9.390	0.000	41327	0.50000	0.5223	166.19- 276.99	218.99
9.955	9.955	0.000	49289	0.50000	0.5333	196.82- 328.04	261.18
10.547	10.547	0.000	49639	0.50000	0.5461	201.36- 335.60	263.03
11.973	11.973	0.000	69561	0.50000	0.5468	281.46- 469.10	368.59
Average of Peak Amounts =					0.538		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	32756	0.02500	0.02484	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Date : 17-DEC-1998 09:02
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Report Date: 12/17/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 050f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 11:50
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.

COMPOUND	%D
TCMX	1.3
AROCLOR-1016	2.4
AROCLOR-1260	0.7
DCB	5.4

The average of %D's in the continuing calibration is 2.4

Data File: /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Report Date: 17-Dec-1998 13:23

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 11:50
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

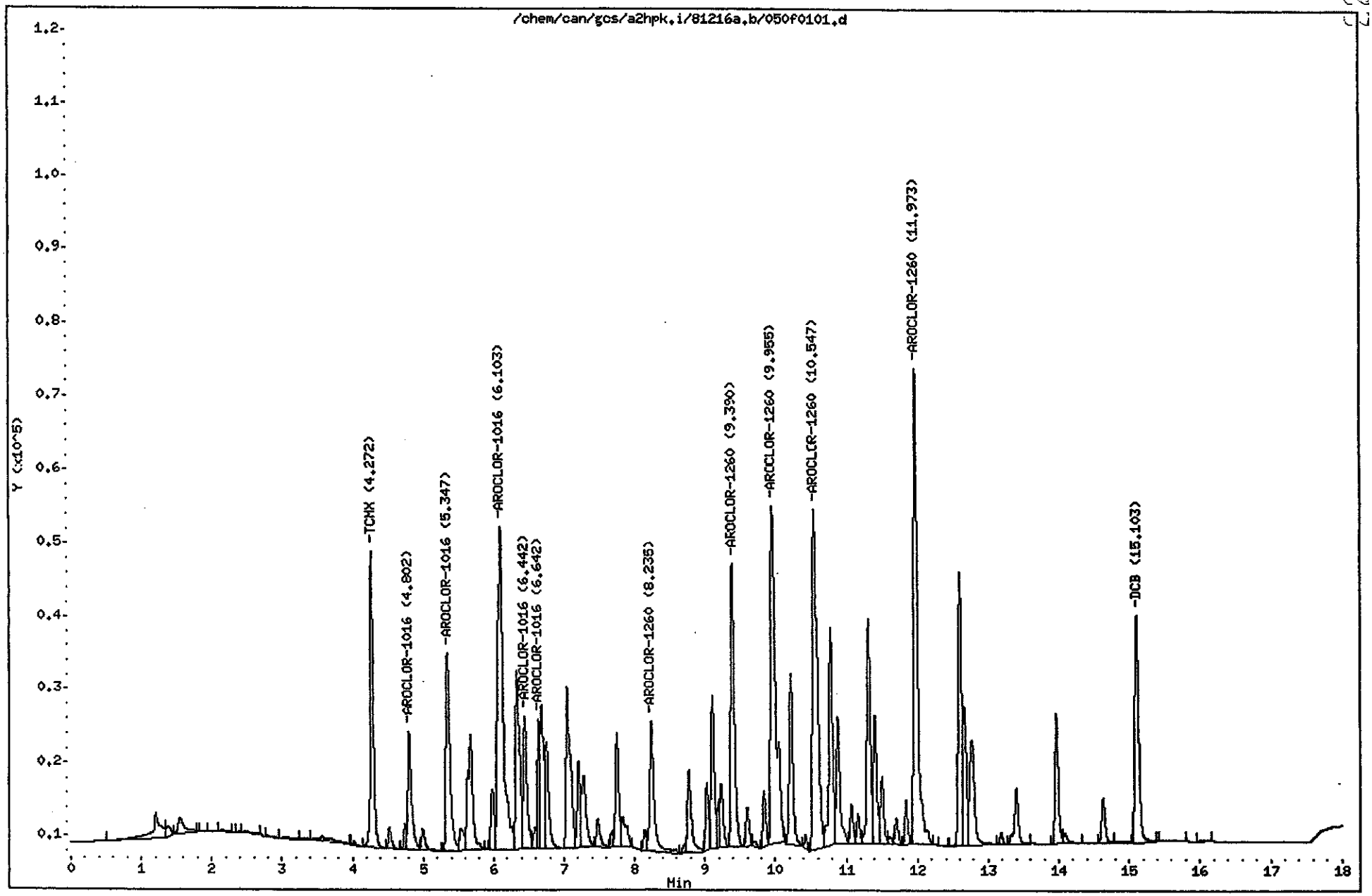
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.272	0.000	40484	0.02500	0.02468	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.802	0.000	15980	0.50000	0.5157	80.00- 120.00	100.00
5.347	5.347	0.000	26981	0.50000	0.4995	125.29- 208.81	168.84
6.103	6.105	-0.002	44175	0.50000	0.5269	207.30- 345.49	276.44
6.442	6.442	0.000	17970	0.50000	0.5249	84.66- 141.09	112.45
6.642	6.642	0.000	17523	0.50000	0.4921	81.88- 136.47	109.66
Average of Peak Amounts =					0.512		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.235	8.237	-0.002	17644	0.50000	0.5076	80.00- 120.00	100.00
9.390	9.390	0.000	38631	0.50000	0.4882	166.19- 276.99	218.95
9.955	9.955	0.000	46095	0.50000	0.4987	196.82- 328.04	261.25
10.547	10.547	0.000	46491	0.50000	0.5115	201.36- 335.60	263.49
11.973	11.973	0.000	64969	0.50000	0.5107	281.46- 469.10	368.22
Average of Peak Amounts =					0.503		
$ 9 DCB					CAS #: 2051-24-3		
15.103	15.105	-0.002	31168	0.02500	0.02364	80.00- 120.00	100.00

Da e: /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Date : 17-DEC-1998 11:50
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L020132

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.27 S2 : 15.10

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		1660 C110	12/17/98	1620	4.27	15.10
02		2154 C061	12/17/98	1641		
03		1248 C056	12/17/98	1703		
04		1242 C051	12/17/98	1724		
05		1232 C046	12/17/98	1745		
06	S-120198-JH-	CNW7E101	12/17/98	2115	4.27	15.10
07	S-120198-JH-	CNW73101	12/17/98	2136	4.27	15.12
08		1660 C110	12/17/98	2342	4.27	15.10
09		1660 C110	12/18/98	1322	4.27	15.10
10		2154 C061	12/18/98	1343		
11		1248 C056	12/18/98	1404		
12		1242 C051	12/18/98	1425		
13		1232 C046	12/18/98	1446		
14	S-120198-JH-	CNW60101	12/18/98	1528	4.27	15.11
15	S-120198-JH-	CNW64101	12/18/98	1549	4.27	15.10
16	S-120198-JH-	CNW65101	12/18/98	1610	4.27	15.10
17	S-120198-JH-	CNW66101	12/18/98	1631	4.27	15.10
18	S-120198-JH-	CNW67101	12/18/98	1652	4.27	15.10
19	S-120198-JH-	CNW68101	12/18/98	1713	4.27	15.11
20	S-120198-JH-	CNW69101	12/18/98	1734	4.27	15.10
21	S-120198-JH-	CNW6A101	12/18/98	1755	4.27	15.10
22	S-120198-JH-	CNW6C101	12/18/98	1816	4.27	15.10
23		1660 C110	12/18/98	1858	4.27	15.10
24	S-120198-JH-	CNW6D101	12/18/98	1940	4.27	15.10
25	S-120198-JH-	CNW6E101	12/18/98	2001	4.27	15.10
26	S-120198-JH-	CNW6F101	12/18/98	2022	4.27	15.12
27	S-120198-JH-	CNW6G101	12/18/98	2043	4.27	15.10
28	S-120198-JH-	CNW6J101	12/18/98	2104	4.27	15.10
29	S-120198-JH-	CNW6L101	12/18/98	2125	4.27	15.10
30	S-120198-JH-	CNW6N101	12/18/98	2207	4.27	15.10
31	S-120198-JH-	CNW6P101	12/18/98	2228	4.27	15.10
32	S-120198-JH-	CNW6Q101	12/18/98	2249	4.27	15.10

QC LIMITS

S1 = TCMX (+/- 0.10 MINUTES)
S2 = DCB (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L020?

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.27 S2 : 15.10

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		1660 C110	12/18/98	2331	4.27	15.10
02	S-120198-JH-	CNW6R101	12/19/98	0013	4.27	15.11
03	CNWD6BLK	CNWD6101	12/19/98	0034	4.27	15.10
04	CNWD6CHKDUP	CNWD6104	12/19/98	0055	4.27	15.10
05		1660 C110	12/19/98	0137	4.27	15.10
06						
07						
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28						
29						
30						
31						
32						

QC LIMITS

S1 = TCMX (+/- 0.10 MINUTES)
S2 = DCB (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

Data File: /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Report Date: 12/18/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 004f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 16:20
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.

COMPOUND	%D
TCMX	0.6
AROCLOR-1016	3.6
AROCLOR-1260	1.9
DCB	1.1

The average of %D's in the continuing calibration is 1.8

Data File: /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 16:20
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

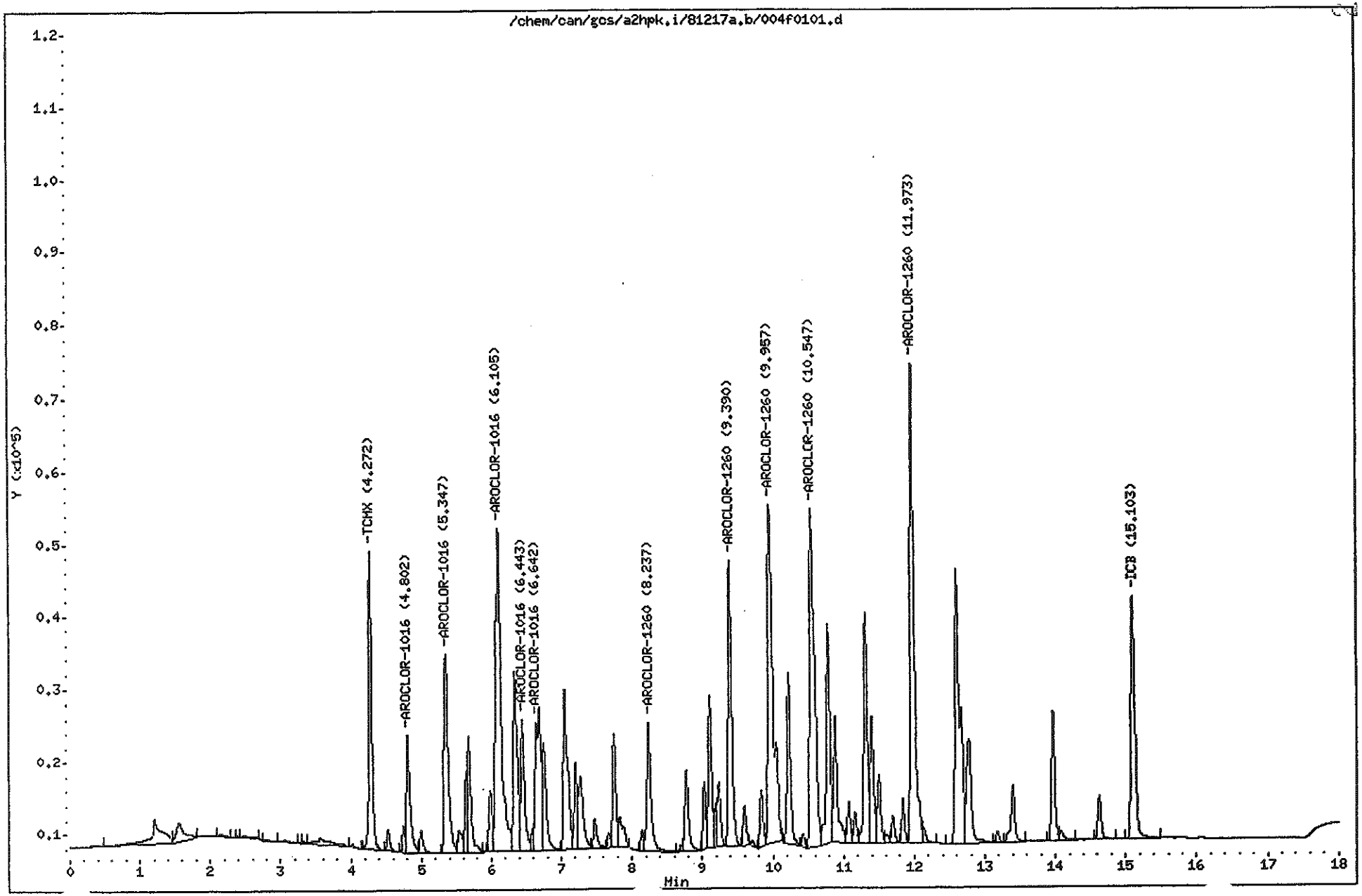
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	41244	0.02500	0.02515	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.800	0.002	16264	0.50000	0.5248	80.00- 120.00	100.00
5.347	5.343	0.004	27263	0.50000	0.5047	128.06- 213.44	167.63
6.105	6.102	0.003	44542	0.50000	0.5313	204.62- 341.03	273.87
6.443	6.440	0.003	18116	0.50000	0.5292	83.61- 139.35	111.39
6.642	6.638	0.004	17794	0.50000	0.4997	84.33- 140.55	109.41
Average of Peak Amounts =					0.518		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.237	8.233	0.004	17734	0.50000	0.5102	80.00- 120.00	100.00
9.390	9.385	0.005	39356	0.50000	0.4974	164.71- 274.51	221.92
9.957	9.952	0.005	46768	0.50000	0.5060	194.93- 324.88	263.72
10.547	10.542	0.005	46824	0.50000	0.5152	195.72- 326.20	264.04
11.973	11.968	0.005	66120	0.50000	0.5198	277.41- 462.34	372.84
Average of Peak Amounts =					0.51		
$ 9 DCB					CAS #: 2051-24-3		
15.103	15.097	0.006	33318	0.02500	0.02527	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Date : 17-DEC-1998 16:20
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/005f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/005f0101.d
Lab Smp Id: 2154 C061
Inj Date : 17-DEC-1998 16:41
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

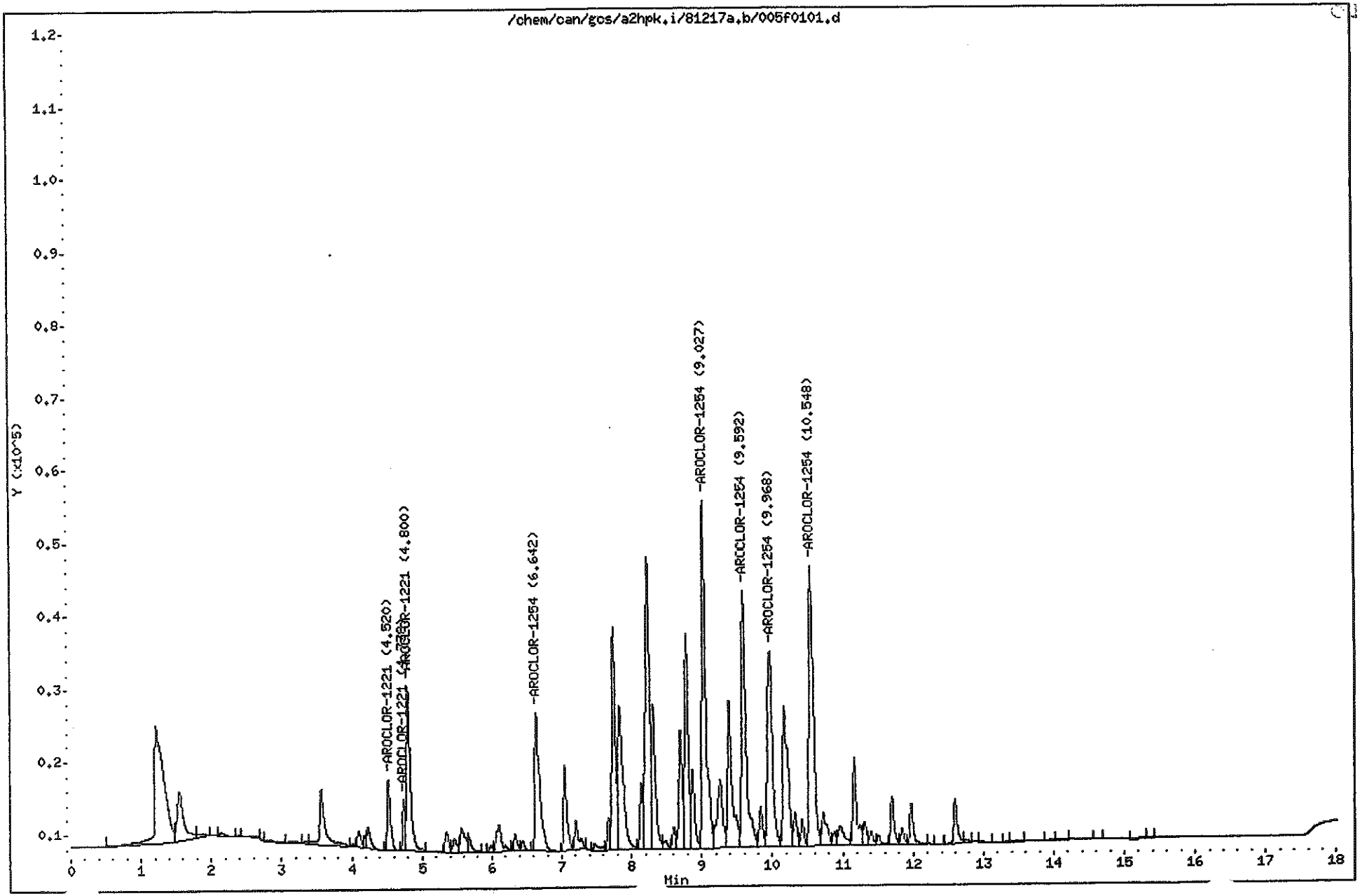
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.642	6.638	0.004	19060	0.50000	0.4743	80.00- 120.00	100.00
9.027	9.023	0.004	47669	0.50000	0.4912	183.65- 306.08	250.10
9.592	9.588	0.004	35184	0.50000	0.5040	134.94- 224.90	184.60
9.968	9.965	0.003	26820	0.50000	0.4882	104.37- 173.96	140.71
10.548	10.543	0.005	38422	0.50000	0.4883	148.01- 246.69	201.58
Average of Peak Amounts =					0.489		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.520	4.518	0.002	9770	0.50000	0.5066	80.00- 120.00	100.00
4.738	4.737	0.001	6997	0.50000	0.4965	54.30- 90.51	71.62
4.800	4.798	0.002	22530	0.50000	0.5002	172.76- 287.93	230.60
Average of Peak Amounts =					0.501		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/005f0101.d
Date : 17-DEC-1998 16:41
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/006f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/006f0101.d
Lab Smp Id: 1248 C056
Inj Date : 17-DEC-1998 17:03
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

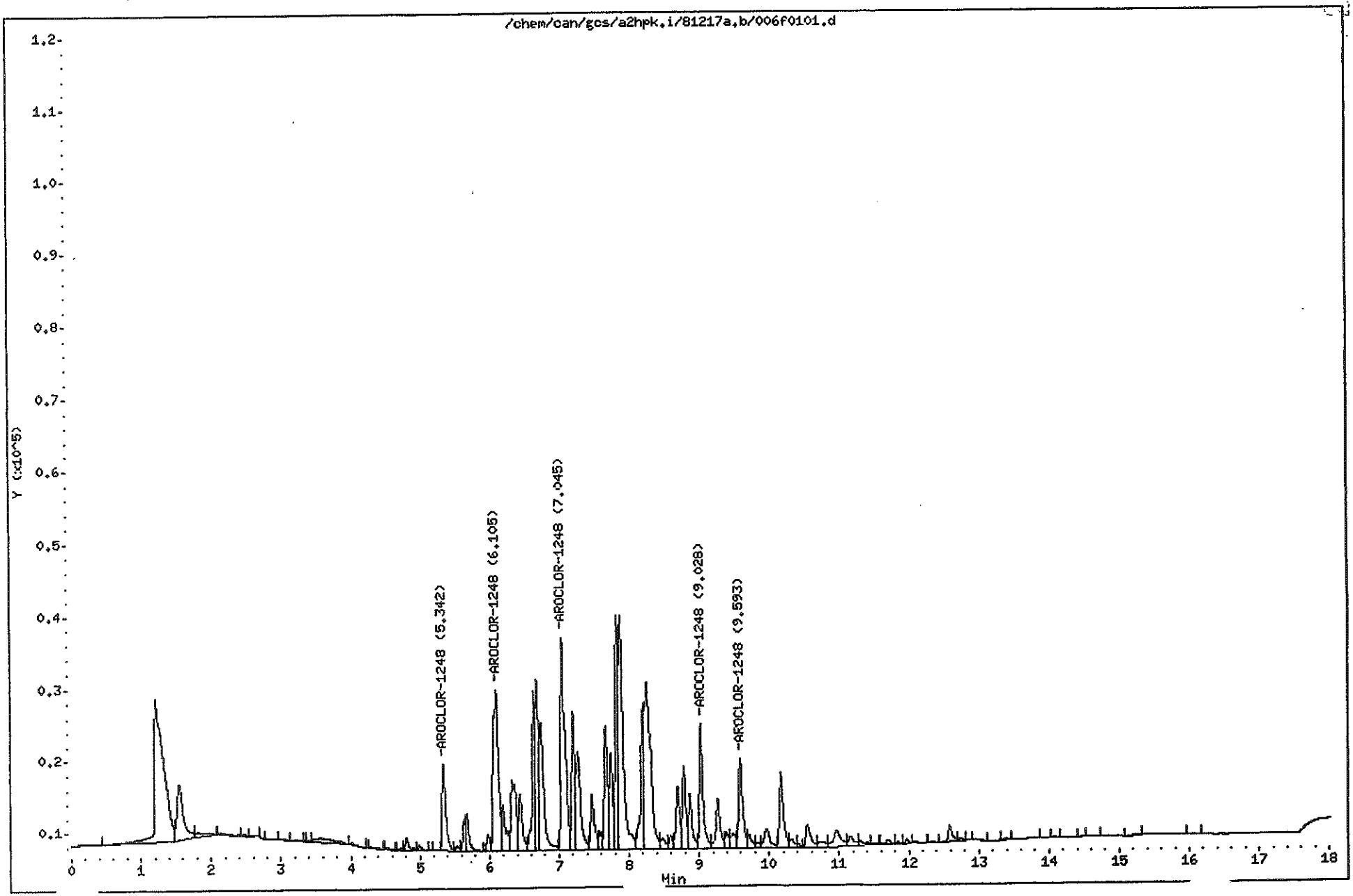
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.342	5.338	0.004	12087	0.50000	0.4998	80.00- 120.00	100.00
6.105	6.102	0.003	22306	0.50000	0.5480	137.72- 229.53	184.55
7.045	7.042	0.003	29366	0.50000	0.5135	181.30- 302.17	242.96
9.028	9.025	0.003	17365	0.50000	0.5243	108.43- 180.71	143.67
9.593	9.590	0.003	12471	0.50000	0.5543	78.36- 130.60	103.18
Average of Peak Amounts =					0.528		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/006f0101.d
Date : 17-DEC-1998 17:03
Client ID:
Sample Info: 1248 C056,,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81217a.b/007f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/007f0101.d
Lab Smp Id: 1242 C051
Inj Date : 17-DEC-1998 17:24
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

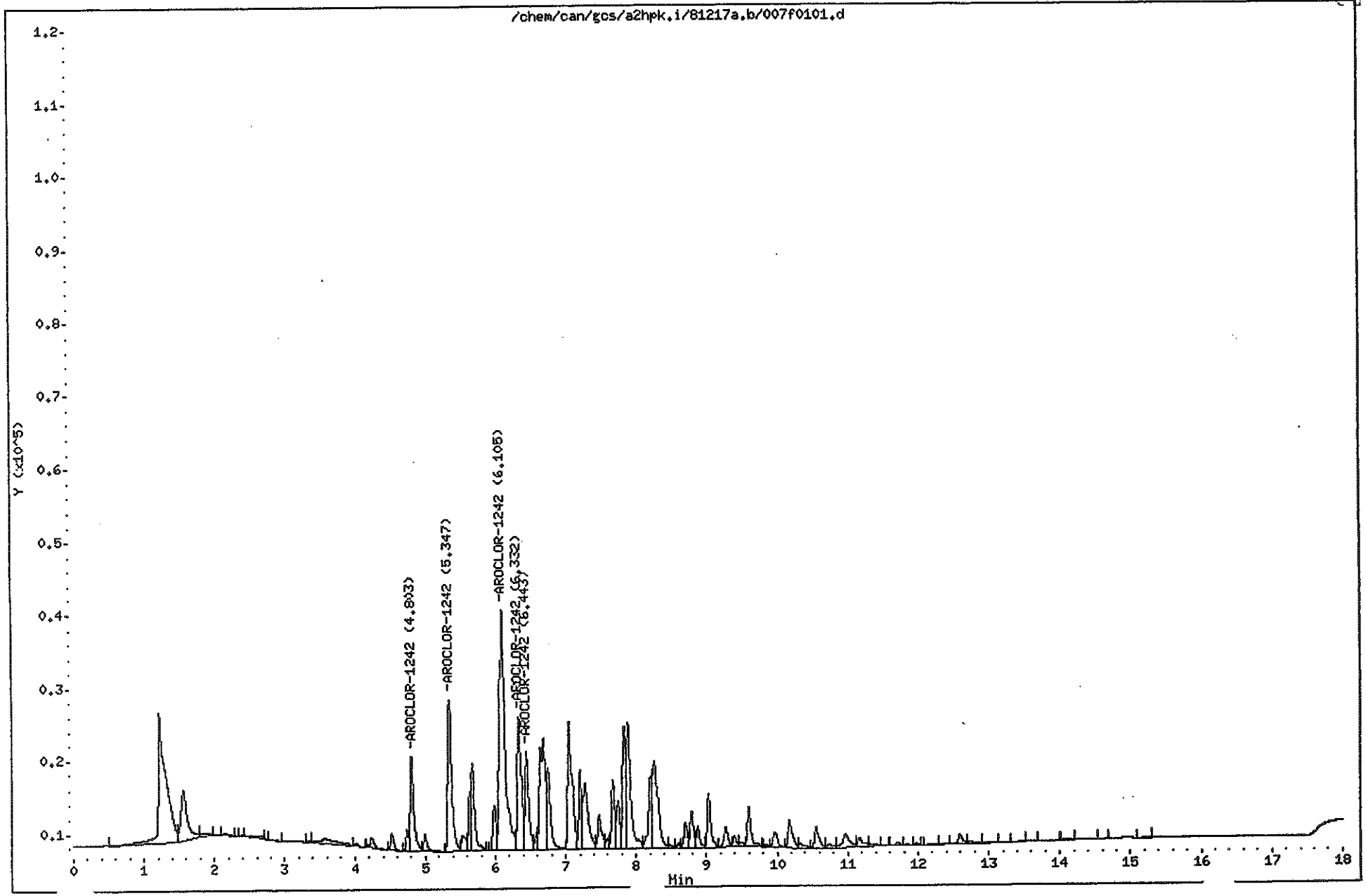
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.803	4.800	0.003	12807	0.50000	0.4814	80.00- 120.00	100.00
5.347	5.343	0.004	20849	0.50000	0.4654	122.23- 203.72	162.79
6.105	6.102	0.003	32922	0.50000	0.4939	193.45- 322.42	257.06
6.332	6.328	0.004	18392	0.50000	0.4883	108.22- 180.37	143.61
6.443	6.440	0.003	13540	0.50000	0.5053	79.59- 132.66	105.72
Average of Peak Amounts =					0.487		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/007f0101.d
Date : 17-DEC-1998 17:24
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/008f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/008f0101.d
Lab Smp Id: 1232 C046
Inj Date : 17-DEC-1998 17:45
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

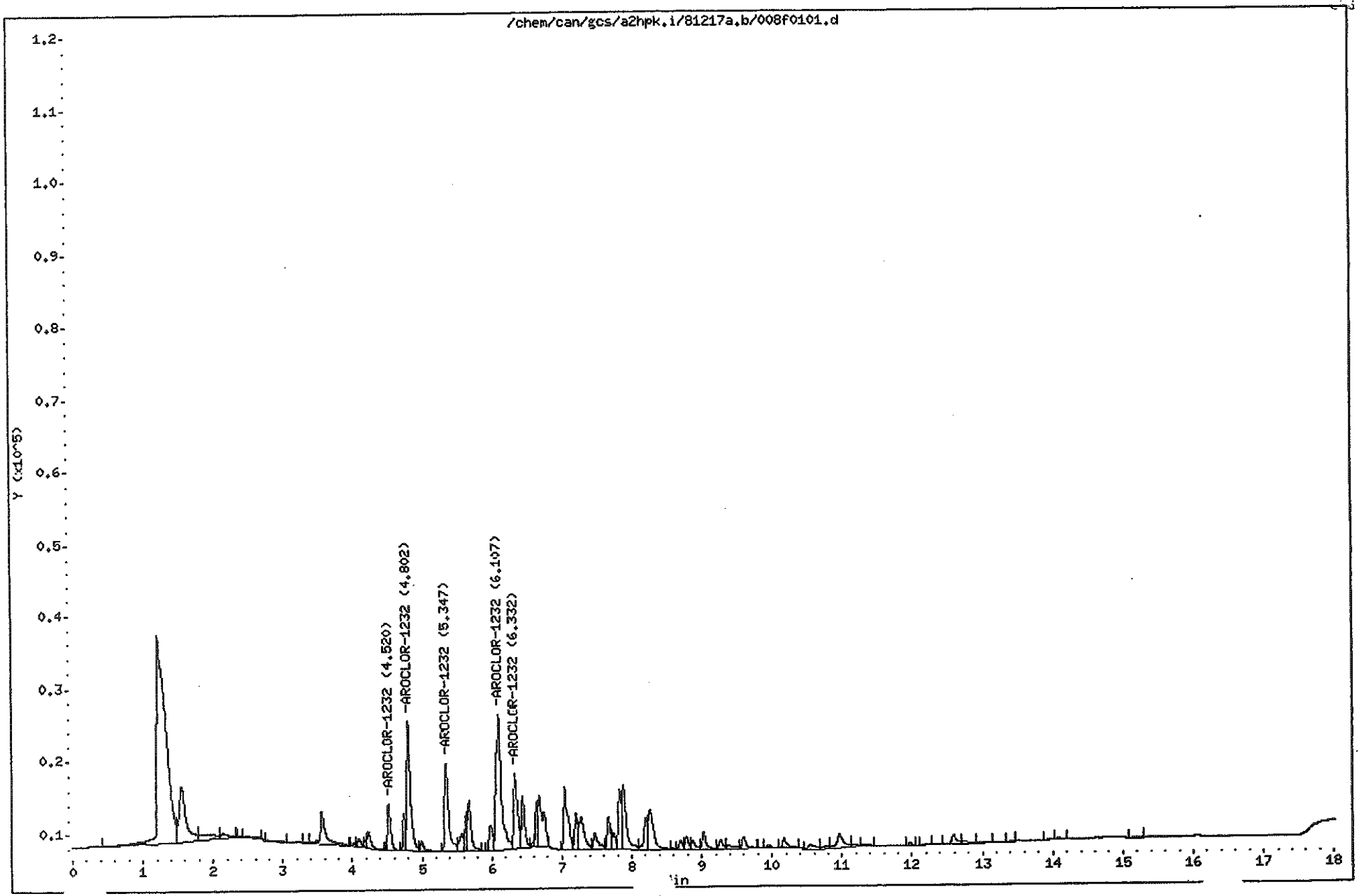
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.520	4.518	0.002	6357	0.50000	0.4827	80.00- 120.00	100.00
4.802	4.800	0.002	17976	0.50000	0.4820	211.13- 351.88	282.77
5.347	5.345	0.002	12113	0.50000	0.4658	144.23- 240.39	190.55
6.107	6.103	0.004	18665	0.50000	0.4984	220.77- 367.94	293.61
6.332	6.330	0.002	10362	0.50000	0.4814	121.89- 203.14	163.00
		Average of Peak Amounts =			0.482		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/008f0101.d
Date : 17-DEC-1998 17:45
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Report Date: 12/18/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 025f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 23:42
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII

COMPOUND	%D
TCMX	2.8
AROCLOR-1016	4.9
AROCLOR-1260	3.9
DCB	3.7

The average of %D's in the continuing calibration is 3.8

Data File: /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 23:42
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

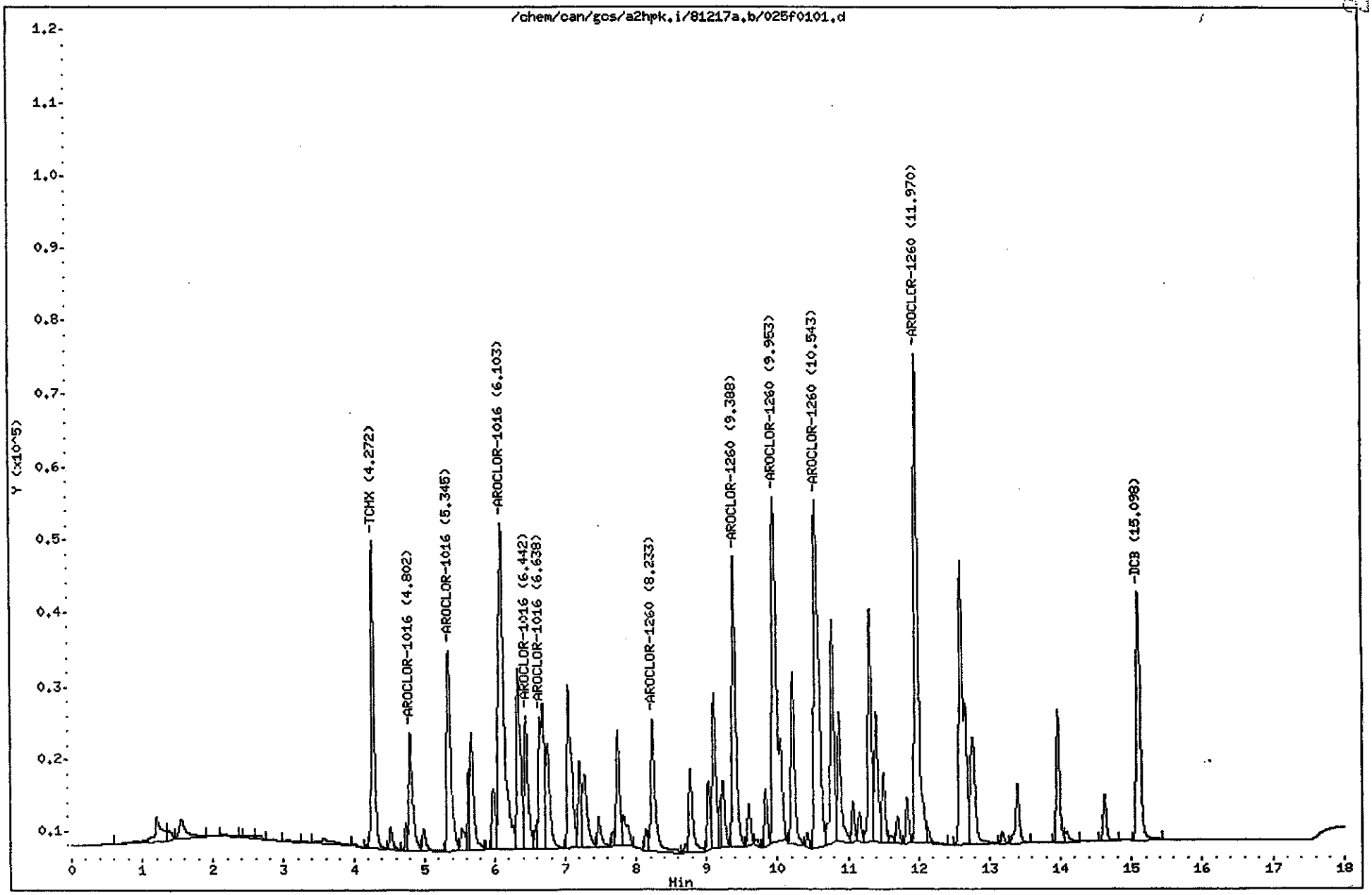
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	42138	0.02500	0.02569	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.800	0.002	16404	0.50000	0.5294	80.00- 120.00	100.00
5.345	5.343	0.002	27634	0.50000	0.5116	128.06- 213.44	168.46
6.103	6.102	0.001	44889	0.50000	0.5354	204.62- 341.03	273.65
6.442	6.440	0.002	18332	0.50000	0.5355	83.61- 139.35	111.75
6.638	6.638	0.000	18205	0.50000	0.5112	84.33- 140.55	110.98
Average of Peak Amounts =					0.525		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.233	8.233	0.000	18159	0.50000	0.5224	80.00- 120.00	100.00
9.388	9.385	0.003	39911	0.50000	0.5044	164.71- 274.51	219.79
9.953	9.952	0.001	47543	0.50000	0.5144	194.93- 324.88	261.82
10.543	10.542	0.001	47928	0.50000	0.5273	195.72- 326.20	263.94
11.970	11.968	0.002	67240	0.50000	0.5286	277.41- 462.34	370.28
Average of Peak Amounts =					0.519		
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	34171	0.02500	0.02592	80.00- 120.00	100.00

Da\ .e: /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Date : 17-DEC-1998 23:42
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/064f0101.d
Report Date: 12/21/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 064f0101.d
Analysis Type: NONE

Injection Date: 18-DEC-1998 13:22
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.

COMPOUND	%D
TCMX	5.1
AROCLOR-1016	6.2
AROCLOR-1260	2.6
DCB	2.9

The average of %D's in the continuing calibration is 4.2

Data File: /chem/can/gcs/a2hpk.i/81217a.b/064f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/064f0101.d
Lab Smp Id: 1660 C110
Inj Date : 18-DEC-1998 13:22
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

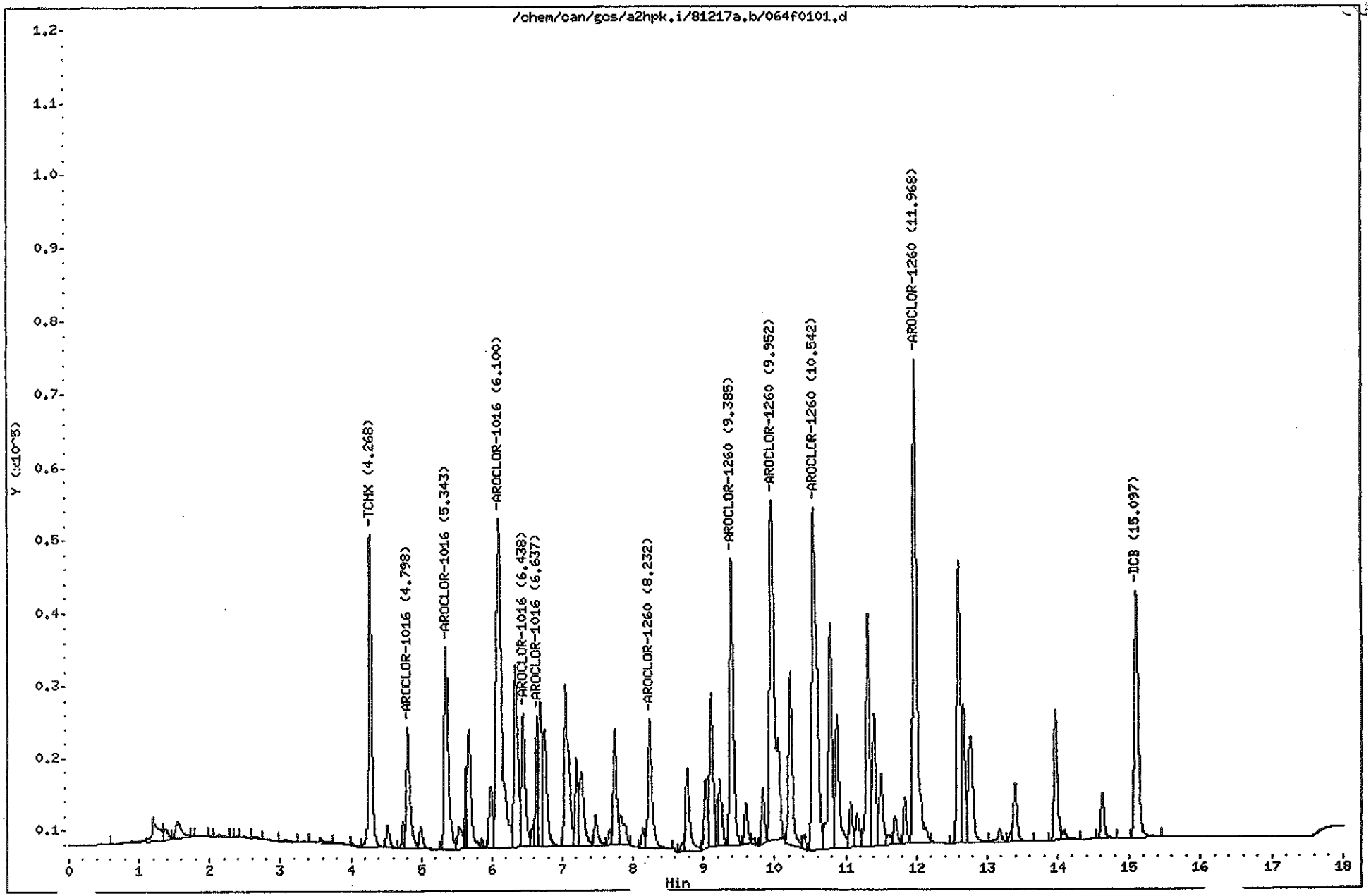
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.268	4.270	-0.002	43108	0.02500	0.02628	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.798	4.800	-0.002	16720	0.50000	0.5396	80.00- 120.00	100.00
5.343	5.343	0.000	28020	0.50000	0.5187	128.06- 213.44	167.58
6.100	6.102	-0.002	45503	0.50000	0.5428	204.62- 341.03	272.15
6.438	6.440	-0.002	18617	0.50000	0.5438	83.61- 139.35	111.35
6.637	6.638	-0.001	18199	0.50000	0.5111	84.33- 140.55	108.85
Average of Peak Amounts =					0.531		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.232	8.233	-0.001	17898	0.50000	0.5149	80.00- 120.00	100.00
9.385	9.385	0.000	39552	0.50000	0.4999	164.71- 274.51	220.99
9.952	9.952	0.000	46844	0.50000	0.5068	194.93- 324.88	261.73
10.542	10.542	0.000	47286	0.50000	0.5202	195.72- 326.20	264.20
11.968	11.968	0.000	66535	0.50000	0.5230	277.41- 462.34	371.75
Average of Peak Amounts =					0.513		
$ 9 DCB					CAS #: 2051-24-3		
15.097	15.097	0.000	33916	0.02500	0.02572	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/064f0101.d
Date : 18-DEC-1998 13:22
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/065f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/065f0101.d
Lab Smp Id: 2154 C061
Inj Date : 18-DEC-1998 13:43
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

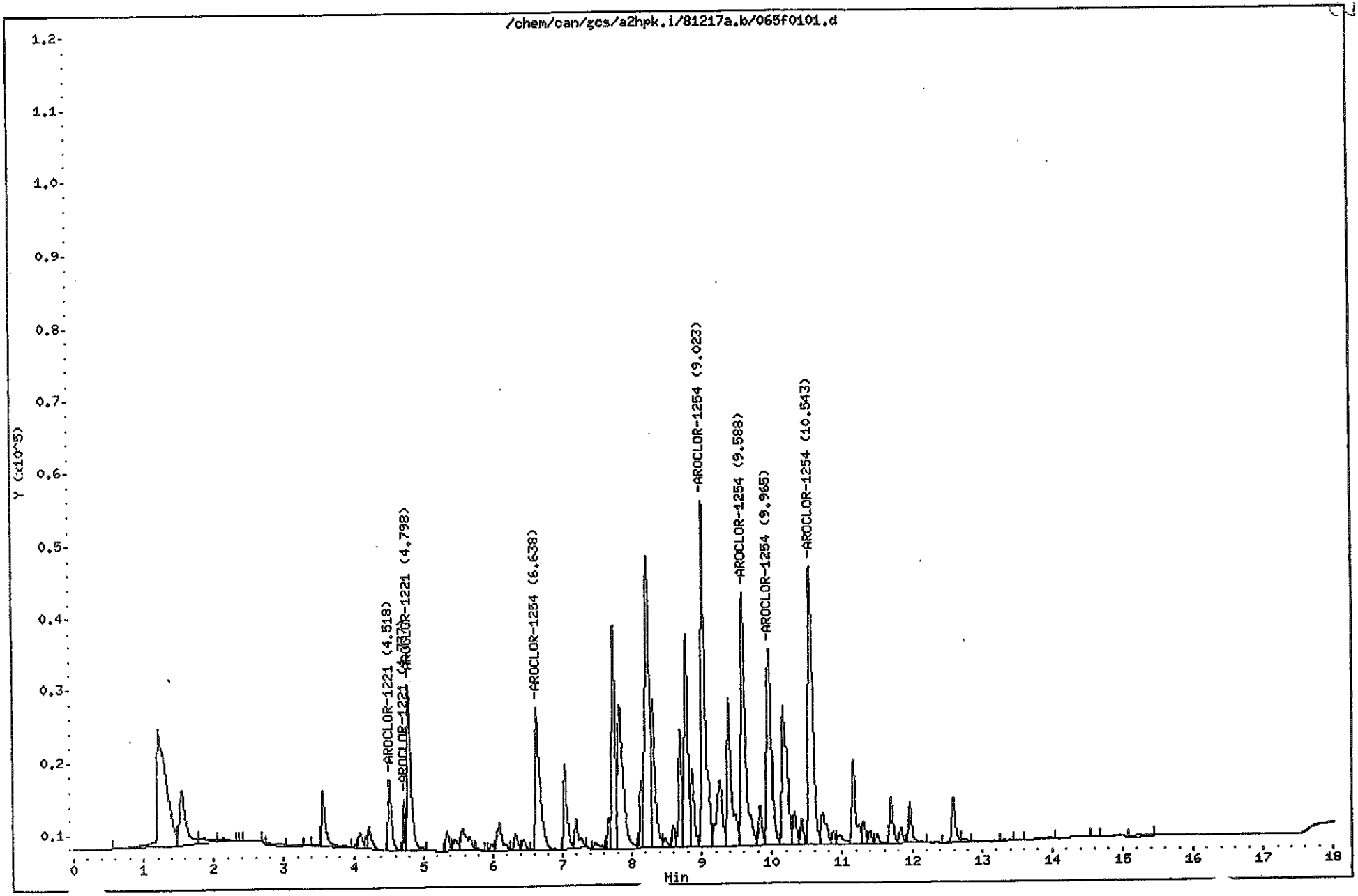
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.638	6.638	0.000	19546	0.50000	0.4864	80.00- 120.00	100.00
9.023	9.023	0.000	47861	0.50000	0.4932	183.65- 306.08	244.86
9.588	9.588	0.000	35167	0.50000	0.5038	134.94- 224.90	179.92
9.965	9.965	0.000	27201	0.50000	0.4951	104.37- 173.96	139.16
10.543	10.543	0.000	38574	0.50000	0.4902	148.01- 246.69	197.35
Average of Peak Amounts =					0.494		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.518	4.518	0.000	9853	0.50000	0.5109	80.00- 120.00	100.00
4.737	4.737	0.000	7134	0.50000	0.5062	54.30- 90.51	72.40
4.798	4.798	0.000	22696	0.50000	0.5039	172.76- 287.93	230.35
Average of Peak Amounts =					0.507		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/065f0101.d
Date : 18-DEC-1998 13:43
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/066f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/066f0101.d
Lab Smp Id: 1248 C056
Inj Date : 18-DEC-1998 14:04
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

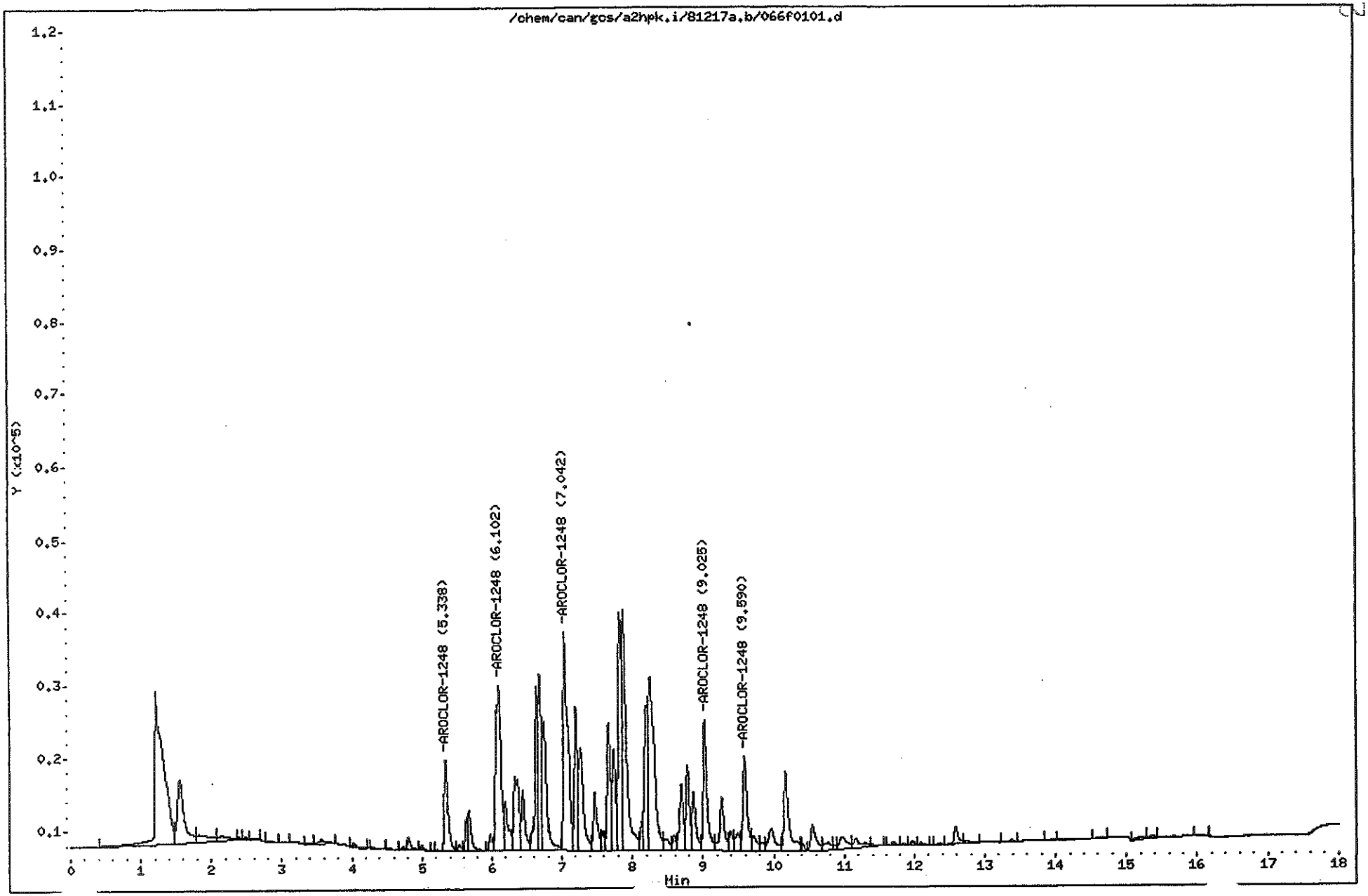
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.338	5.338	0.000	12361	0.50000	0.5111	80.00- 120.00	100.00
6.102	6.102	0.000	22698	0.50000	0.5576	137.72- 229.53	183.63
7.042	7.042	0.000	29881	0.50000	0.5225	181.30- 302.17	241.74
9.025	9.025	0.000	17870	0.50000	0.5396	108.43- 180.71	144.57
9.590	9.590	0.000	12915	0.50000	0.5741	78.36- 130.60	104.48
		Average of Peak Amounts =			0.541		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/066f0101.d
Date : 18-DEC-1998 14:04
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



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Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/067f0101.d
Lab Smp Id: 1242 C051
Inj Date : 18-DEC-1998 14:25
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

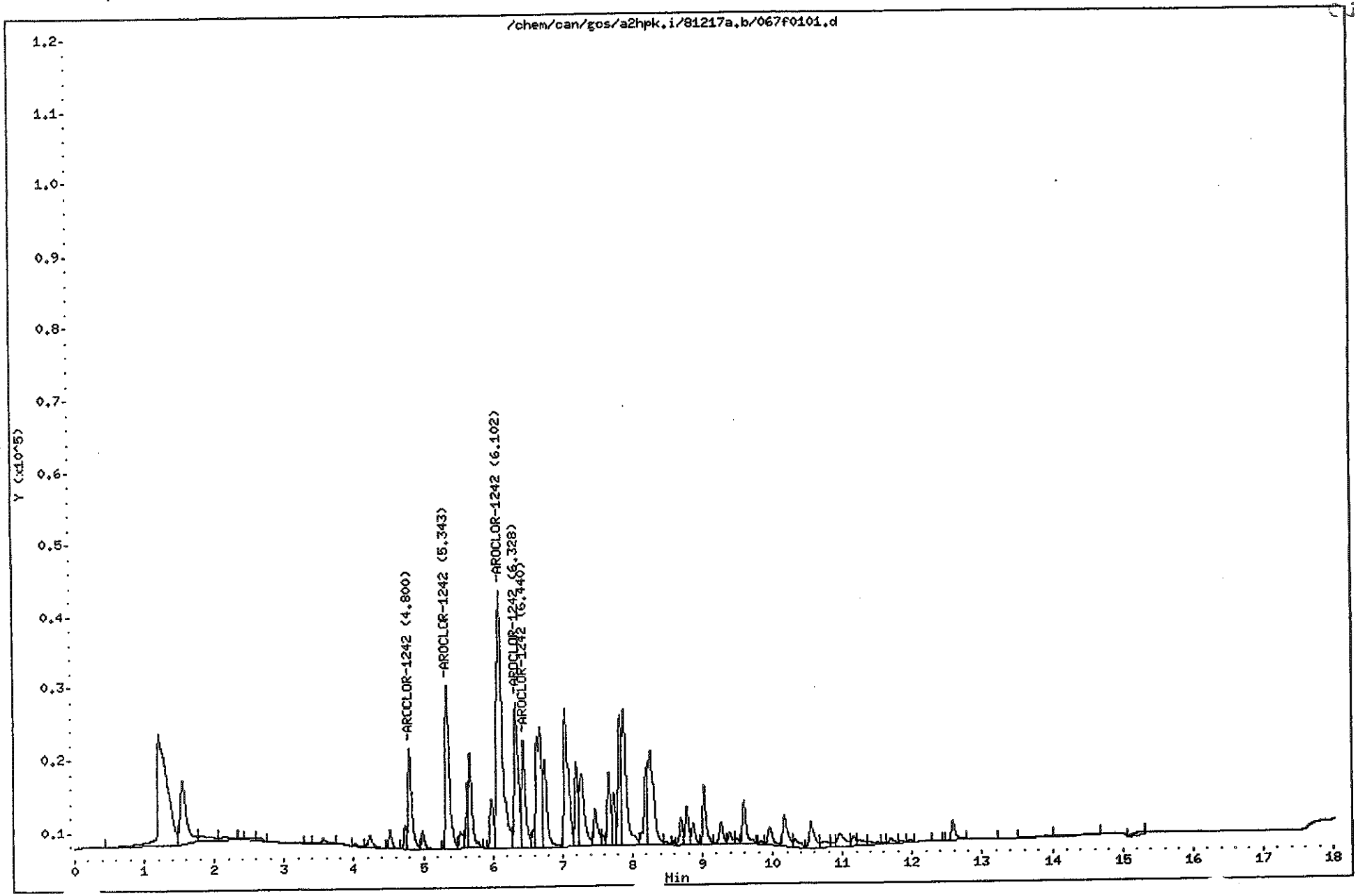
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
5 AROCLOR-1242						CAS #: 53469-21-9		
4.800	4.800	0.000	13876	0.50000	0.5216	80.00-	120.00	100.00
5.343	5.343	0.000	22614	0.50000	0.5048	122.23-	203.72	162.97
6.102	6.102	0.000	35791	0.50000	0.5369	193.45-	322.42	257.93
6.328	6.328	0.000	20023	0.50000	0.5316	108.22-	180.37	144.30
6.440	6.440	0.000	14726	0.50000	0.5496	79.59-	132.66	106.13
Average of Peak Amounts =					0.529			

Data File: /chem/can/gos/a2hpk.i/81217a.b/067f0101.d
Date : 18-DEC-1998 14:25
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/068f0101.d
Report Date: 21-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/068f0101.d
Lab Smp Id: 1232 C046
Inj Date : 18-DEC-1998 14:46
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

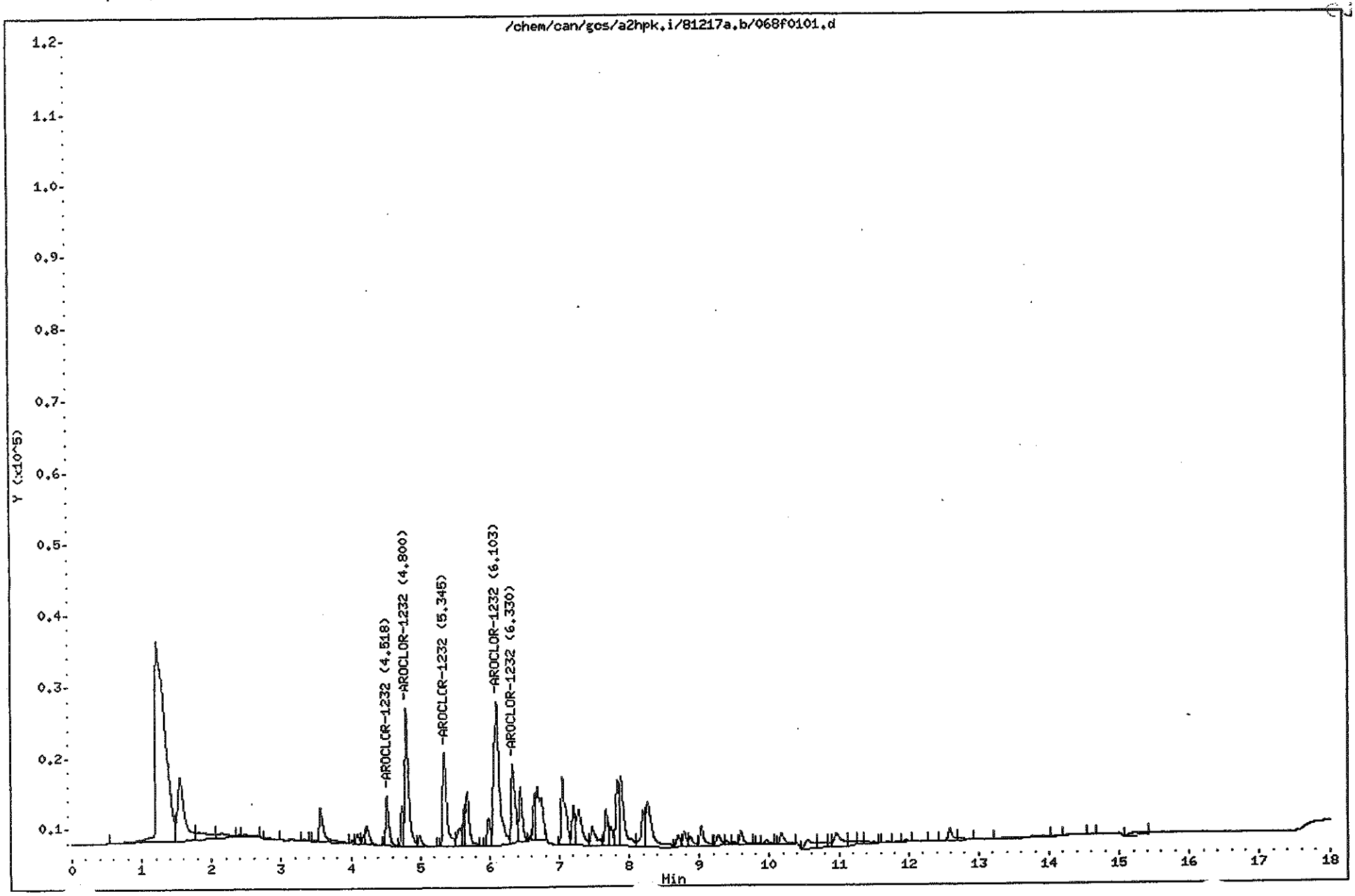
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.518	4.518	0.000	6856	0.50000	0.5206	80.00- 120.00	100.00
4.800	4.800	0.000	19300	0.50000	0.5175	211.13- 351.88	281.51
5.345	5.345	0.000	13185	0.50000	0.5070	144.23- 240.39	192.31
6.103	6.103	0.000	20181	0.50000	0.5389	220.77- 367.94	294.36
6.330	6.330	0.000	11142	0.50000	0.5176	121.89- 203.14	162.51
Average of Peak Amounts =					0.52		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/068f0101.d
Date : 18-DEC-1998 14:46
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/080f0101.d
Report Date: 12/21/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 080f0101.d
Analysis Type: NONE

Injection Date: 18-DEC-1998 18:58
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII

COMPOUND	%D
TCMX	4.7
AROCLOR-1016	6.3
AROCLOR-1260	5.2
DCB	5.2

The average of %D's in the continuing calibration is 5.3

Data File: /chem/can/gcs/a2hpk.i/81217a.b/080f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

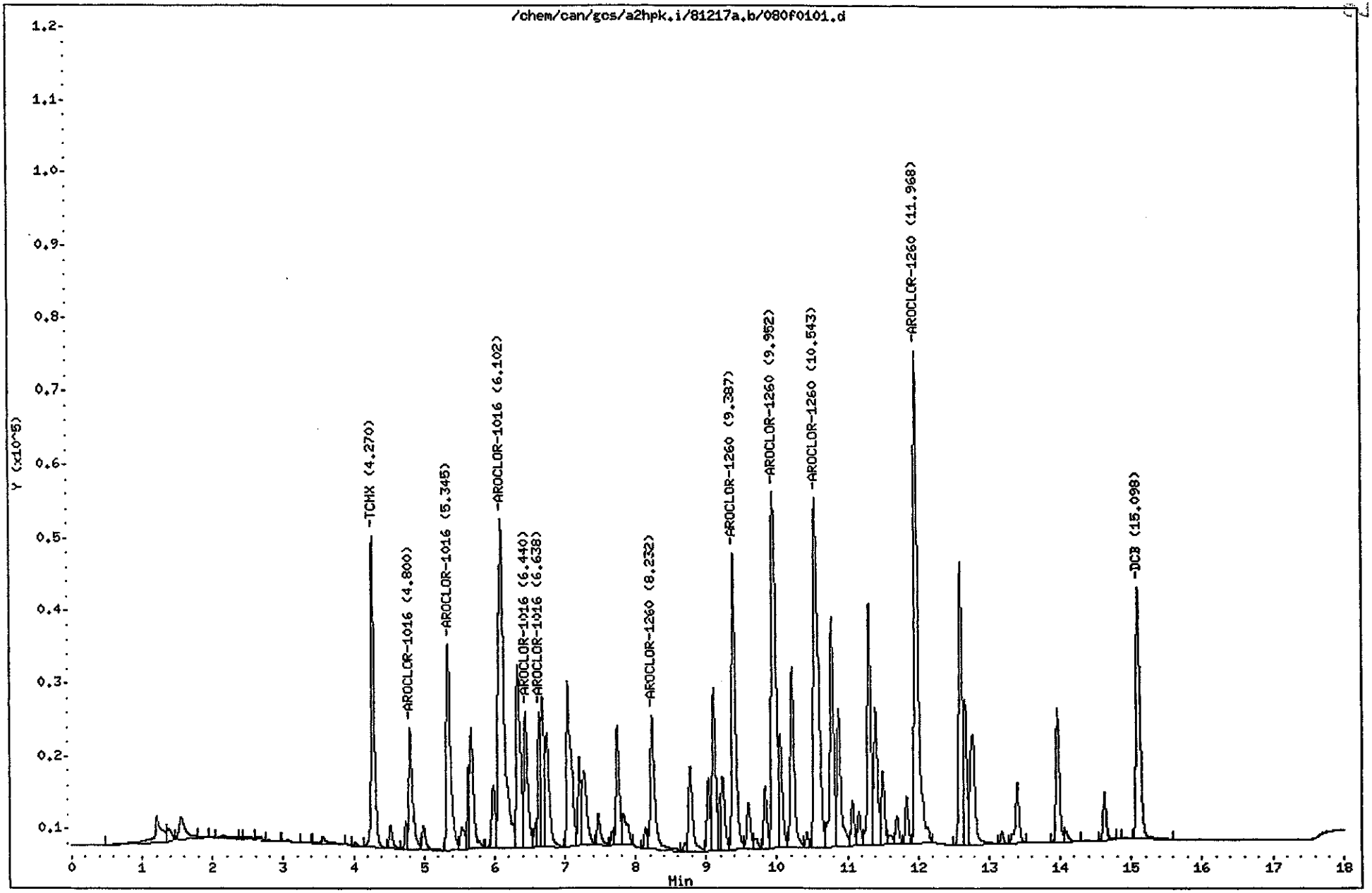
Data file : /chem/can/gcs/a2hpk.i/81217a.b/080f0101.d
Lab Smp Id: 1660 C110
Inj Date : 18-DEC-1998 18:58
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.270	4.270	0.000	42909	0.02500	0.02616	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.800	4.800	0.000	16594	0.50000	0.5355	80.00- 120.00	100.00
5.345	5.343	0.002	28118	0.50000	0.5205	128.06- 213.44	169.45
6.102	6.102	0.000	45168	0.50000	0.5388	204.62- 341.03	272.19
6.440	6.440	0.000	18615	0.50000	0.5437	83.61- 139.35	112.18
6.638	6.638	0.000	18490	0.50000	0.5192	84.33- 140.55	111.43
Average of Peak Amounts =					0.532		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.232	8.233	-0.001	18268	0.50000	0.5256	80.00- 120.00	100.00
9.387	9.385	0.002	40837	0.50000	0.5161	164.71- 274.51	223.54
9.952	9.952	0.000	48941	0.50000	0.5295	194.93- 324.88	267.91
10.543	10.542	0.001	48032	0.50000	0.5285	195.72- 326.20	262.93
11.968	11.968	0.000	67578	0.50000	0.5312	277.41- 462.34	369.93
Average of Peak Amounts =					0.526		
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	34671	0.02500	0.02630	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/080f0101.d
Date : 18-DEC-1998 18:58
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/093f0101.d
Report Date: 12/21/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 093f0101.d
Analysis Type: NONE

Injection Date: 18-DEC-1998 23:31
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.

COMPOUND	%D
TCMX	5.8
AROCLOR-1016	7.2
AROCLOR-1260	6.6
DCB	5.3

The average of %D's in the continuing calibration is 6.2

Data File: /chem/can/gcs/a2hpk.i/81217a.b/093f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/093f0101.d
Lab Smp Id: 1660 C110
Inj Date : 18-DEC-1998 23:31
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

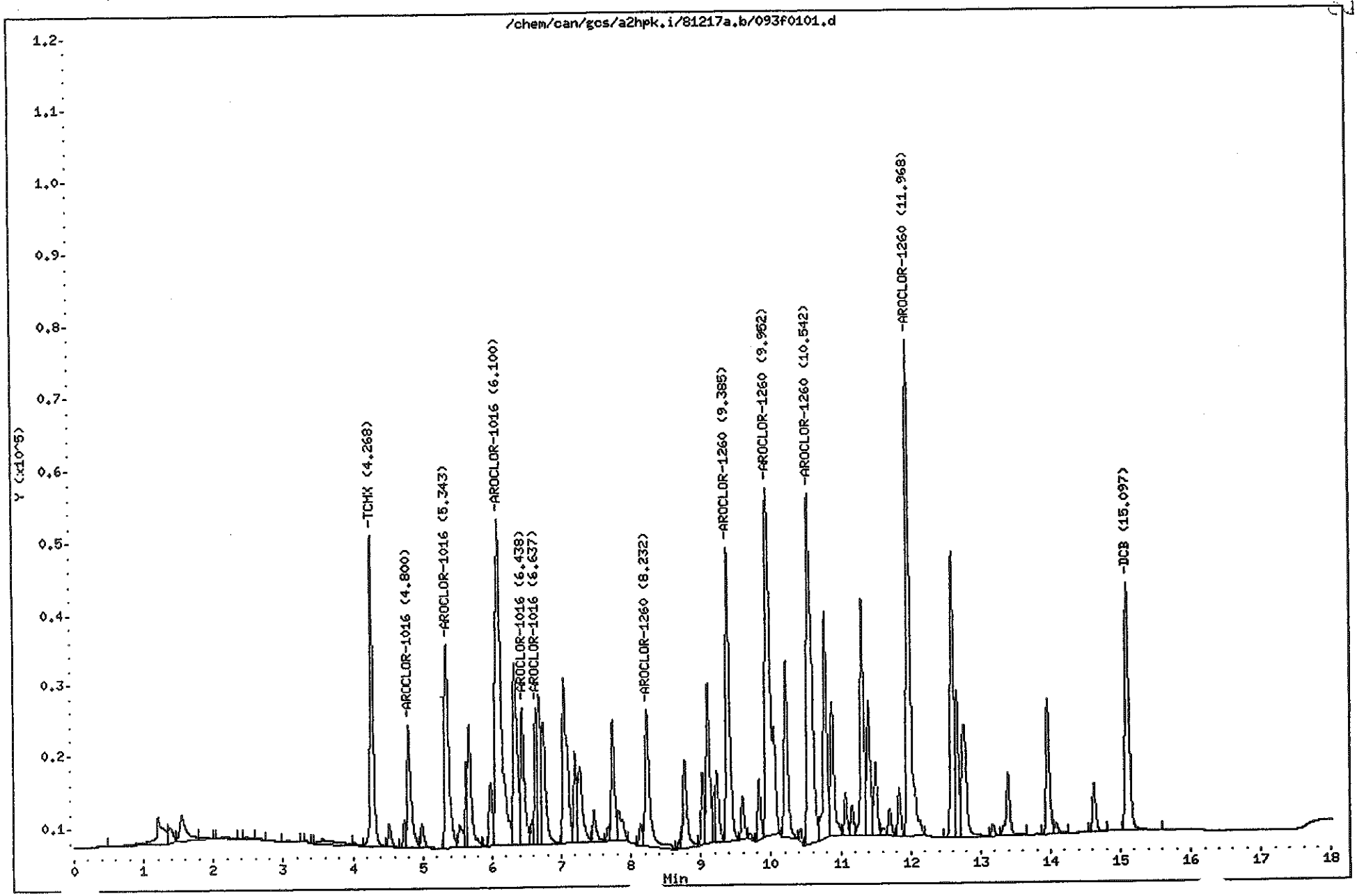
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.268	4.270	-0.002	43366	0.02500	0.02644	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.800	4.800	0.000	16713	0.50000	0.5393	80.00- 120.00	100.00
5.343	5.343	0.000	28345	0.50000	0.5247	128.06- 213.44	169.60
6.100	6.102	-0.002	45514	0.50000	0.5429	204.62- 341.03	272.33
6.438	6.440	-0.002	18747	0.50000	0.5476	83.61- 139.35	112.17
6.637	6.638	-0.001	18711	0.50000	0.5254	84.33- 140.55	111.95
Average of Peak Amounts =					0.536		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.232	8.233	-0.001	18759	0.50000	0.5397	80.00- 120.00	100.00
9.385	9.385	0.000	41095	0.50000	0.5194	164.71- 274.51	219.07
9.952	9.952	0.000	48606	0.50000	0.5259	194.93- 324.88	259.11
10.542	10.542	0.000	48913	0.50000	0.5382	195.72- 326.20	260.74
11.968	11.968	0.000	69006	0.50000	0.5425	277.41- 462.34	367.86
Average of Peak Amounts =					0.533		
$ 9 DCB					CAS #: 2051-24-3		
15.097	15.097	0.000	34699	0.02500	0.02632	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/093f0101.d
Date : 18-DEC-1998 23:31
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/099f0101.d
Report Date: 12/21/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 099f0101.d
Analysis Type: NONE

Injection Date: 19-DEC-1998 01:37
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII

COMPOUND	%D
TCMX	1.6
AROCLOR-1016	0.0
AROCLOR-1260	0.8
DCB	0.3

The average of %D's in the continuing calibration is 0.7

Data File: /chem/can/gcs/a2hpk.i/81217a.b/099f0101.d
eport Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/099f0101.d
Lab Smp Id: 1660 C110
Inj Date : 19-DEC-1998 01:37 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

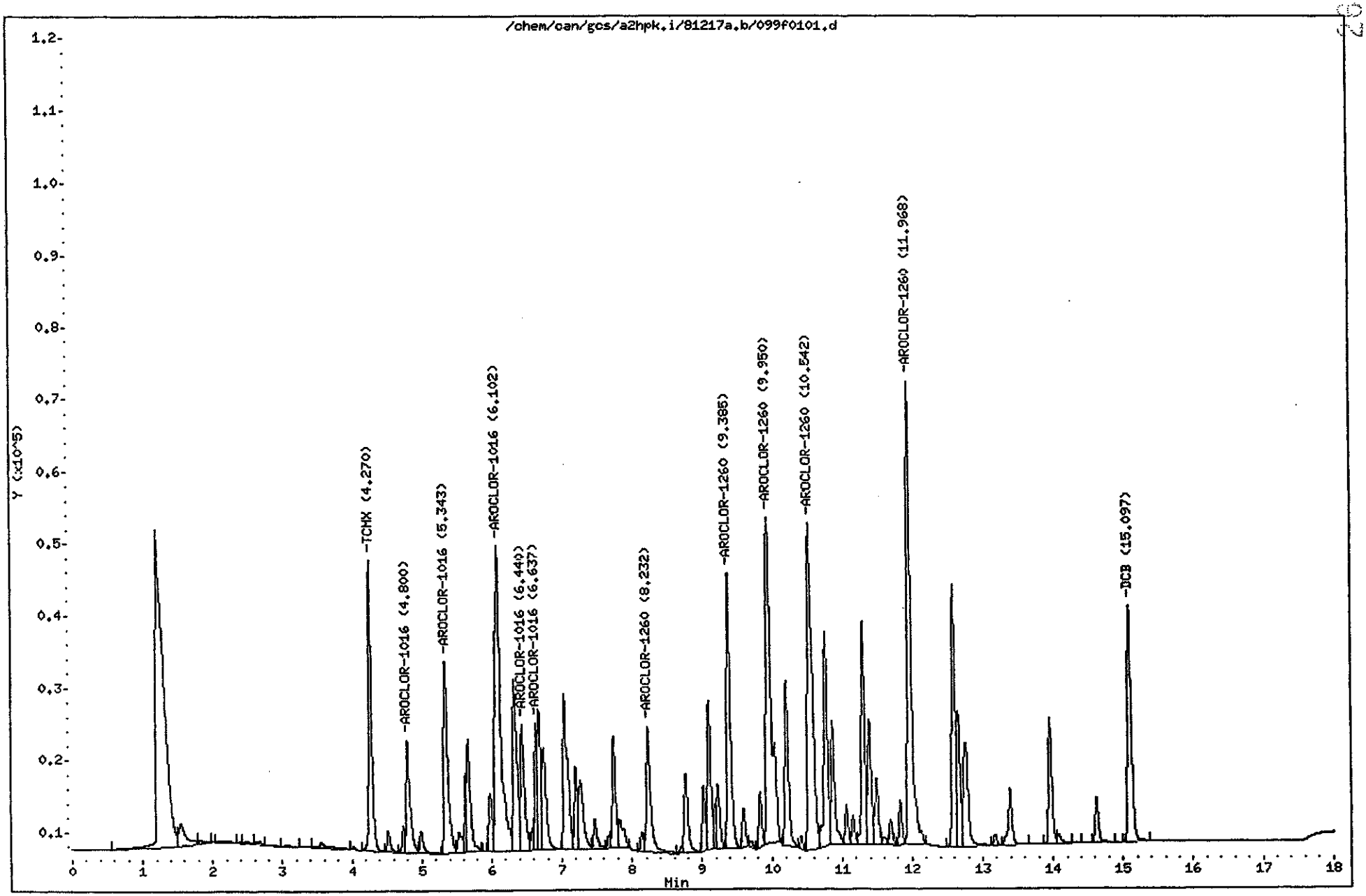
	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	40360	0.02500	0.02461	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.800	4.800	0.000	15590	0.50000	0.5031	80.00- 120.00	100.00
	5.343	5.343	0.000	26578	0.50000	0.4920	128.06- 213.44	170.48
	6.102	6.102	0.000	42344	0.50000	0.5051	204.62- 341.03	271.61
	6.440	6.440	0.000	17370	0.50000	0.5074	83.61- 139.35	111.42
	6.637	6.638	-0.001	17503	0.50000	0.4915	84.33- 140.55	112.27
Average of Peak Amounts =						0.5		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.232	8.233	-0.001	17386	0.50000	0.5002	80.00- 120.00	100.00
	9.385	9.385	0.000	38167	0.50000	0.4824	164.71- 274.51	219.53
	9.950	9.952	-0.002	45456	0.50000	0.4918	194.93- 324.88	261.45
	10.542	10.542	0.000	45467	0.50000	0.5002	195.72- 326.20	261.52
	11.968	11.968	0.000	64215	0.50000	0.5048	277.41- 462.34	369.35
Average of Peak Amounts =						0.496		
$ 9 DCB						CAS #: 2051-24-3		
	15.097	15.097	0.000	32874	0.02500	0.02493	80.00- 120.00	100.00

Dat e: /chem/can/gcs/a2hpk.i/81217a.b/099f0101.d
Date : 19-DEC-1998 01:37
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L020132

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.28 S2 : 15.11

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		1660 C110	12/21/98	0539	4.27	15.10
02		2154 C061	12/21/98	0600		
03		1248 C056	12/21/98	0621		
04		1242 C051	12/21/98	0642		
05		1232 C046	12/21/98	0703		
06	S-120198-JH-	CNW6M101	12/21/98	1054	4.24	15.01
07		1660 C110	12/21/98	1115	4.28	15.11
08						
09						
10						
11						
12						
13						
14						
15						
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29						
30						
31						
32						

QC LIMITS

S1 = TCMX (+/- 0.10 MINUTES)
S2 = DCB (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PCB

Data File: /chem/can/gcs/a2hpk.i/81220a.b/064f0101.d
Report Date: 12/24/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 064f0101.d
Analysis Type: NONE

Injection Date: 21-DEC-1998 05:39
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.

COMPOUND	%D
TCMX	2.6
AROCLOR-1016	2.7
AROCLOR-1260	4.7
DCB	6.8

The average of %D's in the continuing calibration is 4.2

Data File: /chem/can/gcs/a2hpk.i/81220a.b/064f0101.d
Report Date: 24-Dec-1998 07:56

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/064f0101.d
Lab Smp Id: 1660 C110
Inj Date : 21-DEC-1998 05:39
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.273	4.275	-0.002	42072	0.02500	0.02565	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.803	4.805	-0.002	16304	0.50000	0.5261	80.00- 120.00	100.00
5.348	5.350	-0.002	27622	0.50000	0.5114	127.62- 212.70	169.42
6.107	6.108	-0.001	44143	0.50000	0.5265	204.54- 340.90	270.75
6.445	6.447	-0.002	17641	0.50000	0.5153	83.69- 139.49	108.20
6.642	6.643	-0.001	17405	0.50000	0.4888	83.98- 139.97	106.75
Average of Peak Amounts =					0.514		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.238	8.238	0.000	18074	0.50000	0.5200	80.00- 120.00	100.00
9.392	9.393	-0.001	40639	0.50000	0.5136	166.62- 277.69	224.85
9.957	9.958	-0.001	48468	0.50000	0.5244	197.70- 329.51	268.16
10.548	10.550	-0.002	47881	0.50000	0.5268	199.02- 331.69	264.92
11.973	11.977	-0.004	67614	0.50000	0.5315	281.42- 469.03	374.10
Average of Peak Amounts =					0.523		
$ 9 DCB					CAS #: 2051-24-3		
15.103	15.107	-0.004	35219	0.02500	0.02671	80.00- 120.00	21.48 (M)

Data File: /chem/can/gcs/a2hpk.i/81220a.b/064f0101.d
Report Date: 24-Dec-1998 07:56

QC Flag Legend

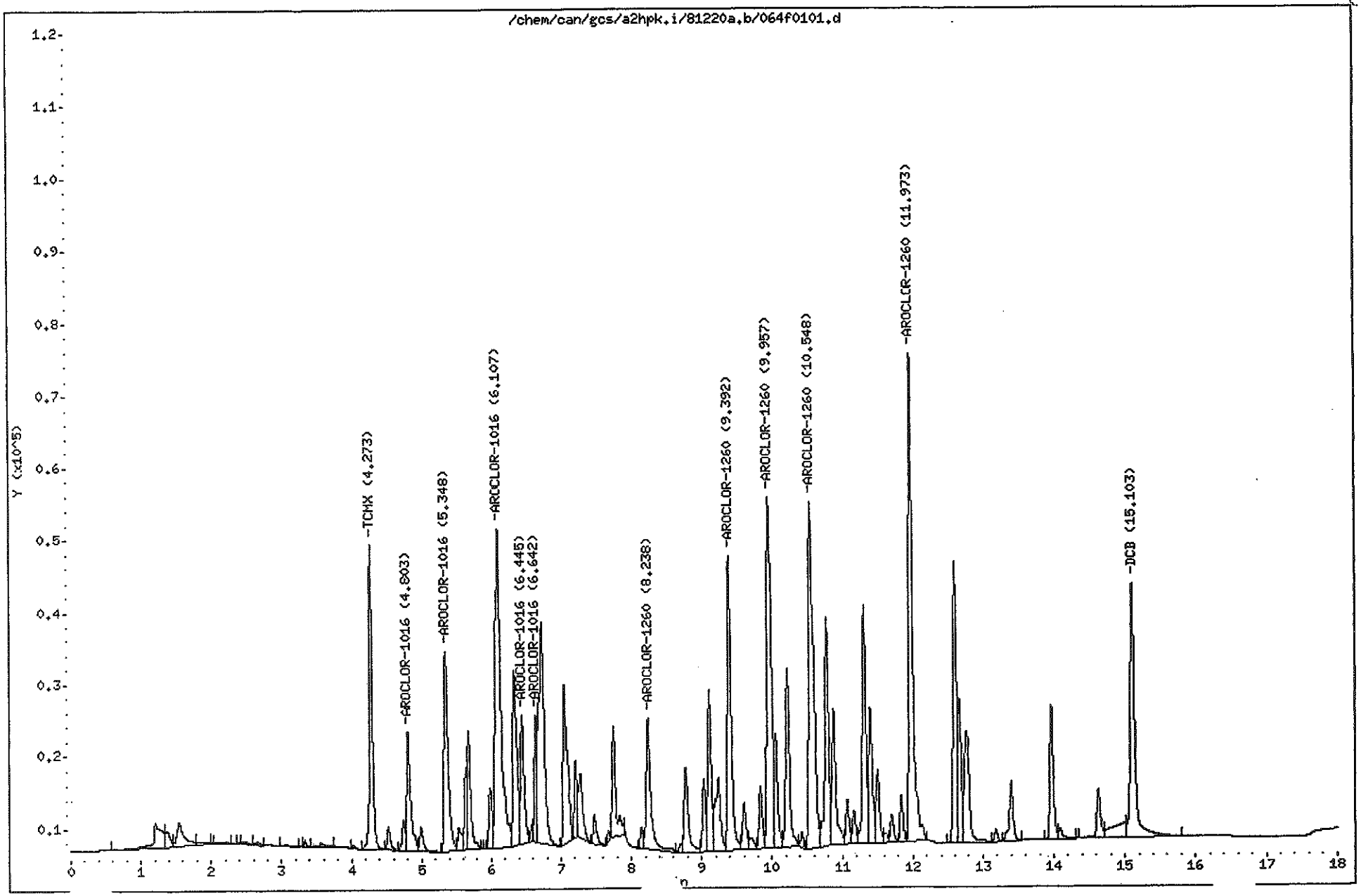
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81220a.b/064f0101.d
Date : 21-DEC-1998 05:39
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81220a.b/065f0101.d
Report Date: 24-Dec-1998 07:56

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/065f0101.d
Lab Smp Id: 2154 C061
Inj Date : 21-DEC-1998 06:00
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

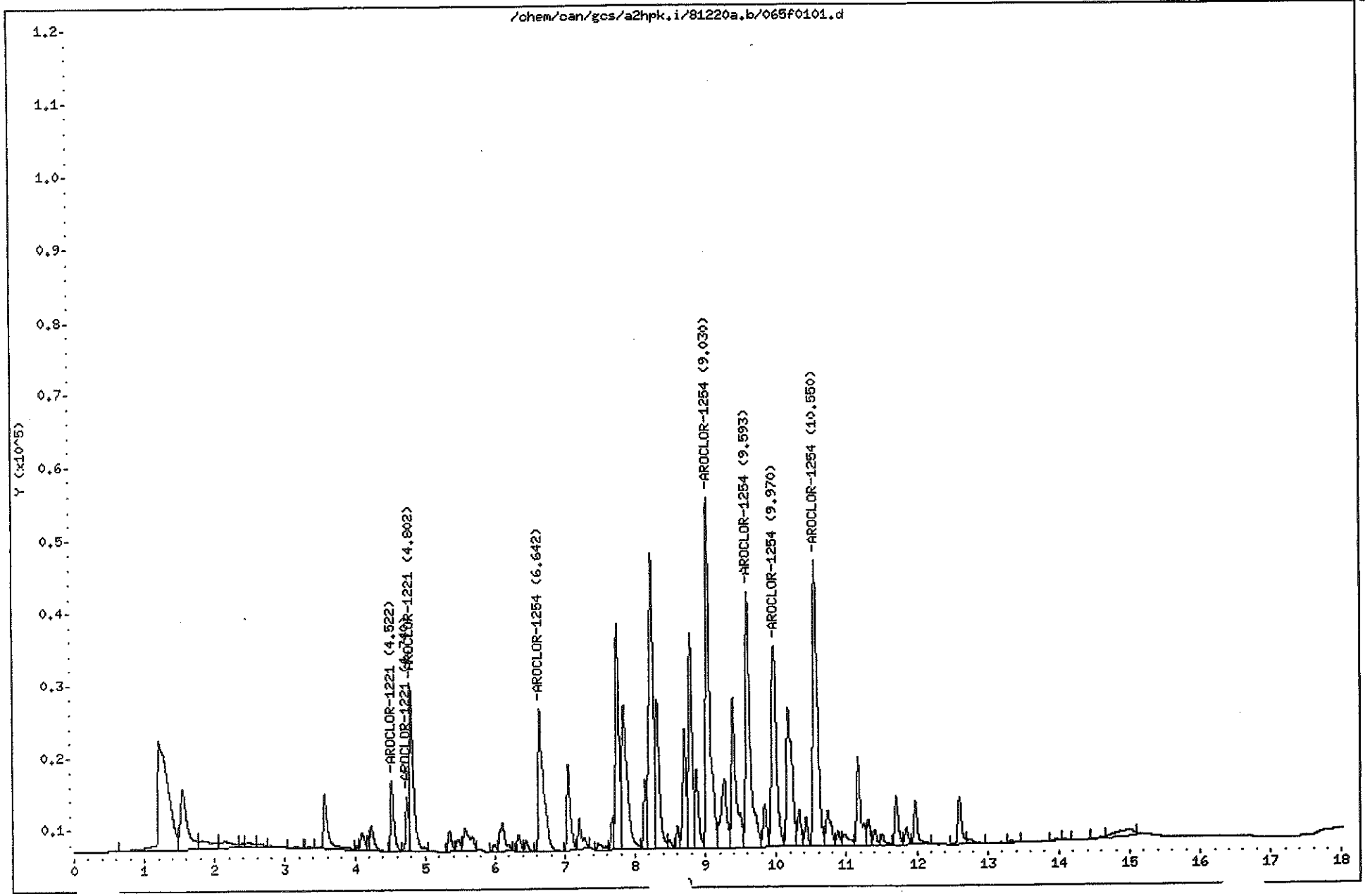
				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.642	6.638	0.004	19554	0.50000	0.4866	80.00- 120.00	100.00
9.030	9.023	0.007	48219	0.50000	0.4968	183.65- 306.08	246.59
9.593	9.588	0.005	35268	0.50000	0.5052	134.94- 224.90	180.36
9.970	9.965	0.005	27677	0.50000	0.5037	104.37- 173.96	141.54
10.550	10.543	0.007	39246	0.50000	0.4987	148.01- 246.69	200.71
Average of Peak Amounts =					0.498		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.522	4.518	0.004	9736	0.50000	0.5048	80.00- 120.00	100.00
4.740	4.737	0.003	7250	0.50000	0.5144	54.30- 90.51	74.47
4.802	4.798	0.004	22513	0.50000	0.4998	172.76- 287.93	231.23
Average of Peak Amounts =					0.506		

Data File: /chem/can/gcs/a2hpk.i/81220a.b/065f0101.d
Date : 21-DEC-1998 06:00
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81220a.b/066f0101.d
Report Date: 24-Dec-1998 07:56

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/066f0101.d
Lab Smp Id: 1248 C056
Inj Date : 21-DEC-1998 06:21
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

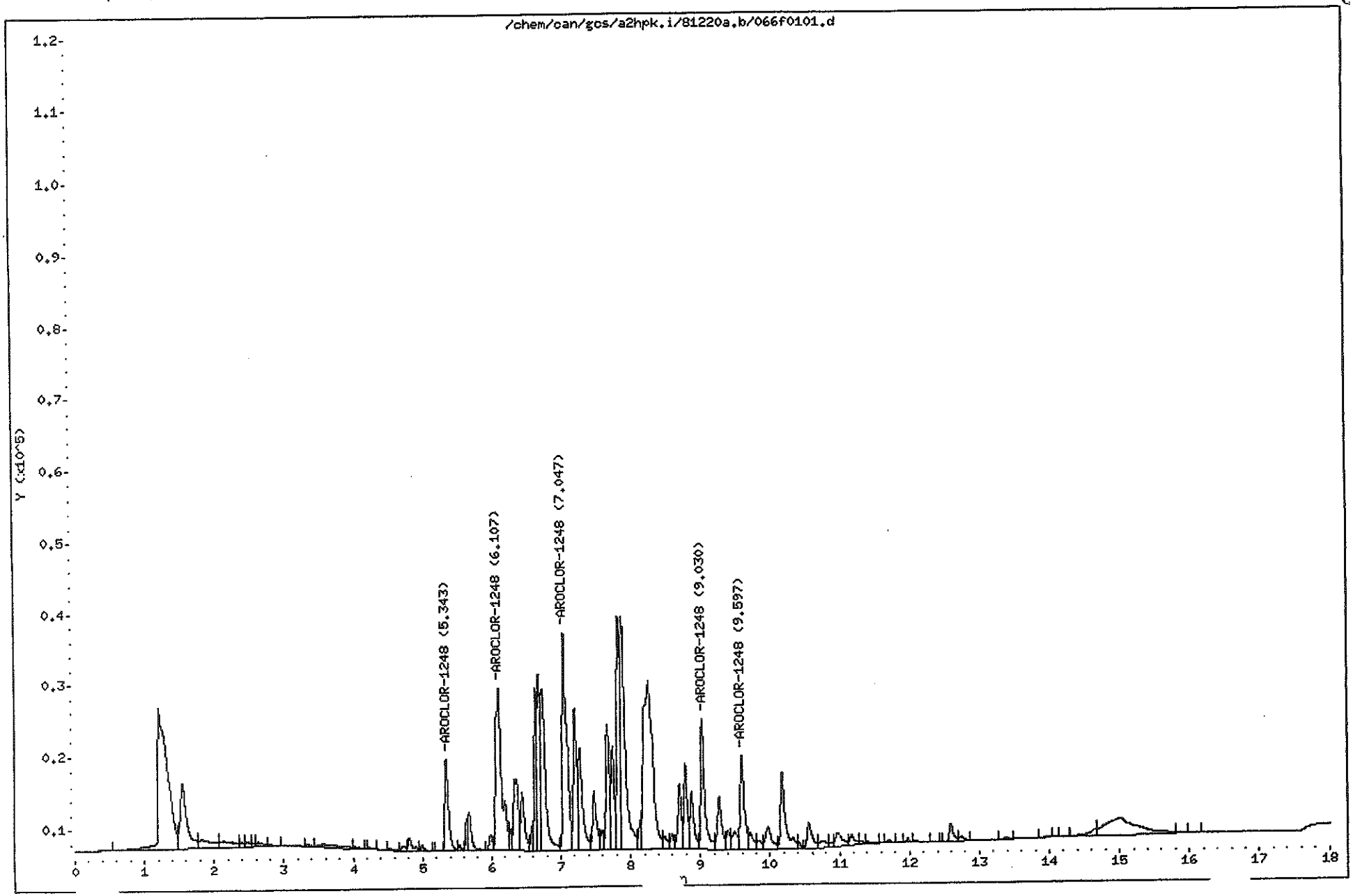
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.343	5.338	0.005	12377	0.50000	0.5118	80.00- 120.00	100.00
6.107	6.102	0.005	22322	0.50000	0.5484	137.72- 229.53	180.35
7.047	7.042	0.005	29977	0.50000	0.5242	181.30- 302.17	242.20
9.030	9.025	0.005	17770	0.50000	0.5366	108.43- 180.71	143.57
9.597	9.590	0.007	12752	0.50000	0.5668	78.36- 130.60	103.03
Average of Peak Amounts =					0.538		

Data File: /chem/can/gcs/a2hpk.i/81220a.b/066f0101.d
Date : 21-DEC-1998 06:21
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81220a.b/067f0101.d
Report Date: 24-Dec-1998 07:56

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/067f0101.d
Lab Smp Id: 1242 C051
Inj Date : 21-DEC-1998 06:42
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

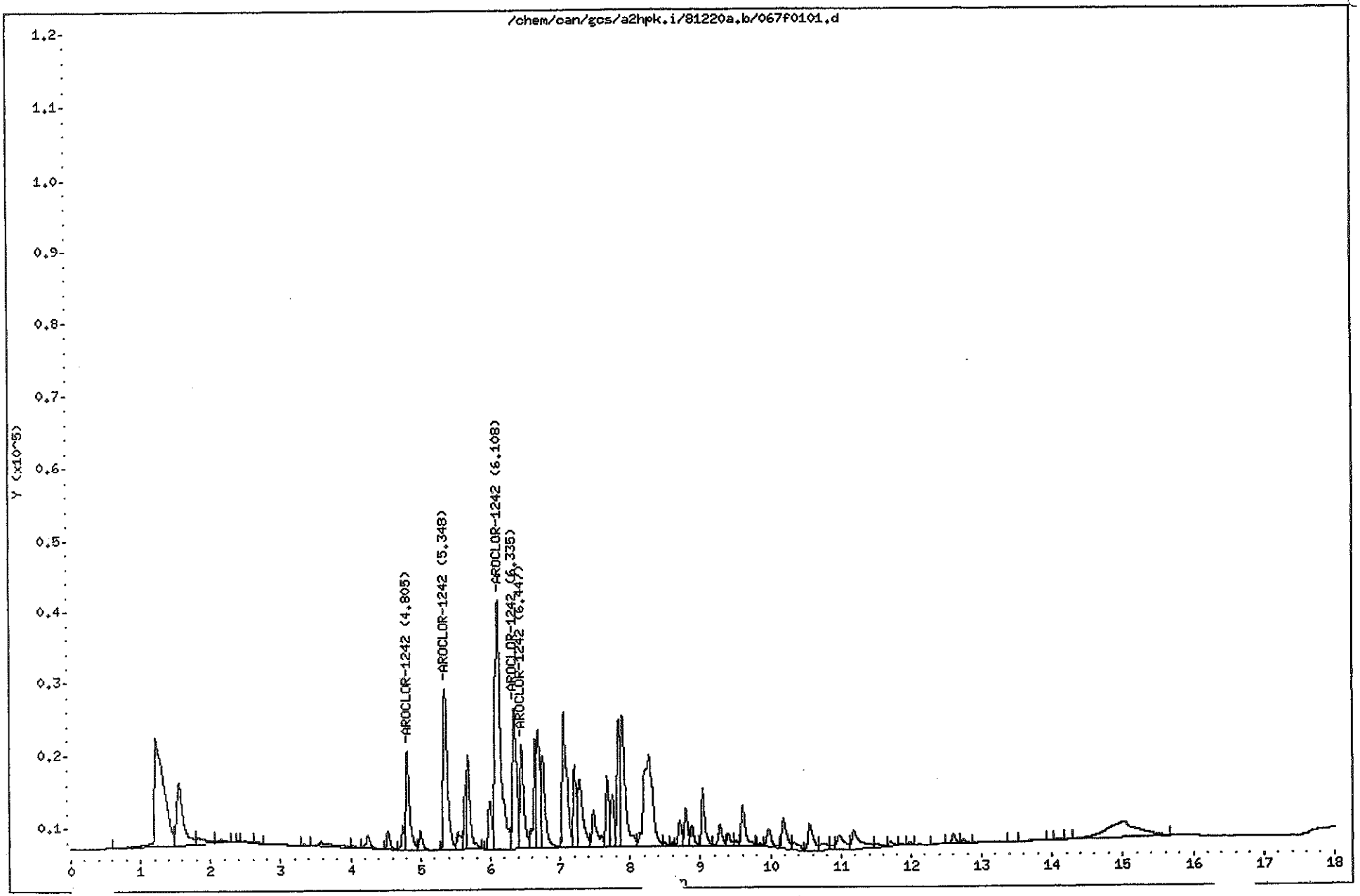
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.805	4.800	0.005	13522	0.50000	0.5083	80.00- 120.00	100.00
5.348	5.343	0.005	22210	0.50000	0.4958	122.23- 203.72	164.25
6.108	6.102	0.006	34381	0.50000	0.5158	193.45- 322.42	254.26
6.335	6.328	0.007	19390	0.50000	0.5148	108.22- 180.37	143.40
6.447	6.440	0.007	14189	0.50000	0.5296	79.59- 132.66	104.93
Average of Peak Amounts =					0.513		

Data File: /chem/can/gcs/a2hpk.i/81220a.b/067f0101.d
Date : 21-DEC-1998 06:42
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81220a.b/068f0101.d
Report Date: 24-Dec-1998 07:56

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/068f0101.d
Lab Smp Id: 1232 C046
Inj Date : 21-DEC-1998 07:03
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

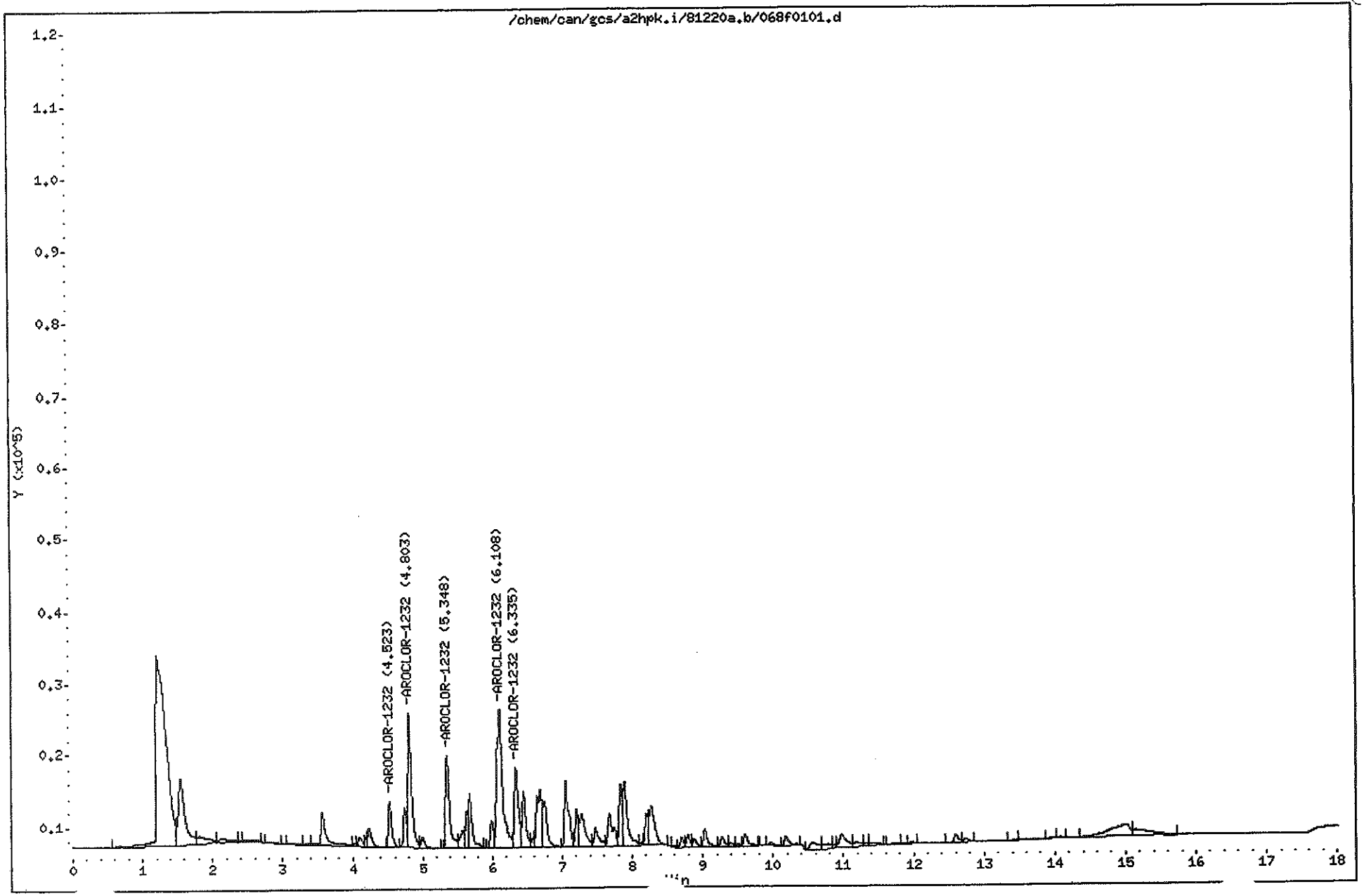
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.523	4.518	0.005	6640	0.50000	0.5042	80.00- 120.00	100.00
4.803	4.800	0.003	18742	0.50000	0.5026	211.13- 351.88	282.26
5.348	5.345	0.003	12882	0.50000	0.4953	144.23- 240.39	194.01
6.108	6.103	0.005	19357	0.50000	0.5169	220.77- 367.94	291.52
6.335	6.330	0.005	11045	0.50000	0.5131	121.89- 203.14	166.34
Average of Peak Amounts =					0.506		

Data File: /chem/can/gcs/a2hpk.i/81220a.b/068f0101.d
Date : 21-DEC-1998 07:03
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81220a.b/080f0101.d
Report Date: 24-Dec-1998 07:56

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/080f0101.d
Lab Smp Id: 1660 C110
Inj Date : 21-DEC-1998 11:15
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.275	4.275	0.000	40984	0.02500	0.02499	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.805	4.805	0.000	15819	0.50000	0.5105	80.00- 120.00	100.00
5.348	5.350	-0.002	26952	0.50000	0.4989	127.62- 212.70	170.38
6.108	6.108	0.000	42972	0.50000	0.5126	204.54- 340.90	271.65
6.447	6.447	0.000	17592	0.50000	0.5139	83.69- 139.49	111.21
6.643	6.643	0.000	17665	0.50000	0.4961	83.98- 139.97	111.67
Average of Peak Amounts =					0.506		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.240	8.238	0.002	17479	0.50000	0.5029	80.00- 120.00	100.00
9.393	9.393	0.000	38873	0.50000	0.4913	166.62- 277.69	222.40
9.960	9.958	0.002	45951	0.50000	0.4972	197.70- 329.51	262.89
10.550	10.550	0.000	46293	0.50000	0.5093	199.02- 331.69	264.85
11.977	11.977	0.000	65103	0.50000	0.5118	281.42- 469.03	372.46
Average of Peak Amounts =					0.502		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.107	-0.002	34626	0.02500	0.02626	80.00- 120.00	22.96(M)

Data File: /chem/can/gcs/a2hpk.i/81220a.b/080f0101.d
Report Date: 12/24/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 080f0101.d
Analysis Type: NONE

Injection Date: 21-DEC-1998 11:15
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.

COMPOUND	%D
TCMX	0.0
AROCLOR-1016	1.3
AROCLOR-1260	0.5
DCB	5.0

The average of %D's in the continuing calibration is 1.7

Data File: /chem/can/gcs/a2hpk.i/81220a.b/080f0101.d
Report Date: 24-Dec-1998 07:56

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81220a.b/080f0101.d
Lab Smp Id: 1660 C110
Inj Date : 21-DEC-1998 11:15
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81220a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 20-DEC-1998 11:48 Cal File: 013f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.275	4.275	0.000	40984	0.02500	0.02499	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.805	4.805	0.000	15819	0.50000	0.5105	80.00- 120.00	100.00
5.348	5.350	-0.002	26952	0.50000	0.4989	127.62- 212.70	170.38
6.108	6.108	0.000	42972	0.50000	0.5126	204.54- 340.90	271.65
6.447	6.447	0.000	17592	0.50000	0.5139	83.69- 139.49	111.21
6.643	6.643	0.000	17665	0.50000	0.4961	83.98- 139.97	111.67
Average of Peak Amounts =					0.506		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.240	8.238	0.002	17479	0.50000	0.5029	80.00- 120.00	100.00
9.393	9.393	0.000	38873	0.50000	0.4913	166.62- 277.69	222.40
9.960	9.958	0.002	45951	0.50000	0.4972	197.70- 329.51	262.89
10.550	10.550	0.000	46293	0.50000	0.5093	199.02- 331.69	264.85
11.977	11.977	0.000	65103	0.50000	0.5118	281.42- 469.03	372.46
Average of Peak Amounts =					0.502		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.107	-0.002	34626	0.02500	0.02626	80.00- 120.00	22.96(M)

Data File: /chem/can/gcs/a2hpk.i/81220a.b/080f0101.d
Report Date: 24-Dec-1998 07:56

QC Flag Legend

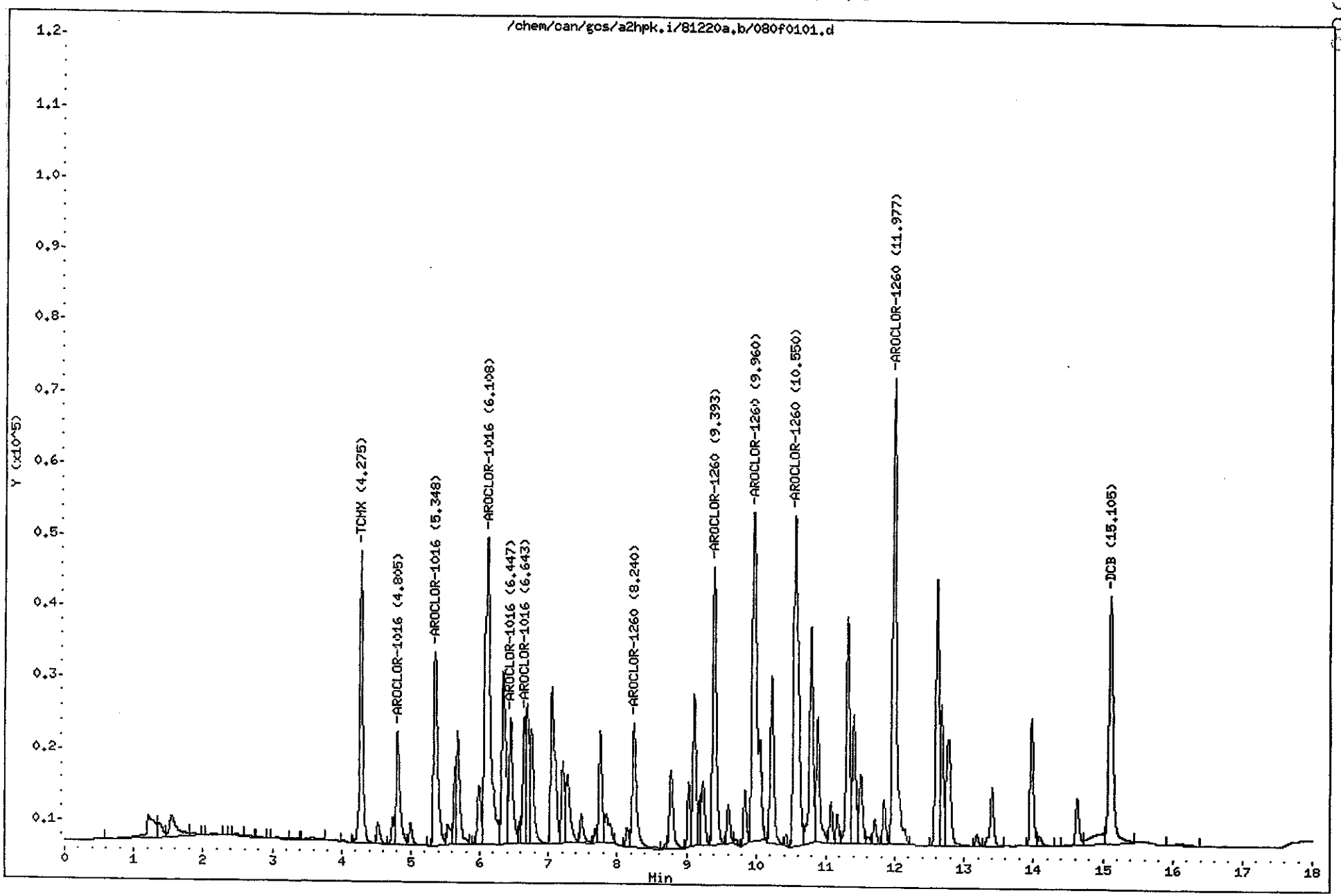
M - Compound response manually integrated.

Da le: /chem/can/gcs/a2hpk.i/81220a.b/080f0101.d
Date : 21-DEC-1998 11:15
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



280

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L020132

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURROGATE RT FROM INITIAL CALIBRATION					
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT #	RT #
01		2154 C061	12/21/98	1713		
02		1248 C056	12/21/98	1734		
03		1242 C051	12/21/98	1755		
04		1232 C046	12/21/98	1816		
05		1660 C110	12/22/98	0920		
06	CNWD6CHK	CNWD6103	12/22/98	1002		
07		1660 C110	12/22/98	1353		
08						
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QC LIMITS

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/009f0101.d
Report Date: 24-Dec-1998 07:55

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/009f0101.d
Lab Smp Id: 2154 C061
Inj Date : 21-DEC-1998 17:13
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.678	6.667	0.011	19426	0.50000	0.4834	80.00- 120.00	100.00
9.072	9.057	0.015	47967	0.50000	0.4942	183.19- 305.32	246.92
9.638	9.623	0.015	34816	0.50000	0.4987	131.23- 218.72	179.22
10.015	9.998	0.017	27509	0.50000	0.5007	107.11- 178.52	141.61
10.595	10.578	0.017	39235	0.50000	0.4986	150.50- 250.84	201.97
Average of Peak Amounts =					0.495		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.548	4.542	0.006	9685	0.50000	0.5022	80.00- 120.00	31.13(M)
4.768	4.760	0.008	7024	0.50000	0.4984	56.23- 93.72	22.58
4.830	4.823	0.007	22574	0.50000	0.5012	172.89- 288.15	72.55
Average of Peak Amounts =					0.501		

QC Flag Legend

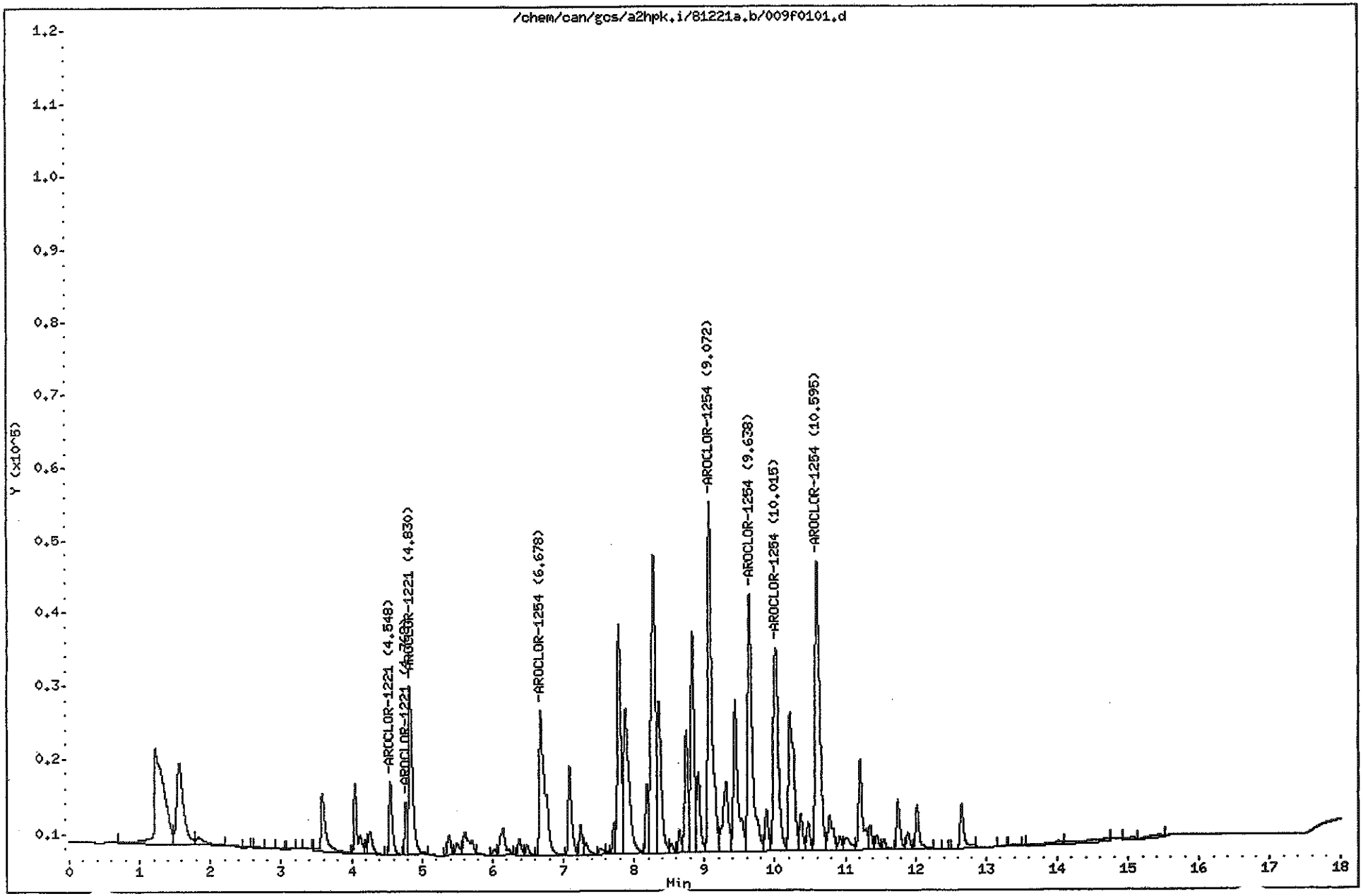
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/009f0101.d
Date : 21-DEC-1998 17:13
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/010f0101.d
Report Date: 24-Dec-1998 07:55

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/010f0101.d
Lab Smp Id: 1248 C056
Inj Date : 21-DEC-1998 17:34
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

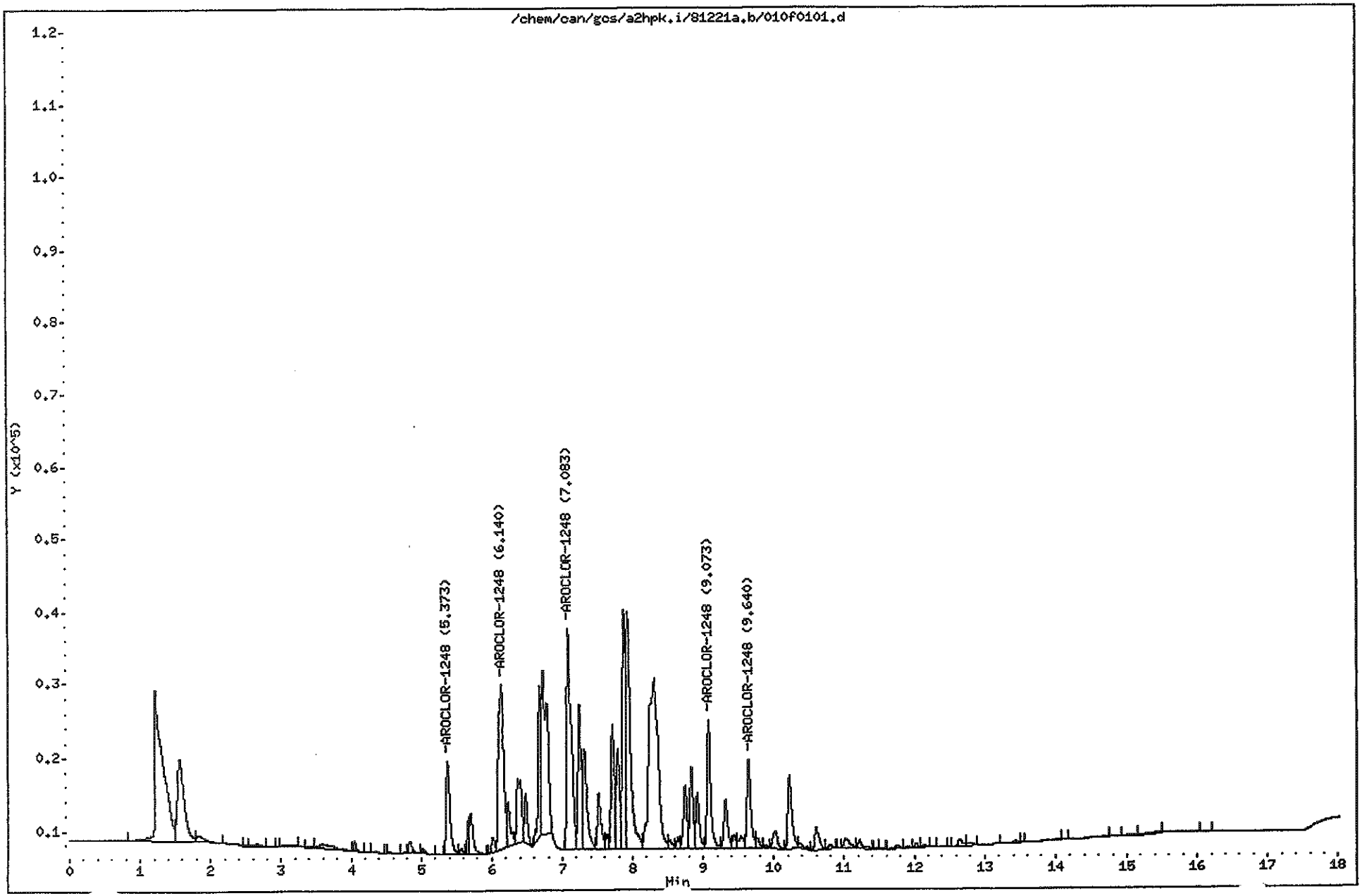
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.373	5.365	0.008	12678	0.50000	0.5242	80.00- 120.00	100.00
6.140	6.132	0.008	22307	0.50000	0.5480	126.36- 210.60	175.95
7.083	7.072	0.011	30260	0.50000	0.5291	175.17- 291.95	238.68
9.073	9.060	0.013	17569	0.50000	0.5305	99.08- 165.14	138.58
9.640	9.628	0.012	12137	0.50000	0.5395	66.11- 110.18	95.73
		Average of Peak Amounts =			0.534		

Data File: /chem/can/gcs/a2hpk.i/81221a.b/010f0101.d
Date : 21-DEC-1998 17:34
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/011f0101.d
Report Date: 24-Dec-1998 07:55

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/011f0101.d
Lab Smp Id: 1242 C051
Inj Date : 21-DEC-1998 17:55
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.833	4.833	0.000	13620	0.50000	0.5120	80.00- 120.00	26.90(M)
5.378	5.378	0.000	22428	0.50000	0.5007	123.50- 205.84	44.29
6.142	6.142	0.000	35120	0.50000	0.5269	193.39- 322.32	69.36
6.368	6.368	0.000	19731	0.50000	0.5238	108.65- 181.08	38.96
6.480	6.480	0.000	14443	0.50000	0.5390	79.53- 132.55	28.52
Average of Peak Amounts =					0.52		

QC Flag Legend

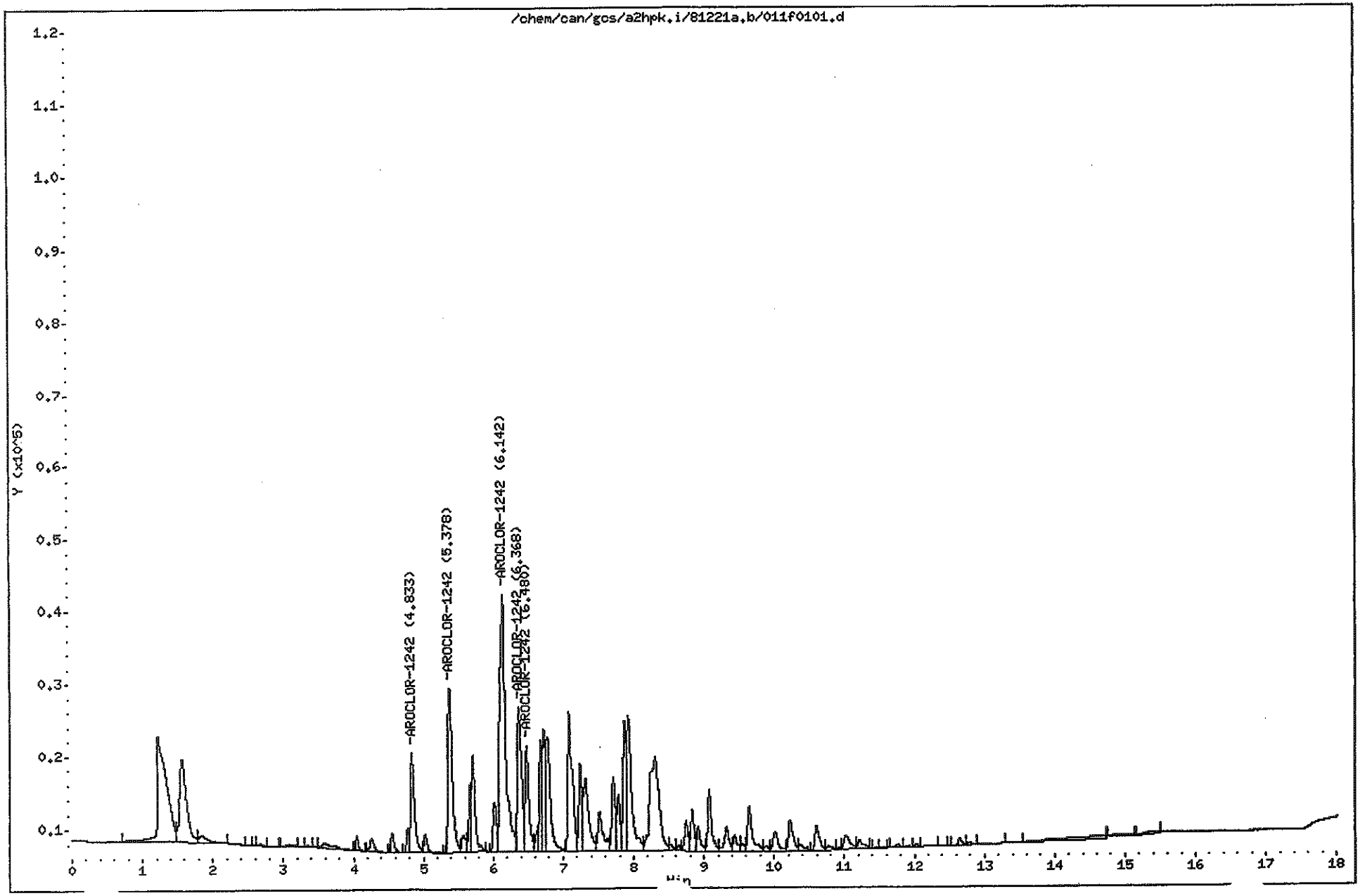
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/011f0101.d
Date : 21-DEC-1998 17:55
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/012f0101.d
Report Date: 24-Dec-1998 07:55

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/012f0101.d
Lab Smp Id: 1232 C046
Inj Date : 21-DEC-1998 18:16
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

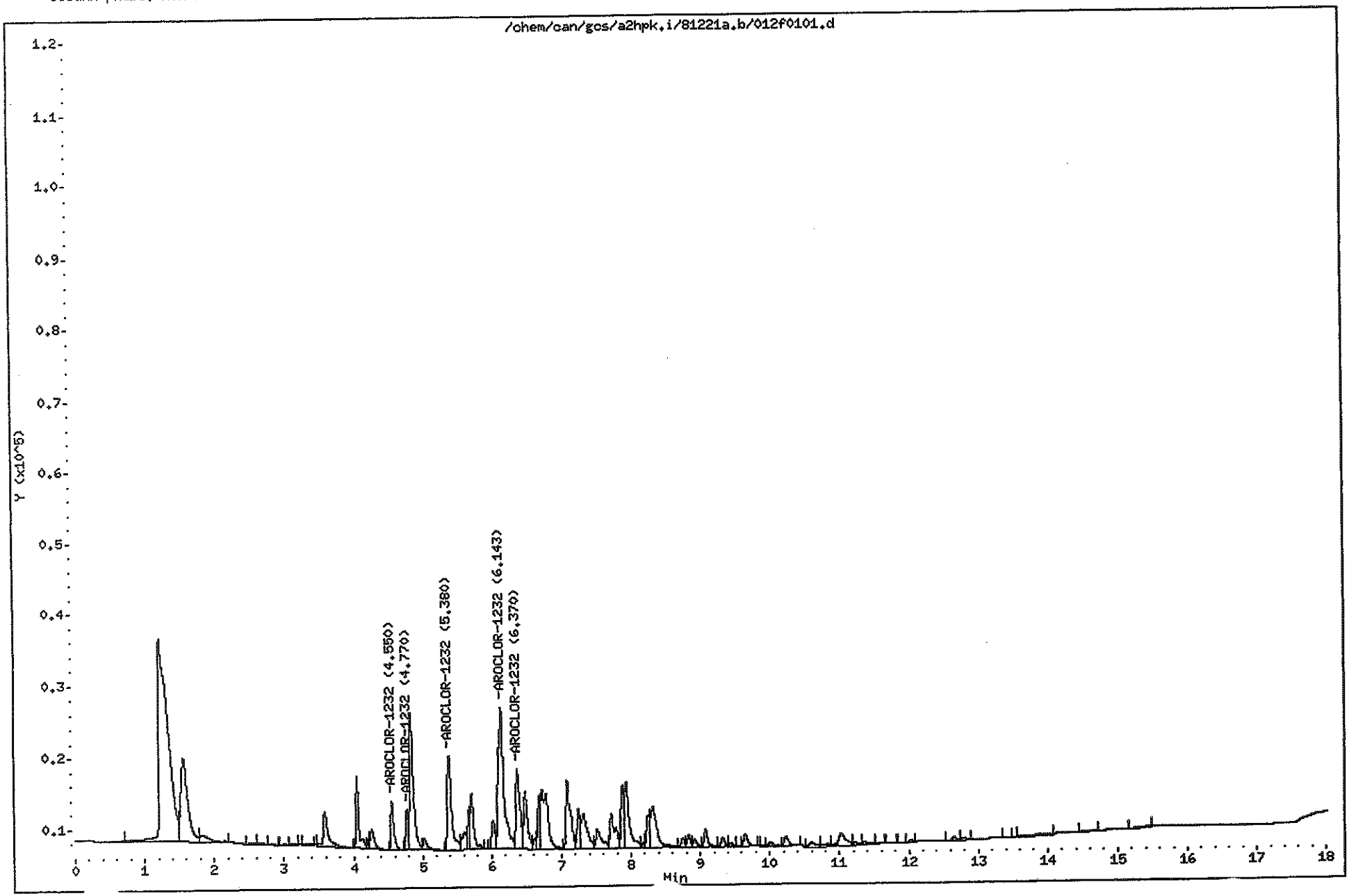
				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.550	4.543	0.007	6748	0.50000	0.5124	80.00- 120.00	100.00
4.770	4.823	-0.053	5465	0.50000	0.1465	212.47- 354.11	80.99
5.380	5.370	0.010	13108	0.50000	0.5040	148.50- 247.50	194.25
6.143	6.133	0.010	19686	0.50000	0.5257	213.42- 355.71	291.73
6.370	6.360	0.010	11227	0.50000	0.5215	122.53- 204.21	166.38
Average of Peak Amounts =					0.442		

Data File: /chem/can/gcs/a2hpk.i/81221a.b/012f0101.d
Date : 21-DEC-1998 18:16
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Report Date: 12/24/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 054f0101.d
Analysis Type: NONE

Injection Date: 22-DEC-1998 09:20
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.

COMPOUND	%D
TCMX	5.6
AROCLOR-1016	4.7
AROCLOR-1260	4.8
DCB	7.6

The average of %D's in the continuing calibration is 5.7

Data File: /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Report Date: 24-Dec-1998 07:55

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Lab Smp Id: 1660 C110
Inj Date : 22-DEC-1998 09:20 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

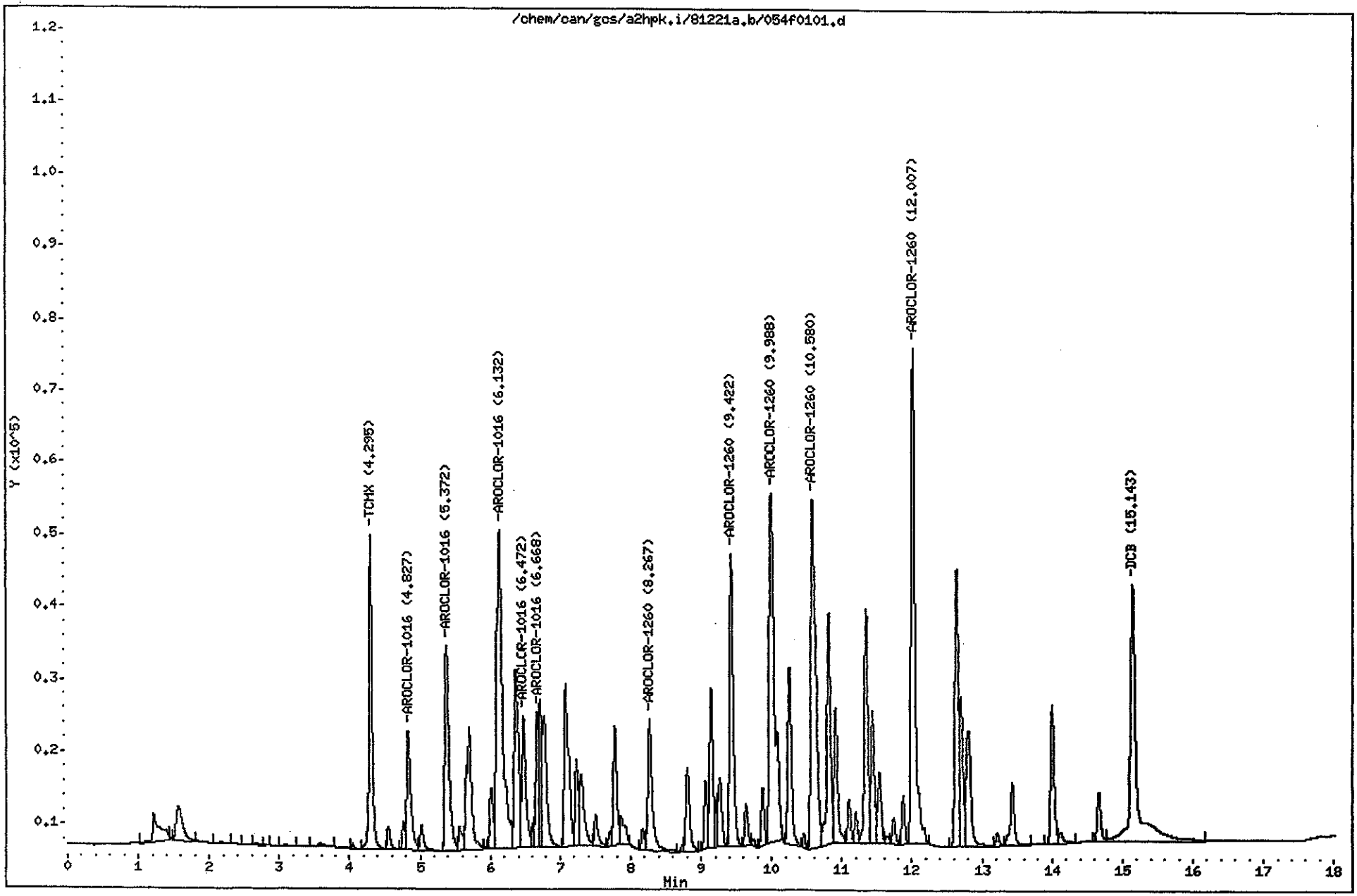
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
$ 1 TCMX					CAS #: 877-09-8			
4.295	4.295	0.000	43283	0.02500	0.02639	80.00- 120.00		100.00
3 AROCLOR-1016					CAS #: 12674-11-2			
4.827	4.825	0.002	16270	0.50000	0.5250	80.00- 120.00		100.00
5.372	5.370	0.002	28208	0.50000	0.5222	127.22- 212.04		173.37
6.132	6.132	0.000	43951	0.50000	0.5242	198.24- 330.40		270.14
6.472	6.470	0.002	18052	0.50000	0.5273	78.59- 130.99		110.95
6.668	6.668	0.000	18512	0.50000	0.5199	80.95- 134.92		113.78
Average of Peak Amounts =					0.524			
8 AROCLOR-1260					CAS #: 11096-82-5			
8.267	8.265	0.002	18041	0.50000	0.5190	80.00- 120.00		100.00
9.422	9.420	0.002	40547	0.50000	0.5125	165.01- 275.01		224.75
9.988	9.988	0.000	48042	0.50000	0.5198	196.25- 327.09		266.29
10.580	10.578	0.002	48061	0.50000	0.5288	189.58- 315.97		266.40
12.007	12.005	0.002	68714	0.50000	0.5402	260.56- 434.26		380.88
Average of Peak Amounts =					0.524			
$ 9 DCB					CAS #: 2051-24-3			
15.143	15.142	0.001	35464	0.02500	0.02690	80.00- 120.00		100.00

Data : /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Date : 22-DEC-1998 09:20
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Report Date: 12/24/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 067f0101.d
Analysis Type: NONE

Injection Date: 22-DEC-1998 13:53
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.

COMPOUND	%D
TCMX	5.3
AROCLOR-1016	4.6
AROCLOR-1260	5.1
DCB	11.5

The average of %D's in the continuing calibration is 6.6

Data File: /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Report Date: 24-Dec-1998 07:55

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Lab Smp Id: 1660 C110
Inj Date : 22-DEC-1998 13:53
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

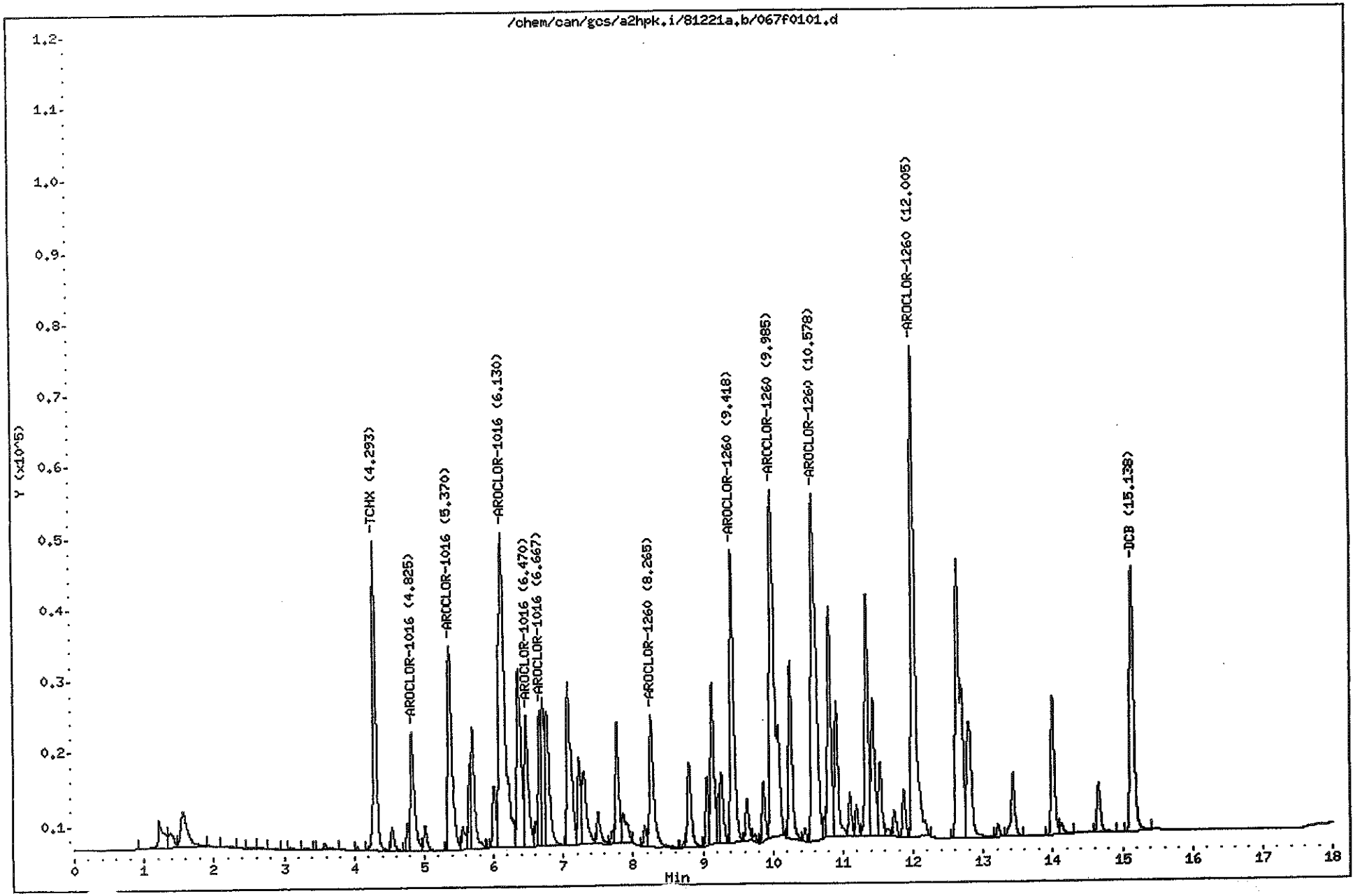
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.293	4.295	-0.002	43170	0.02500	0.02632	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.825	4.825	0.000	16304	0.50000	0.5261	80.00- 120.00	100.00
5.370	5.370	0.000	28130	0.50000	0.5208	127.22- 212.04	172.53
6.130	6.132	-0.002	43835	0.50000	0.5229	198.24- 330.40	268.86
6.470	6.470	0.000	17917	0.50000	0.5234	78.59- 130.99	109.89
6.667	6.668	-0.001	18543	0.50000	0.5207	80.95- 134.92	113.73
Average of Peak Amounts =					0.523		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.265	8.265	0.000	18118	0.50000	0.5212	80.00- 120.00	100.00
9.418	9.420	-0.002	40642	0.50000	0.5137	165.01- 275.01	224.32
9.985	9.988	-0.003	48247	0.50000	0.5220	196.25- 327.09	266.29
10.578	10.578	0.000	48351	0.50000	0.5320	189.58- 315.97	266.87
12.005	12.005	0.000	68593	0.50000	0.5392	260.56- 434.26	378.59
Average of Peak Amounts =					0.526		
$ 9 DCB					CAS #: 2051-24-3		
15.138	15.142	-0.004	36765	0.02500	0.02788	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Date : 22-DEC-1998 13:53
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



POLYCHLORINATED BIPHENYLS
RAW QC DATA

CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020000 232

Sample WT/Vol: 30 / g
Work Order: CNWD6103
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/22/98

QC Batch: 8336232

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	130	a
11096-82-5	Aroclor 1260	200	

Data File: /chem/can/gcs/a2hpk.i/81221a.b/056f0101.d
Report Date: 23-Dec-1998 16:33

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/056f0101.d
Lab Smp Id: CNWD6103 Client Smp ID: INTRA-LAB CHECK
Inj Date : 22-DEC-1998 10:02
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNWD6103
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.293	4.295	-0.002	18086	0.01103	3.676	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.827	4.825	0.002	13058	0.42140	140.5	80.00- 120.00	100.00(R)
	5.372	5.370	0.002	22403	0.41474	138.2	127.22- 212.04	171.57
	6.132	6.132	0.000	34144	0.40727	135.8	198.24- 330.40	261.48
	6.470	6.470	0.000	13831	0.40400	134.7	78.59- 130.99	105.92
	6.665	6.668	-0.003	11761	0.33028	110.1	80.95- 134.92	90.07
Average of Peak Concentrations =						131.8		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.265	8.265	0.000	17888	0.51464	171.5	80.00- 120.00	22.22(RM)
	9.420	9.420	0.000	43286	0.54708	182.4	165.01- 275.01	53.76
	9.985	9.988	-0.003	54868	0.59363	197.9	196.25- 327.09	68.15

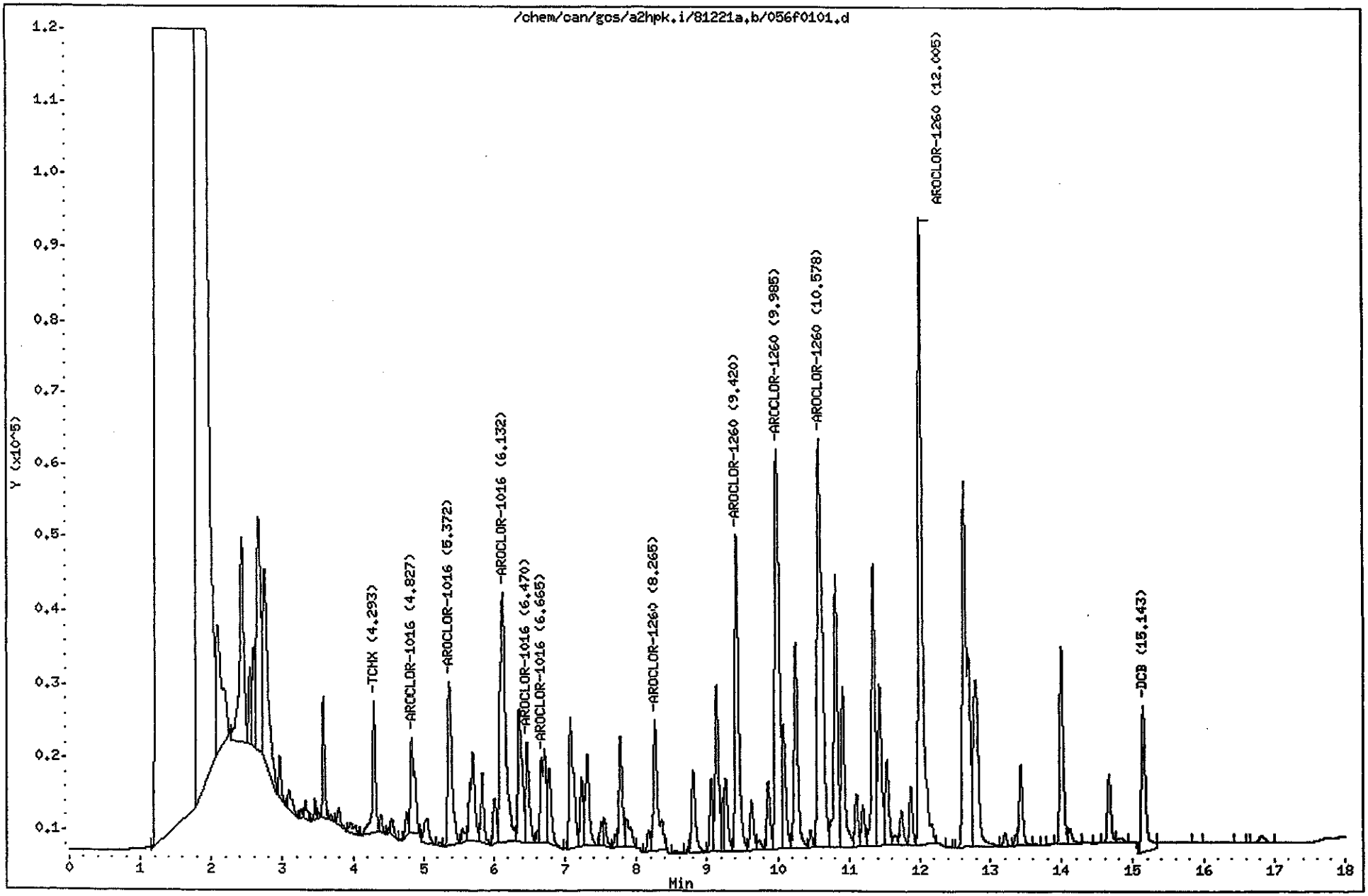
Data File: /chem/can/gcs/a2hpk.i/81221a.b/056f0101.d
Report Date: 23-Dec-1998 16:33

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
10.578	10.578	0.000	56111	0.61735	205.8	189.58- 315.97	69.69
12.005	12.005	0.000	85886	0.67517	225.0	260.56- 434.26	106.68
	Average of Peak Concentrations =				196.5		
$ 9 DCB					CAS #: 2051-24-3		
15.143	15.142	0.001	20187	0.01531	5.103	80.00- 120.00	100.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data : /chem/can/gcs/a2hpk.i/81221a.b/056f0101.d
Date : 22-DEC-1998 10:02
Client ID: INTRA-LAB CHECK
Instrument: a2hpk.i
Sample Info: CNWD6103
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE DUPLICATE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020000 232

Sample WT/Vol: 30 / g
Work Order: CNWD6104
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/19/98

QC Batch: 8336232

Client Sample Id: DUPLICATE CHECK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	280	p
11096-82-5	Aroclor 1260	300	p

Data File: /chem/can/gcs/a2hpk.i/81217a.b/097f0101.d
Report Date: 22-Dec-1998 11:18

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/097f0101.d
Lab Smp Id: CNWD6104 Client Smp ID: INTRA-LAB CHECK
Inj Date : 19-DEC-1998 00:55
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNWD6104
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

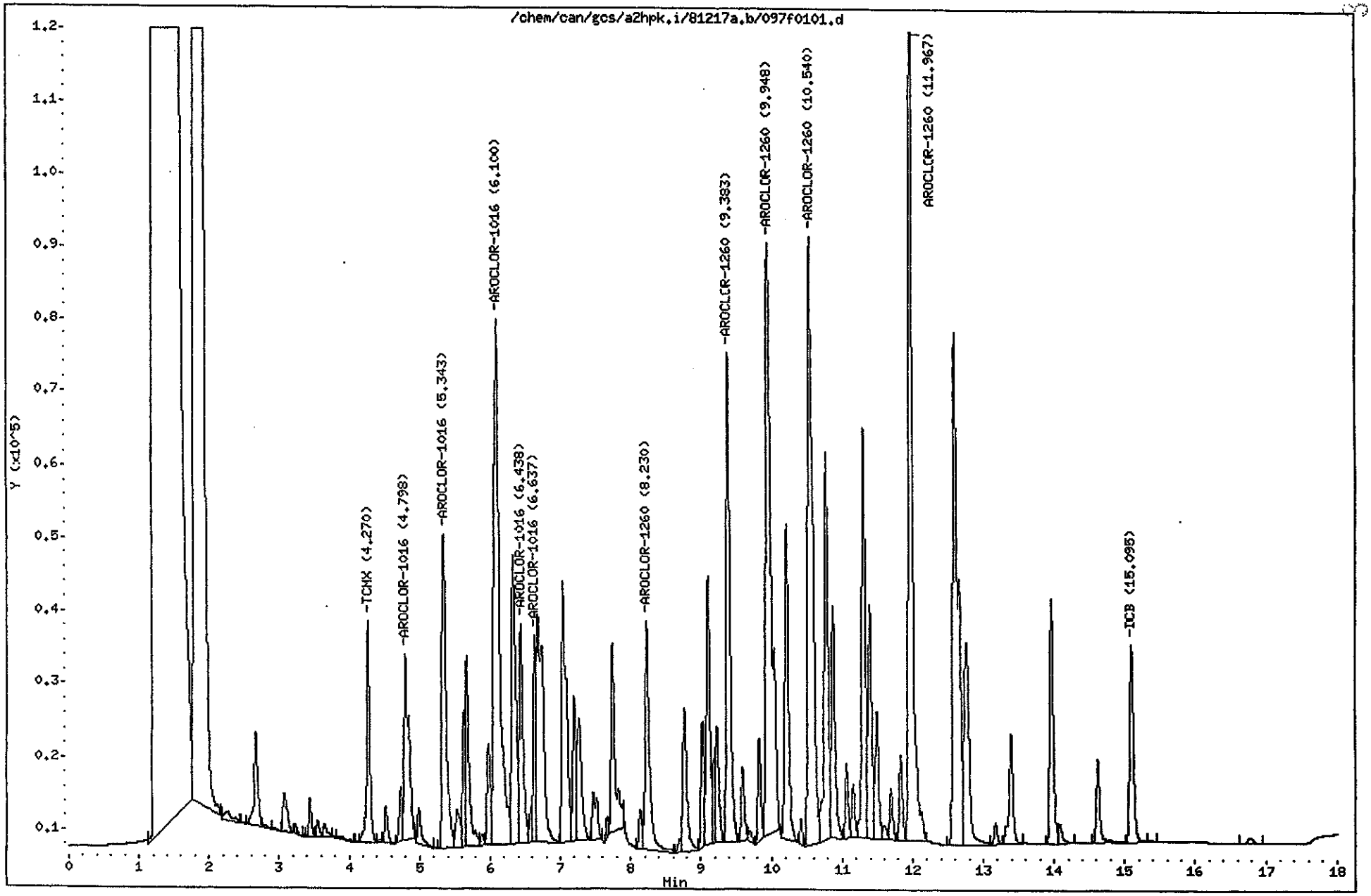
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.270	4.270	0.000	30376	0.01852	6.174	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.798	4.800	-0.002	25405	0.81985	273.3	80.00- 120.00	100.00
	5.343	5.343	0.000	42915	0.79446	264.8	128.06- 213.44	168.92
	6.100	6.102	-0.002	72194	0.86114	287.0	204.62- 341.03	284.17
	6.438	6.440	-0.002	29903	0.87347	291.2	83.61- 139.35	117.71
	6.637	6.638	-0.001	28331	0.79561	265.2	84.33- 140.55	111.52
Average of Peak Concentrations =						276.3		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.230	8.233	-0.003	31145	0.89604	298.7	80.00- 120.00	100.00
	9.383	9.385	-0.002	67300	0.85059	283.5	164.71- 274.51	216.09
	9.948	9.952	-0.004	81375	0.88041	293.5	194.93- 324.88	261.28

Data File: /chem/can/gcs/a2hpk.i/81217a.b/097f0101.d
Report Date: 22-Dec-1998 11:18

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
10.540	10.542	-0.002	83697	0.92086	307.0	195.72- 326.20	268.73
11.967	11.968	-0.001	119993	0.94329	314.4	277.41- 462.34	385.27
		Average of Peak Concentrations =			299.4		
$ 9 DCB					CAS #: 2051-24-3		
15.095	15.097	-0.002	27034	0.02050	6.834	80.00- 120.00	100.00

D: File: /chem/can/gcs/a2hpk.i/81217a.b/097f0101.d
Date : 19-DEC-1998 00:55
Client ID: INTRA-LAB CHECK
Sample Info: CNWD6104
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 112

Sample WT/Vol: 30 / g
Work Order: CP07R102
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	270	
11096-82-5	Aroclor 1260	310	

Data File: /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Lab Smp Id: CP07R102 Client Smp ID: INTRA-LAB CHECK
Inj Date : 17-DEC-1998 09:44
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP07R102
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

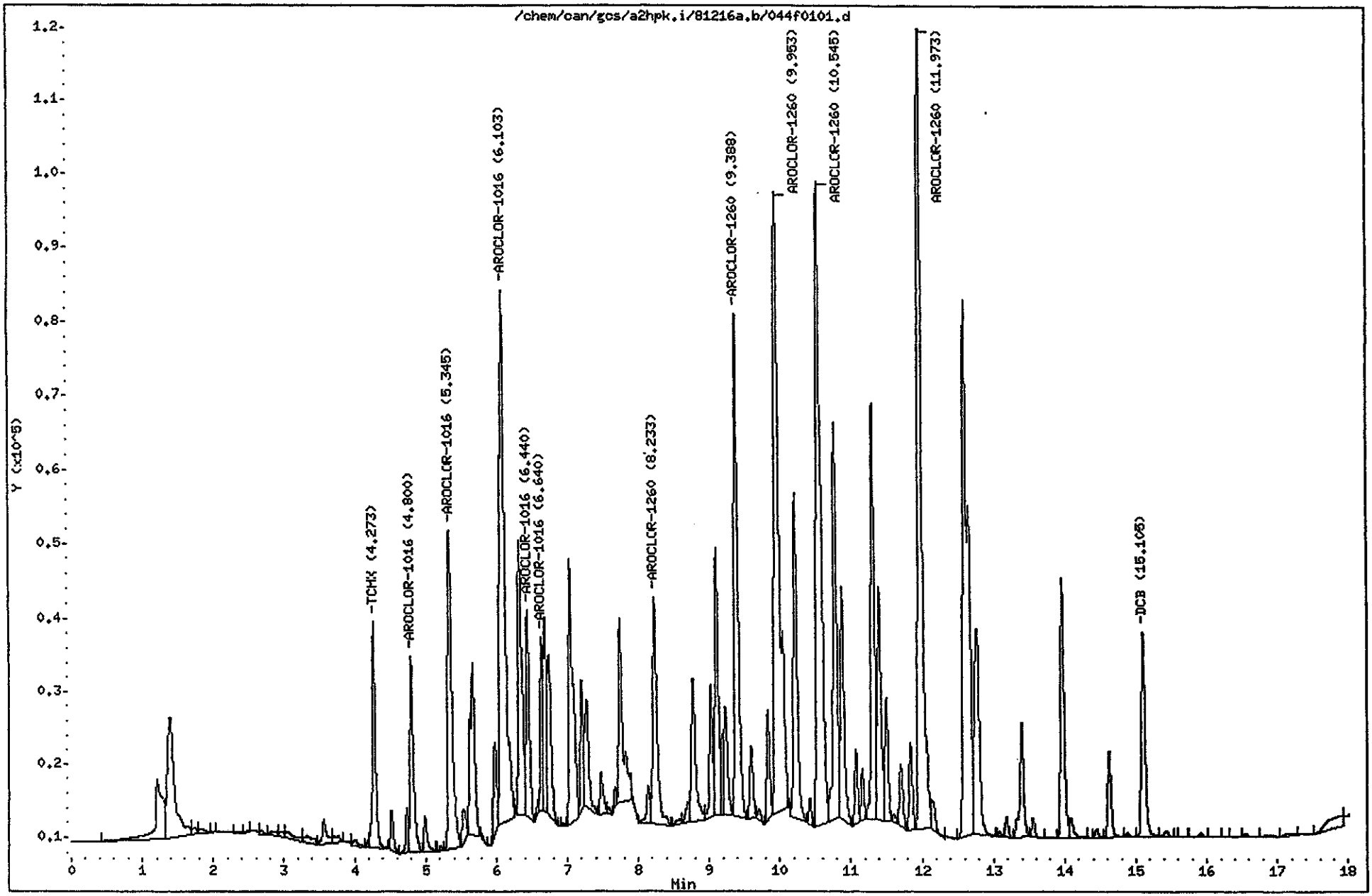
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.273	4.272	0.001	30936	0.01886	6.288	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.800	4.802	-0.002	26770	0.86390	288.0	80.00- 120.00	100.00
5.345	5.347	-0.002	43363	0.80276	267.6	125.29- 208.81	161.98
6.103	6.105	-0.002	72313	0.86256	287.5	207.30- 345.49	270.13
6.440	6.442	-0.002	28285	0.82620	275.4	84.66- 141.09	105.66
6.640	6.642	-0.002	24019	0.67451	224.8	81.88- 136.47	89.72
Average of Peak Concentrations =					268.7		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.233	8.237	-0.004	31084	0.89428	298.1	80.00- 120.00	100.00
9.388	9.390	-0.002	68274	0.86290	287.6	166.19- 276.99	219.64
9.953	9.955	-0.002	84382	0.91294	304.3	196.82- 328.04	271.46

Data File: /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Report Date: 17-Dec-1998 13:22

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
10.545	10.547	-0.002	87511	0.96283	320.9	201.36- 335.60	281.53
11.973	11.973	0.000	125106	0.98348	327.8	281.46- 469.10	402.48
	Average of Peak Concentrations =				307.8		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	28114	0.02132	7.107	80.00- 120.00	100.00

I ile: /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Date : 17-DEC-1998 09:44
Client ID: INTRA-LAB CHECK
Instrument: a2hpk.i
Sample Info: CP07R102
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE DUPLICATE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 112

Sample WT/Vol: 30 / g
Work Order: CP07R103
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: DUPLICATE CHECK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	260	
11096-82-5	Aroclor 1260	280	

Data File: /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
Lab Smp Id: CP07R103 Client Smp ID: INTRA-LAB CHECK
Inj Date : 17-DEC-1998 10:05
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP07R103
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

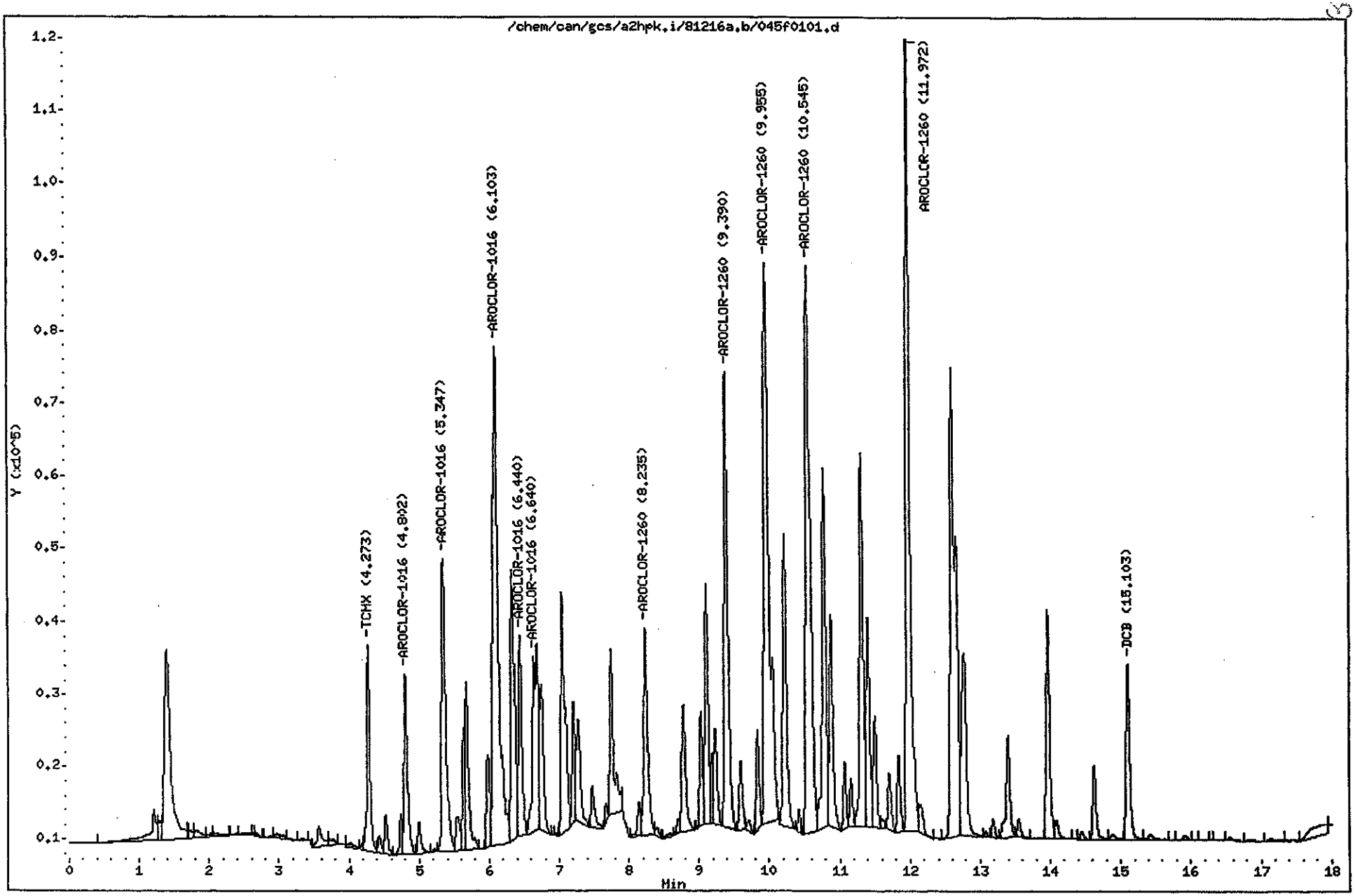
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.273	4.272	0.001	28309	0.01726	5.754	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.802	4.802	0.000	24945	0.80500	268.3	80.00- 120.00	100.00
	5.347	5.347	0.000	40220	0.74457	248.2	125.29- 208.81	161.23
	6.103	6.105	-0.002	68717	0.81967	273.2	207.30- 345.49	275.47
	6.440	6.442	-0.002	27496	0.80316	267.7	84.66- 141.09	110.23
	6.640	6.642	-0.002	24230	0.68044	226.8	81.88- 136.47	97.13
Average of Peak Concentrations =						256.8		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.235	8.237	-0.002	28508	0.82017	273.4	80.00- 120.00	100.00
	9.390	9.390	0.000	62661	0.79196	264.0	166.19- 276.99	219.80
	9.955	9.955	0.000	77176	0.83498	278.3	196.82- 328.04	270.72

Data File: /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
Report Date: 17-Dec-1998 13:22

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
10.545	10.547	-0.002	78103	0.85932	286.4	201.36- 335.60	273.97
11.972	11.973	-0.001	112901	0.88753	295.8	281.46- 469.10	396.03
	Average of Peak Concentrations =				279.6		
$ 9 DCB					CAS #: 2051-24-3		
15.103	15.105	-0.002	24343	0.01846	6.154	80.00- 120.00	100.00

Da le: /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
Da 17-DEC-1998 10:05
Client ID: INTRA-LAB CHECK Instrument: a2hpk.i
Sample Info: CP07R103
Volume Injected (uL): 1.0 Operator: 1808
Column phase: RTX-CLP PESTICIDES Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
METHOD BLANK COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L020000 232

Sample WT/Vol: 30 / g
Work Order: CNWD6101
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/03/98
Date Analyzed: 12/19/98

QC Batch: 8336232

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	33	U
11104-28-2	Aroclor 1221	33	U
11141-16-5	Aroclor 1232	33	U
53469-21-9	Aroclor 1242	33	U
12672-29-6	Aroclor 1248	33	U
11097-69-1	Aroclor 1254	33	U
11096-82-5	Aroclor 1260	33	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/096f0101.d
Report Date: 21-Dec-1998 10:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/096f0101.d
Lab Smp Id: CNWD6101 Client Smp ID: INTRA-LAB BLANK
Inj Date : 19-DEC-1998 00:34
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNWD6101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

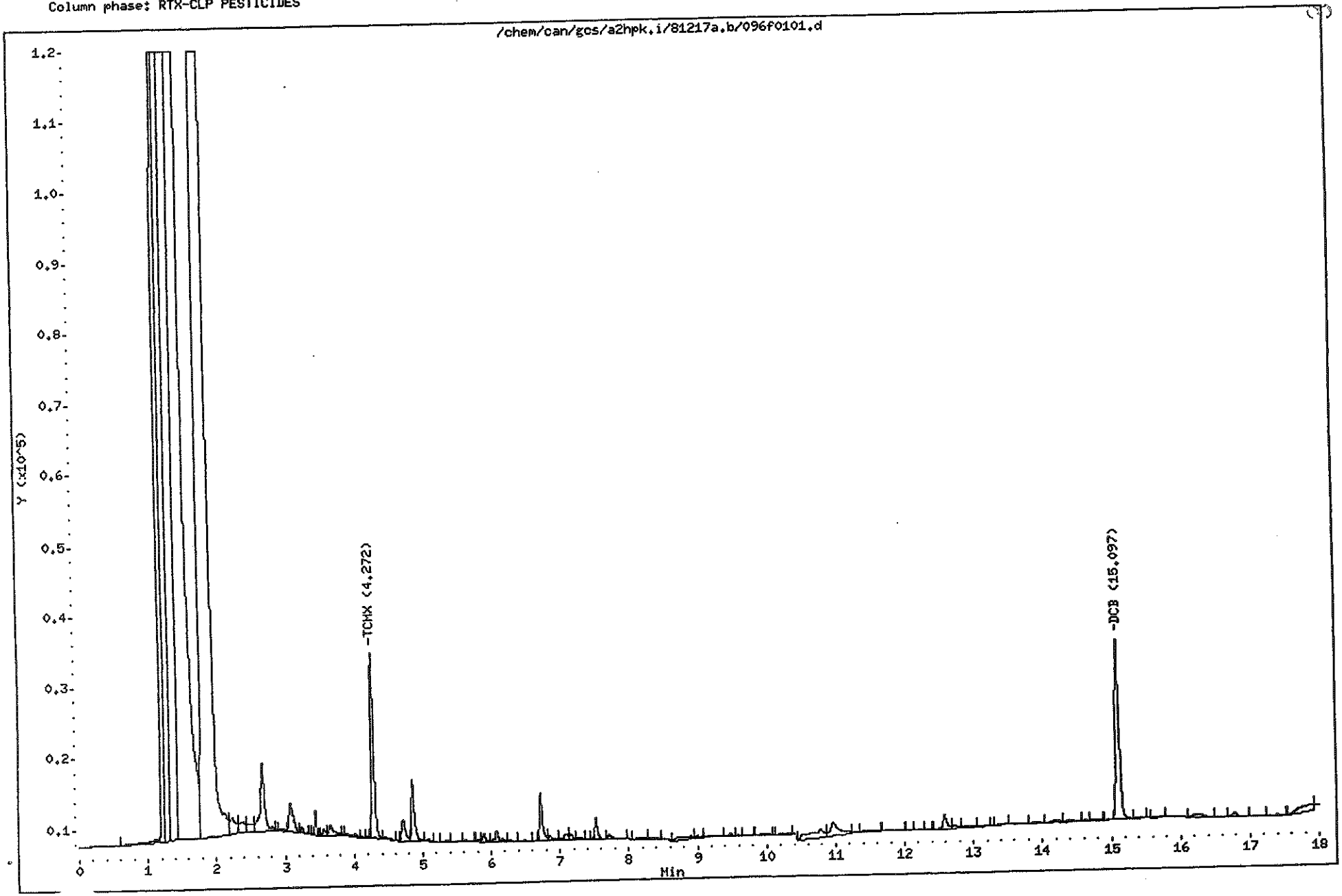
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.272	4.270	0.002	25942	0.01582	5.273	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	15.097	15.097	0.000	25218	0.01913	6.375	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/096f0101.d
Date : 19-DEC-1998 00:34
Client ID: INTRA-LAB BLANK
Sample Info: CNWD6101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
METHOD BLANK COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 112

Sample WT/Vol: 30 / g
Work Order: CP07R101
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	33	U
11104-28-2	Aroclor 1221	33	U
11141-16-5	Aroclor 1232	33	U
53469-21-9	Aroclor 1242	33	U
12672-29-6	Aroclor 1248	33	U
11097-69-1	Aroclor 1254	33	U
11096-82-5	Aroclor 1260	33	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/040f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

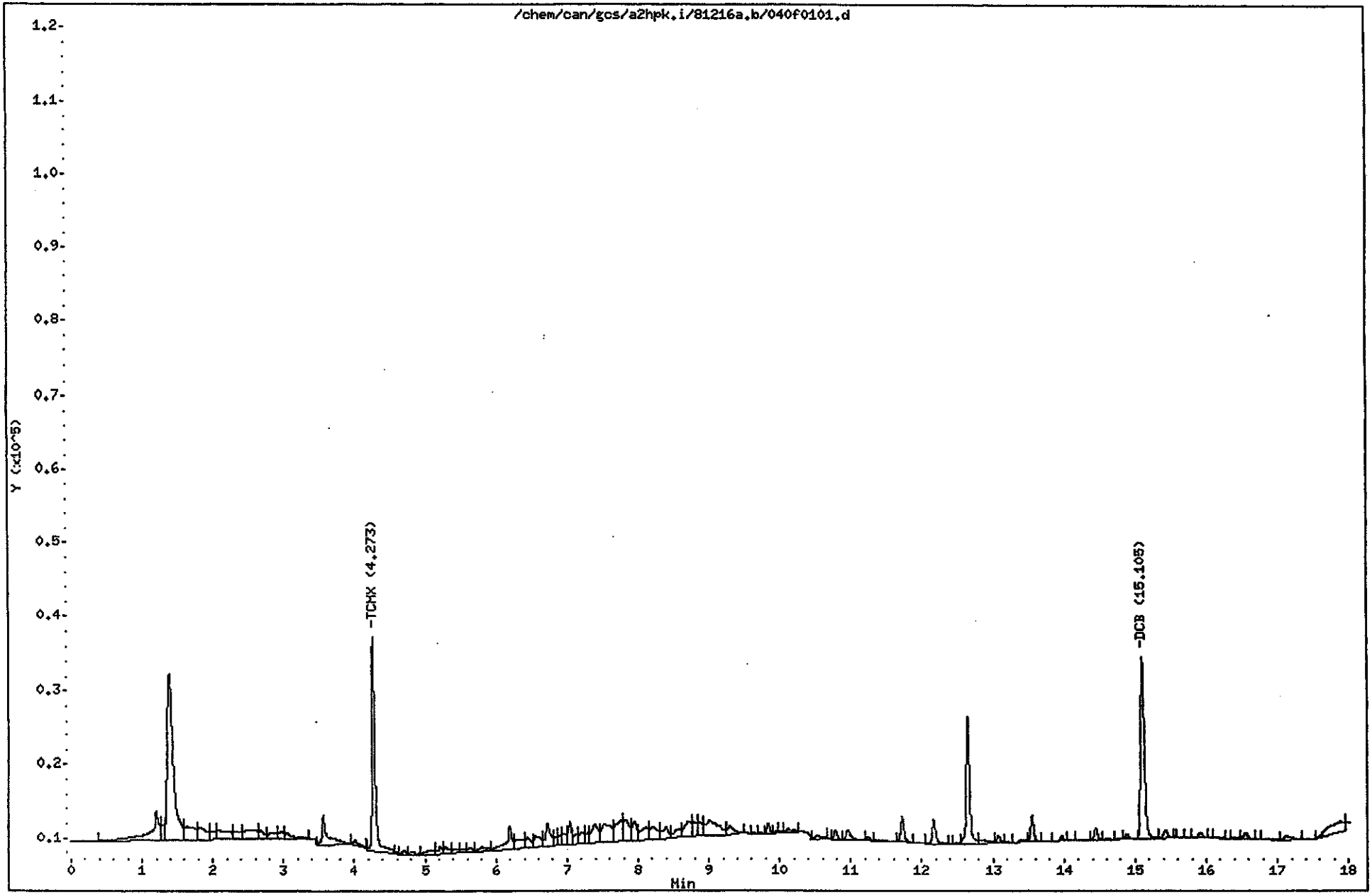
Data file : /chem/can/gcs/a2hpk.i/81216a.b/040f0101.d
Lab Smp Id: CP07R101 Client Smp ID: INTRA-LAB BLANK
Inj Date : 17-DEC-1998 08:20
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP07R101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
RT	EXP RT	DLT RT	RESPONSE				
$ 1 TCMX					CAS #: 877-09-8		
4.273	4.272	0.001	29125	0.01776	5.920	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	24672	0.01871	6.237	80.00- 120.00	100.00

D ile: /chem/can/gcs/a2hpk.i/81216a.b/040f0101.d
Date : 17-DEC-1998 08:20
Client ID: INTRA-LAB BLANK
Instrument: a2hpk.i
Sample Info: CP07R101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



POLYCHLORINATED BIPHENYLS
INSTRUMENT LOG SHEETS

Sequence: C:\HPCHEM\2\SEQUENCE\81102IC.SEQ

Operator: 0595

Sequence preparation date: 02 Nov 98 03:37 PM

Data File Names: Auto

Data File Subdirectory: 81102IC.B

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

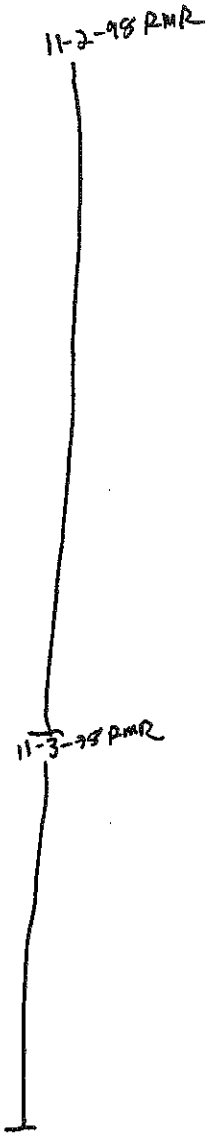
Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
1	2	HEX					KPCB2	
1	3	HEX					KPCB2	
1	4	HEX					KPCB2	1
1	5	HEX					KPCB2	1
1	6	HEX					KPCB2	1

11-2-98 AMR

Sequence: C:\HPCHEM\2\SEQUENCE\81102IC.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	HEX					KPCB2	1
1	8	HEX					KPCB2	1
1	9	HEX					KPCB2	1
1	10	HEX					KPCB2	1
1	11	1660 C064,,1,1					KPCB2	1
1	12	1660 C065,,1,2					KPCB2	1
1	13	1660 C066,,1,3					KPCB2	1
1	14	1660 C067,,1,4					KPCB2	1
1	15	1660 C068,,1,5					KPCB2	1
1	16	2154 C059,,1,1					KPCB2	1
1	17	2154 C060,,1,2					KPCB2	1
1	18	2154 C061,,1,3					KPCB2	1
1	19	2154 C062,,1,4					KPCB2	1
1	20	2154 C063,,1,5					KPCB2	1
1	21	1248 C054,,1,1					KPCB2	1
	22	1248 C055,,1,2					KPCB2	1
1	23	1248 C056,,1,3					KPCB2	1
1	24	1248 C057,,1,4					KPCB2	1
1	25	1248 C058,,1,5					KPCB2	1
1	26	1242 C049,,1,1					KPCB2	1
1	27	1242 C050,,1,2					KPCB2	1
1	28	1242 C051,,1,3					KPCB2	1
1	29	1242 C052,,1,4					KPCB2	1
1	30	1242 C053,,1,5					KPCB2	1
1	31	1232 C044,,1,1					KPCB2	1
1	32	1232 C045,,1,2					KPCB2	1
1	33	1232 C046,,1,3					KPCB2	1
1	34	1232 C047,,1,4					KPCB2	1
1	35	1232 C048,,1,5					KPCB2	1
1	36						KPCB2	1
1	37						KPCB2	1
1	38						KPCB2	1
1	39						KPCB2	1
1	40						KPCB2	1
1	41						KPCB2	1
1	42						KPCB2	1
	43						KPCB2	1
1	44						KPCB2	1
1	45						KPCB2	1
1	46						KPCB2	1
1	47						KPCB2	1



Sequence: C:\HPCHEM\2\SEQUENCE\81216A.SEQ

Operator: 0595

Sequence preparation date: 16 Dec 98 06:38 PM

Data File Names: Auto

Data File Subdirectory: 81216A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
1	2	HEX					KPCB2	1
1	3	HEX					KPCB2	
1	4	HEX					KPCB2	
1	5	HEX					KPCB2	1
1	6	HEX					KPCB2	1

12-16-98 AMR

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Multiplier Amount	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	HEX				KPCB2	1
1	8	1660 C110,,2				KPCB2	1
1	9	2154 C061,,2				KPCB2	1
1	10	1248 C056,,2				KPCB2	1
1	11	1242 C051,,2				KPCB2	1
1	12	1232 C046,,2				KPCB2	1
1	13	1262 C002,,1,1				KPCB2	1
1	14	1262 C002,,1,2				KPCB2	1
1	15	1262 C002,,1,3				KPCB2	1
1	16	1262 C002,,1,4				KPCB2	1
1	17	1262 C002,,1,5				KPCB2	1
1	18	CNVD6101,2				KPCB2	1
1	19	CNVD6101,5				KPCB2	1
1	20	CNVCQ101,1000				KPCB2	1
1	21	CNXD3101,1000				KPCB2	1
1	22	CNW6H101,100				KPCB2	1
1	23	CNW6T101,100				KPCB2	1
1	24	CNW6V101,100				KPCB2	1
1	25	CNW6W101,1000				KPCB2	1
1	26	CNW6X101,100				KPCB2	1
1	27	CNW7A101,100				KPCB2	1
1	28	HEX				KPCB2	1
1	29	1660 C110,,2				KPCB2	1
1	30	1660 C110,,2				KPCB2	1
1	31	CNW7C101,10				KPCB2	1
1	32	CNW7E101				KPCB2	1
1	33	CNW7G101,100				KPCB2	1
1	34	CNW7H101,100				KPCB2	1
1	35	CNW71101,1000				KPCB2	1
1	36	CNW73101,10				KPCB2	1
1	37	CNW74101,100				KPCB2	1
1	38	CNW76101,1000				KPCB2	1
1	39	CNW78101,1000				KPCB2	1
1	40	CP07R101				KPCB2	1
1	41	HEX				KPCB2	1
1	42	1660 C110,,2				KPCB2	1
1	43	1660 C110,,2				KPCB2	1
1	44	CP07R102				KPCB2	1
1	45	CP07R103				KPCB2	1
1	46	CNXA5101,1000				KPCB2	1
1	47	CNXA6101,100				KPCB2	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	48	CNX9X101,5					KPCB2	1
1	49	HEX					KPCB2	1
1	50	1660 C110,,2					KPCB2	1
1	51	1660 C110,,2					KPCB2	1
1	52						KPCB2	1
1	53						KPCB2	1
1	54						KPCB2	1
1	55						KPCB2	1
1	56						KPCB2	1
1	57						KPCB2	1
1	58						KPCB2	1
1	59						KPCB2	1
1	60						KPCB2	1
1	61						KPCB2	1
1	62						KPCB2	1
1	63						KPCB2	1
1	64						KPCB2	
1	65						KPCB2	1
1	66						KPCB2	1
1	67						KPCB2	1
1	68						KPCB2	1
1	69						KPCB2	1
1	70						KPCB2	1
1	71						KPCB2	1
1	72						KPCB2	1
1	73						KPCB2	1
1	74						KPCB2	1
1	75						KPCB2	1
1	76						KPCB2	1
1	77						KPCB2	1
1	78						KPCB2	1
1	79						KPCB2	1
1	80						KPCB2	1
1	81						KPCB2	1
1	82						KPCB2	1
1	83						KPCB2	1
1	84						KPCB2	1
1	85						KPCB2	
1	86						KPCB2	1
1	87						KPCB2	1
1	88						KPCB2	1

12-17-98 PMR

Pass 5

17 Dec 98 05:35 PM
Sequence: C:\HPCHEM\2\SEQUENCE\81217A.SEQ

Op tor: 0595

Sequence preparation date: 17 Dec 98 05:35 PM

Data File Names: Auto

Data File Subdirectory: 81217A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
	2	HEX					KPCB2	1
1	3	HEX					KPCB2	1
1	4	1660 C110,,2					KPCB2	1
1	5	2154 C061,,2					KPCB2	1
1	6	1248 C056,,2					KPCB2	1

inj 12-17-98 BLS

Pass for

17 Dec 98 05:35 PM
Sequence: C:\HPCHEM\2\SEQUENCE\81217A.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	1242 C051,,2					KPCB2	1
1	8	1232 C046,,2					KPCB2	1
1	9	1262 C002,,1,1					KPCB2	1
1	10	1262 C002,,1,2					KPCB2	1
1	11	1262 C002,,1,3					KPCB2	1
1	12	1262 C002,,1,4					KPCB2	1
1	13	1262 C002,,1,5					KPCB2	1
1	14	CNVD6101,2					KPCB2	1
1	15	CNVD6101,5					KPCB2	1
1	16	CNVCQ101,1000					KPCB2	1
1	17	CNXD3101,5000					KPCB2	1
1	18	CNW7E101,5					KPCB2	1
1	19	CNW73101,50					KPCB2	1
1	20	CPAE1101					KPCB2	1
1	21	CPAE1102					KPCB2	1
1	22	CPA8T102					KPCB2	1
1	23	CPA8W102					KPCB2	
1	24	HEX					KPCB2	-
1	25	1660 C110,,2					KPCB2	1
1	26	1660 C110,,2					KPCB2	1
1	27	CPA9C102					KPCB2	1
1	28	CPA9C103					KPCB2	1
1	29	CPA9C104					KPCB2	1
1	30	CPA9F102,5					KPCB2	1
1	31	CPA90102					KPCB2	1
1	32	CPA91102,10					KPCB2	1
1	33	CPA92102					KPCB2	1
1	34	CPA96102,5					KPCB2	1
1	35	CPA98102,10					KPCB2	1
1	36	CPA99102,10					KPCB2	1
1	37	HEX					KPCB2	1
1	38	1660 C110,,2					KPCB2	1
1	39	1660 C110,,2					KPCB2	1
1	40	CP0EH202					KPCB2	1
1	41	CP0EH11A					KPCB2	1
1	42	CP0EH11C					KPCB2	1
1	43	CP0EV202					KPCB2	1
1	44	CP0F0202					KPCB2	1
1	45	CP0F2202					KPCB2	1
1	46	CP0F4202					KPCB2	1
1	47	CP0F7202					KPCB2	1

inj 12-17-98

Pass 5+r

rerun failed

rerun for 62

Done 12-17-98 BLS

rerun pos mis inj.

Pass 5

Pass 5

inj 12-18-98 BLS

17 Dec 98 05:35 PM
Sequence: C:\HPCHEM\2\SEQUENCE\81217A.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Multiplier Amount	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
						KPCB2	1
1	48	CP0F8202				KPCB2	1
1	49	CP0F9202				KPCB2	1
1	50	HEX				KPCB2	1
1	51	1660 C110,,2 Passed				KPCB2	1
1	52	1660 C110,,2 ↓				KPCB2	1
1	53	CP0FA202				KPCB2	1
1	54	CP0FD202				KPCB2	1
1	55	~~CP0FE202~~ CPAE1-102 12-18-98 failed re-extraction				KPCB2	1
1	56	CP0FF202				KPCB2	1
1	57	CP0FG202				KPCB2	1
1	58	CP0FH202				KPCB2	1
1	59	CP0FK202				KPCB2	1
1	60	CP0FL202				KPCB2	1
1	61	CP0FM202				KPCB2	1
1	62	CPC20101				KPCB2	1
	63	~~HEX~~ CP0FE-202				KPCB2	1
1	64	1660 C110,,2				KPCB2	1
1	65	2154 C061,,2				KPCB2	1
1	66	1248 C056,,2				KPCB2	1
1	67	1242 C051,,2				KPCB2	1
1	68	1232 C046,,2				KPCB2	1
1	69	CPC20102				KPCB2	1
1	70	CNW60101,10				KPCB2	1
1	71	CNW64101,10				KPCB2	1
1	72	CNW65101				KPCB2	1
1	73	CNW66101				KPCB2	1
1	74	CNW67101				KPCB2	1
1	75	CNW68101,10				KPCB2	1
1	76	CNW69101				KPCB2	1
1	77	CNW6A101				KPCB2	1
1	78	CNW6C101,10				KPCB2	1
1	79	HEX				KPCB2	1
1	80	1660 C110,,2				KPCB2	1
1	81	1660 C110,,2				KPCB2	1
1	82	CNW6D101				KPCB2	1
1	83	CNW6E101				KPCB2	1
	84	CNW6F101,10				KPCB2	1
1	85	CNW6G101,10				KPCB2	1
1	86	CNW6J101				KPCB2	1
1	87	CNW6L101				KPCB2	1
1	88	CNW6M101,500				KPCB2	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	89	CNW6N101,10					KPCB2	1
1	90	CNW6P101,10					KPCB2	1
1	91	CNW6Q101,10					KPCB2	1
1	92	HEX					KPCB2	1
1	93	1660 C110,,2					KPCB2	1
1	94	1660 C110,,2					KPCB2	1
1	95	CNW6R101,10					KPCB2	1
1	96	CNWD6101					KPCB2	1
1	97	CNWD6102					KPCB2	1
1	98	CNWD6103					KPCB2	1
1	99	1660 C110,,2					KPCB2	1
1	100	1660 C110,,2					KPCB2	1

21 Dec 98 10:55 AM
Sequence: C:\HPCHEM\2\SEQUENCE\81220A.SEQ

Operator: 0595

Sequence preparation date: 21 Dec 98 10:54 AM

Data File Names: Auto

Data File Subdirectory: 81220A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
	2	HEX					KPCB2	1
	3	HEX					KPCB2	1
1	4	1660 C110,,2					KPCB2	1
1	5	2154 C061,,2					KPCB2	1
1	6	1248 C056,,2					KPCB2	1

] Pass f+r

Sequence: C:\HPCHEM\2\SEQUENCE\81220A.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	1242 C051,,2					KPCB2	1
1	8	1232 C046,,2					KPCB2	1
1	9	1262 C002,,1,1					KPCB2	1
1	10	1262 C002,,1,2					KPCB2	1
1	11	1262 C002,,1,3					KPCB2	1
1	12	1262 C002,,1,4					KPCB2	1
1	13	1262 C002,,1,5					KPCB2	1
1	14	CNVD6101,2					KPCB2	1
1	15	CNVD6101,5					KPCB2	1
1	16	CNVCQ101,1000					KPCB2	1
1	17	CP169102					KPCB2	1
1	18	CP374101					KPCB2	1
1	19	CP374102,2					KPCB2	1
1	20	CP374103,2					KPCB2	1
1	21	CP3LL103					KPCB2	1
1	22	CP3EP103					KPCB2	1
1	23	CP1Q010J					KPCB2	
1	24	HEX					KPCB2	
1	25	1660 C110,,2					KPCB2	1
1	26	1660 C110,,2					KPCB2	1
1	27	CP1RC10J					KPCB2	1
1	28	CP3JN10J					KPCB2	1
1	29	CP3LN10J					KPCB2	1
1	30	CP3LT10J					KPCB2	1
1	31	CP3M310J					KPCB2	1
1	32	CP39P102					KPCB2	1
1	33	CP39P10H					KPCB2	1
1	34	CP39P10J					KPCB2	1
1	35	CP39X102					KPCB2	1
1	36	CP3A1102					KPCB2	1
1	37	HEX					KPCB2	1
1	38	1660 C110,,2					KPCB2	1
1	39	1660 C110,,2					KPCB2	1
1	40	CP3A3102					KPCB2	1
1	41	CP3A4102					KPCB2	1
1	42	CP3A5102					KPCB2	1
1	43	CP3A6102					KPCB2	1
1	44	CP3A8102,10					KPCB2	
1	45	CP3AC102,50					KPCB2	
1	46	CP3AE102					KPCB2	1
1	47	CP3AG102					KPCB2	1

Pass f+r

I-Cal for 1262 failed. Report as 1260, call Gary Wood.

Done

z-colr

z-colr

missinjected

OK Pass f+r

z-colr

Pass f+r

Sequence: C:\HPCHEM\2\SEQUENCE\81220A.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
							KPCB2	1
1	48	CP3AJ102					KPCB2	1
1	49	CP3DP102					KPCB2	1
1	50	HEX					KPCB2	1
1	51	1660 C110,,2					KPCB2	1
1	52	1660 C110,,2					KPCB2	1
1	53	CP3DT102					KPCB2	1
1	54	CP3DW101,5					KPCB2	1
1	55	CP3E0101					KPCB2	1
1	56	CP3E2101					KPCB2	1
1	57	CP3E3101,5					KPCB2	1
1	58	CP3E4101					KPCB2	1
1	59	CP3E8102					KPCB2	1
1	60	CP4DC101					KPCB2	1
1	61	CP4DC102 BB					KPCB2	1
1	62	CP3E9102					KPCB2	1
1	63	HEX					KPCB2	1
1	64 X	1660 C110,,2					KPCB2	1
1	65	2154 C061,,2					KPCB2	1
1	66	1248 C056,,2					KPCB2	1
1	67	1242 C051,,2					KPCB2	1
1	68 X	1232 C046,,2					KPCB2	1
1	69	CP3E9105					KPCB2	1
1	70	CP3E9106					KPCB2	1
1	71	CP3EC102					KPCB2	1
1	72	CP3ED102					KPCB2	1
1	73	CP3EE102					KPCB2	1
1	74	CP3EF102					KPCB2	1
1	75	CP3EH102					KPCB2	1
1	76	CP3EJ102					KPCB2	1
1	77	CP3EK102					KPCB2	1
1	78	CP3EL102					KPCB2	1
1	79 X	CNW6M101,2000					KPCB2	1
1	80 X	1660 C110,,2					KPCB2	1
1	81	1660 C110,,2					KPCB2	1
1	82	CP3EM102					KPCB2	1
1	83	CP4DH101					KPCB2	1
1	84	CP4DH102					KPCB2	1
	85	CP3HP102,5					KPCB2	1
1	86	CP3J1102					KPCB2	1
1	87	CP3J2102					KPCB2	1
1	88	CP3J3102					KPCB2	1

Pass f

Pass f

Pass f seq. stopped 12-21-98 11:30

Sequence: C:\HPCHEM\2\SEQUENCE\81221A.SEQ

Operator: 0595

Sequence preparation date: 21 Dec 98 05:16 PM

Data File Names: Auto

Data File Subdirectory: 81221A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
1	2	HEX					KPCB2	1
1	3	HEX					KPCB2	
1	4	HEX					KPCB2	1
1	5	HEX					KPCB2	1
1	6	HEX					KPCB2	1

inj 12-21-98 BLS

Manual Int.; OK!

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	HEX					KPCB2	1
1	8	1660 C110,,2					KPCB2	1
1	9	2154 C061,,2					KPCB2	1
1	10	1248 C056,,2					KPCB2	1
1	11	1242 C051,,2					KPCB2	1
1	12	1232 C046,,2					KPCB2	1
1	13	CPF8N101					KPCB2	1
1	14	CPF8N102					KPCB2	1
1	15	CPA8T202					KPCB2	1
1	16	CPA8W202					KPCB2	1
1	17	CPA9C202					KPCB2	1
1	18	CPA9C105					KPCB2	1
1	19	CPA9C106					KPCB2	1
1	20	CPA9F202,5					KPCB2	1
1	21	CPA90202					KPCB2	1
	22	CPA91202,10					KPCB2	1
	23	HEX					KPCB2	1
1	24	1660 C110,,2					KPCB2	1
1	25	1660 C110,,2					KPCB2	1
1	26	CPA92202					KPCB2	1
1	27	CPA96202,5					KPCB2	1
1	28	CPA98202,10					KPCB2	1
1	29	CPA99202,10					KPCB2	1
1	30	CP3EM102					KPCB2	1
1	31	CP4DH101					KPCB2	1
1	32	CP4DH102 RIR					KPCB2	1
1	33	CP3HP102,5					KPCB2	1
1	34	CP3J1102					KPCB2	1
1	35	CP3J2102					KPCB2	1
1	36	CP3J3102					KPCB2	1
1	37	CP3J4102					KPCB2	1
1	38	CP3J5102,10					KPCB2	1
1	39	CP3J8102					KPCB2	1
1	40	HEX					KPCB2	1
1	41	1660 C110,,2					KPCB2	1
1	42	1660 C110,,2					KPCB2	1
	43	CP3J9102					KPCB2	1
	44	CP3JC102,10					KPCB2	1
1	45	CP3JE102					KPCB2	1
1	46	CP08N101					KPCB2	1
1	47	CP08N102					KPCB2	1

1254 ok; 1221 ok

Pass f

inj 12-21-98

Pass f

inj 12-22-98

Pass f

processed

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
			Inj 12/22/98 83					
1	48	CP08N103					KPCB2	1
1	49	CNXAC101,20 RIR 1:100 - ACID -		Bad Backend			KPCB2	1
1	50	CNXAD101,10					KPCB2	1
1	51	CNXAG101,20 RIR 1:50	ACID	Bad Backend			KPCB2	1
1	52	CNXAJ101,100					KPCB2	1
1	53	HEX					KPCB2	1
1	54	X 1660 C110,,2					KPCB2	1
1	55	1660 C110,,2					KPCB2	1
1	56	X CNXAL101,100					KPCB2	1
1	57	CNXAN101					KPCB2	1
1	58	CNXAR101					KPCB2	1
1	59	CNXAT101					KPCB2	1
1	60	CNXAW101					KPCB2	1
1	61	CNXC1101					KPCB2	1
1	62	CNXCD101,500					KPCB2	1
1	63	CNXCF101,500					KPCB2	1
1	64	CNXCH101					KPCB2	
1	65	CNXCL101					KPCB2	1
1	66	HEX					KPCB2	1
1	67	X 1660 C110,,2 P					KPCB2	1
1	68	2154 C061,,2 P					KPCB2	1
1	69	1248 C056,,2 P					KPCB2	1
1	70	1242 C051,,2 P					KPCB2	1
1	71	1232 C046,,2 P					KPCB2	1
1	72	CNXCM101,10					KPCB2	1
1	73	CNXCN101,10					KPCB2	1
1	74	CNXCP101,10					KPCB2	1
1	75	CNXCQ101,100					KPCB2	1
1	76	CNXCR101,500					KPCB2	1
1	77	CNXD0101					KPCB2	1
1	78	CP37A101					KPCB2	1
1	79	CP37A102,2 Pest Spike					KPCB2	1
1	80	CNXFR102					KPCB2	1
1	81	CNXFR107 Pest Spike					KPCB2	1
1	82	HEX					KPCB2	1
1	83	1660 C110,,2 P					KPCB2	1
1	84	1660 C110,,2 — Did not get sentover in target (Lost)					KPCB2	1
1	85	CP3HL112 update II +608					KPCB2	
1	86	CP9F5101					KPCB2	1
1	87	CP9F5102,2					KPCB2	1
1	88	CP9F5103,2					KPCB2	1

POLYCHLORINATED BIPHENYLS
ORGANIC EXTRACTION
LOG SHEETS

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 20:30:41

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
-	-	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			-	-	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
- Bench Sheet Copied
- Package Submitted to AnalyticalGroup
- Bench Sheet Copied per COC

Extractionist: 001560 Thomas R. Fausnight
001163 Donny E. Williamson

Concentrationist: 009625 Lee J. Nelmes
990005 Charles L. Miller

****
* *
* QC BATCH: 8336232 *
* *
****

PREP DATE: 12/03/98
COMP DATE: 12/03/98

Reviewer/Date: NELMESL / 12/10/98

PCBs (8082)
SONICATION w/ACID STRIP (PCB)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	0/00/00	A8L020000-232 CNWD6-1-01B		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L020000-232 CNWD6-1-03C		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 10PPM #3491 1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L020000-232 CNWD6-1-04L	DR	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 10PPM #3491 1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-008 CNW6A-1-01	D	71	QH	SOLID	30.16g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-009 CNW6C-1-01	D	71	QH	SOLID	30.01g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-010 CNW6D-1-01	D	71	QH	SOLID	30.12g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-011 CNW6E-1-01	D	71	QH	SOLID	30.06g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 20:30:41

QC BATCH: 8336232

PREP DATE: 12/03/98
COMP DATE: 12/03/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	12/16/98	A8L020132-012 CNW6F-1-01	D	71	QH	SOLID	30.08g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-013 CNW6G-1-01	D	71	QH	SOLID	30.04g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-015 CNW6J-1-01	D	71	QH	SOLID	30.01g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-016 CNW6L-1-01	D	71	QH	SOLID	30.11g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-017 CNW6M-1-01	D	71	QH	SOLID	30.01g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-018 CNW6N-1-01	D	71	QH	SOLID	30.08g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-019 CNW6P-1-01	D	71	QH	SOLID	29.10g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS: SAMPLE CONSUMED															
12/15/98	12/16/98	A8L020132-020 CNW6Q-1-01	D	71	QH	SOLID	30.11g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-021 CNW6R-1-01	D	71	QH	SOLID	30.05g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-001 CNW60-1-01	D	71	QH	SOLID	30.02g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 20:30:41

QC BATCH: 8336232

PREP DATE: 12/03/98
COMP DATE: 12/03/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	12/16/98	A8L020132-002 CNW64-1-01	D	71	QH	SOLID	30.02g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-003 CNW65-1-01	D	71	QH	SOLID	30.07g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-004 CNW66-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-005 CNW67-1-01	D	71	QH	SOLID	30.17g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-006 CNW68-1-01	D	71	QH	SOLID	30.09g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-007 CNW69-1-01	D	71	QH	SOLID	30.18g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

DCM# M38270 ACE# H451-KXKC NA2SO4# 8024-KXRR HEX# M22300
S/S BY DW

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 23

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 8:48:06

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
Y	Y	MS/MSD	Y	Y	Vial contains correct volume
—	—		Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			—	—	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
Y Bench Sheet Copied
Y Package Submitted to AnalyticalGroup
— Bench Sheet Copied per COC

Extractionist: 100001 Walsh Cooper
MM Walsh Cooper
NP Walsh Cooper
Concentrationist: 009625 Lee J. Nelmes

****
* *
* QC BATCH: 8338112 *
* *
****

PREP DATE: 12/04/98
COMP DATE: 12/04/98

Reviewer/Date: SALMONSR / 12/10/98

PCBs (8082)
SONICATION w/ACID STRIP (PCB)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	12/16/98	A8L020132-014 CNW6H-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-022 CNW6T-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-023 CNW6V-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-024 CNW6W-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-025 CNW6X-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-031 CNW7A-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-032 CNW7C-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 8:48:06

QC BATCH: 8338112

PREP DATE: 12/04/98
COMP DATE: 12/04/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	12/16/98	A8L020132-033 CNW7E-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-034 CNW7G-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-035 CNW7H-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-026 CNW71-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-027 CNW73-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-028 CNW74-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-029 CNW76-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-030 CNW78-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-002 CNXA5-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-003 CNXA6-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 8:48:06

QC BATCH: 8338112

PREP DATE: 12/04/98
COMP DATE: 12/04/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/16/98	12/17/98	A8L030146-001 CNX9X-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L040000-112 CP07R-1-01B		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L040000-112 CP07R-1-02C		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 10PPM #3491 1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L040000-112 CP07R-1-03L	DR	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

DCM #M38270 ACE #H451-KXKC HEX #M22300 NA2S04 #8024-KXRR
S/S BY C.W. DONE AS SOXHLETS

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD
$

NUMBER OF WORK ORDERS IN BATCH: 21

GENERAL CHEMISTRY
LOG SHEETS

			Quanterra, North Canton			
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	% SOLIDS				Batch	8338131
Prep Date	12/2/98	Time In	8AM		Analyst	MFG
Anal date	12/3/98	Time Out	2PM		RL	0.1 %
Sample	Tare	Sample	Final	diff	Result TS	Result MS
Id	wt	g	wt	g	%	%
BLANK	1.0749	0	1.0742	-0.0007	ND	ND
CNW65	1.0673	1.7155	2.6301	1.5628	91.099	8.901
CNW71	1.0607	1.2633	2.1328	1.0721	84.865	15.135
CNW6L	1.0754	1.3809	2.348	1.2726	92.157	7.843
CNW7G	1.0712	1.2701	2.1525	1.0813	85.135	14.865
~~CNW6E~~	~~1.0609~~	~~1.0344~~		~~-1.0609~~	~~-102.562~~	~~202.562~~
CNW6F	1.0639	1.2085	2.1894	1.1255	93.132	6.868
CNW6G	1.0612	1.2482	2.2331	1.1719	93.887	6.113
CNW67	1.0765	1.077	1.8974	0.8209	76.221	23.779
CNW60	1.0507	1.0742	2.0514	1.0007	93.158	6.842
CNW7A	1.0804	1.0349	2.0156	0.9352	90.366	9.634
CNW7A/X	1.0668	1.0872	2.0476	0.9808	90.213	9.787
CNW64	1.0647	2.7393	3.4972	2.4325	88.800	11.200
CNW66	1.0594	1.2002	2.2319	1.1725	97.692	2.308
CNW6M	1.0394	1.411	2.2844	1.245	88.235	11.765
CNW7E	1.052	1.2766	2.1244	1.0724	84.004	15.996
CNW6X	1.0389	1.1876	2.0723	1.0334	87.016	12.984
CNW6X/X	1.0564	1.2934	2.1776	1.1212	86.686	13.314
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!

12/7/98

Quanterra General Chemistry Data Review Checklist

Parameter(s): Percent Solids

Batch(es): 8338131

Review Items

A. Calibration/Instrument Run QC	Yes	No	N/A	2nd Level
1. Calibration/standardization performed per SOP and within specified limits?	✓			✓
2. ICV/CCV analyzed at appropriate frequency and within control limits ? (TRAACS Nitrate/Nitrite, Cyanide 85-115%; all others 90-110%)			✓	
3. ICB/CCB analyzed at appropriate frequency and within +/- RL ?			✓	
B. Sample Results				
1. Were samples with concentrations > the linear range diluted and reanalyzed ?			✓	
2. All reported results bracketed by in control QC ?	✓			
3. Sample analyses done within holding time ?	✓			
C. Preparation/Matrix QC				
1. LCS done per prep batch and within QC limits ? *(LCSD, where applicable)*			✓	
2. Method blank done per prep batch and < RL. Method blank RL supports the lowest RL reported for the batch?	✓			
3. MS/MSD run at required frequency and within limits ? MS/MSD reported properly and calculated correctly?			✓	
4. Duplicate samples run at required frequency (duplicate sample performed per matrix encountered)?	✓			
D. Other				
1. Are all nonconformances documented appropriately ?	✓			
2. Calculations checked for error ?	✓			
3. Transcriptions checked for error ?	✓			
4. All client/project specific requirements met ?	✓			
5. Date/time of analysis verified as correct ?	✓			
6. Units verified as correct?	✓			
7. Dilutions have been properly applied and RL's adjusted appropriately?			✓	

Level I Analyst: Erin Drummond Date: 12/7/98

Comments:

Level II Reviewer: [signature] Date: 12-8-98

Comments:

			Quanterra, North Canton			
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	% SOLIDS				Batch	8338132
Prep Date	12/2/98	Time In	2PM		Analyst	MFG
Anal date	12/3/98	Time Out	8PM		RL	0.1%
Sample	Tare	Sample	Final	diff	Result TS	Result MS
Id	wt	g	wt	g	%	%
BLANK	1.0378	0	1.0376	-0.0002	ND	ND
CNW6A	1.0394	1.0421	1.9831	0.9437	90.558	9.442
CNW6V	1.0563	1.3618	2.2673	1.211	88.926	11.074
CNW6R	1.0573	1.1777	2.1547	1.0974	93.182	6.818
CNW6P	1.0709	1.6964	1.5949	0.524	30.889	69.111
CNW6Q	1.057	1.4558	2.4068	1.3498	92.719	7.281
CNW6N	1.0712	2.6722	3.3165	2.2453	84.024	15.976
CNW6H	1.0586	1.3354	2.2196	1.161	86.940	13.060
CNW6J	1.0688	1.2318	2.2198	1.151	93.440	6.560
CNW69	1.0374	1.1224	2.0676	1.0302	91.785	8.215
CNW68	1.0531	1.7722	2.6715	1.6184	91.322	8.678
CNW68/X	1.073	1.3014	2.2683	1.1953	91.847	8.153
CNW74	1.0691	1.1153	2.0691	1	89.662	10.338
CNW7H	1.0683	1.5455	2.2625	1.1942	77.269	22.731
CNW73	1.056	1.3614	2.2941	1.2381	90.943	9.057
CNW6W	1.0444	1.148	2.1619	1.1175	97.343	2.657
CNW78	1.0663	1.4592	2.3501	1.2838	87.980	12.020
CNW7C	1.0622	1.0816	2.0387	0.9765	90.283	9.717
CNW76	1.0554	1.64	2.5494	1.494	91.098	8.902
CNW6T	1.0498	1.5557	2.3842	1.3344	85.775	14.225
CNW6D	1.0415	1.297	2.2368	1.1953	92.159	7.841
CNW6C	1.0625	1.136	2.1039	1.0414	91.673	8.327
CNW6C/X	1.0507	1.0845	2.0792	1.0285	94.836	5.164
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!

Quanterra General Chemistry Data Review Checklist

Parameter(s): Percent Solids

Batch(es): 8338132

Review Items

A. Calibration/Instrument Run QC	Yes	No	N/A	2nd Level
1. Calibration/standardization performed per SOP and within specified limits?	✓			✓
2. ICV/CCV analyzed at appropriate frequency and within control limits ? (TRAACS Nitrate/Nitrite, Cyanide 85-115%; all others 90-110%)			✓	
3. ICB/CCB analyzed at appropriate frequency and within +/- RL ?			✓	
B. Sample Results				
1. Were samples with concentrations > the linear range diluted and reanalyzed ?			✓	
2. All reported results bracketed by in control QC ?	✓			
3. Sample analyses done within holding time ?	✓			
C. Preparation/Matrix QC				
1. LCS done per prep batch and within QC limits ? *(LCSD, where applicable)*			✓	
2. Method blank done per prep batch and < RL. Method blank RL supports the lowest RL reported for the batch?	✓			
3. MS/MSD run at required frequency and within limits ? MS/MSD reported properly and calculated correctly?			✓	
4. Duplicate samples run at required frequency (duplicate sample performed per matrix encountered)?	✓			
D. Other				
1. Are all nonconformances documented appropriately ?	✓			
2. Calculations checked for error ?	✓			
3. Transcriptions checked for error ?	✓			
4. All client/project specific requirements met ?	✓			
5. Date/time of analysis verified as correct ?	✓			
6. Units verified as correct?	✓			
7. Dilutions have been properly applied and RL's adjusted appropriately?			✓	✓

Level I Analyst: Erin Drummond **Date:** 12/7/98

Comments:

Level II Reviewer: [signature] **Date:** 12/8/98

Comments:

			Quanterra, North Canton			
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	% SOLIDS				Batch	8349319
Prep Date	12/15/98	Time In	14:00		Analyst	EKD
Anal date	12/16/98	Time Out	9:00		RL	0.1%
Sample Id	Tare wt	Sample g	Final wt	diff g	Result TS %	Result MS %
BLANK	1.044	0	1.0435	-0.0005	ND	ND
CP16R	1.0561	5.5331	5.5611	4.505	81.419	18.581
CP16RX	1.0573	7.5498	7.31	6.2527	82.819	17.181
CP16V	1.0483	8.0462	7.523	6.4747	80.469	19.531
CP16X	1.0574	9.2793	8.3875	7.3301	78.994	21.006
CP170	1.0605	9.9954	9.1489	8.0884	80.921	19.079
CP172	1.0611	7.2083	7.207	6.1459	85.261	14.739
CP173	1.0637	8.4078	7.707	6.6433	79.014	20.986
CP176	1.0619	8.0437	7.828	6.7661	84.117	15.883
CP177	1.0617	5.5787	5.6368	4.5751	82.010	17.990
CP17A	1.0569	6.4482	6.1046	5.0477	78.281	21.719
CP17D	1.0562	7.6064	6.8042	5.748	75.568	24.432
CNW6E	1.043	1.0655	2.0748	1.0318	96.837	3.163
CNW6EX	1.0536	1.27	2.2805	1.2269	96.606	3.394
CNWNN	1.0577	5.6479	5.9752	4.9175	87.068	12.932
CNWNP	1.064	5.8445	6.1401	5.0761	86.853	13.147
CNWNQ	1.0454	5.1504	5.4958	4.4504	86.409	13.591
CNWNR	1.0414	4.7867	5.1959	4.1545	86.793	13.207
CNWNT	1.0417	4.7103	4.8802	3.8385	81.492	18.508
CNWNV	1.0681	4.9374	4.3407	3.2726	66.282	33.718
CNWNW	1.0511	5.268	5.2948	4.2437	80.556	19.444
CNWNX	1.0634	4.6035	4.034	2.9706	64.529	35.471
CNWP0	1.0437	6.7952	6.6423	5.5986	82.391	17.609
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!

Quanterra General Chemistry Data Review Checklist

Parameter(s): Tot Solids

Batch(es): 8349319

Review Items

A. Calibration/Instrument Run QC	Yes	No	N/A	2nd Level
1. Calibration/standardization performed per SOP and within specified limits?	✓			✓
2. ICV/CCV analyzed at appropriate frequency and within control limits ? (TRAACS Nitrate/Nitrite, Cyanide 85-115%; all others 90-110%)			✓	
3. ICB/CCB analyzed at appropriate frequency and within +/- RL ?			✓	
B. Sample Results				
1. Were samples with concentrations > the linear range diluted and reanalyzed ?			✓	
2. All reported results bracketed by in control QC ?	✓			
3. Sample analyses done within holding time ?	✓			
C. Preparation/Matrix QC				
1. LCS done per prep batch and within QC limits ? *(LCSD, where applicable)*			✓	
2. Method blank done per prep batch and < RL. Method blank RL supports the lowest RL reported for the batch?	✓			
3. MS/MSD run at required frequency and within limits ? MS/MSD reported properly and calculated correctly?			✓	
4. Duplicate samples run at required frequency (duplicate sample performed per matrix encountered)?	✓			
D. Other				
1. Are all nonconformances documented appropriately ?	✓			
2. Calculations checked for error ?	✓			
3. Transcriptions checked for error ?	✓			
4. All client/project specific requirements met ?	✓			
5. Date/time of analysis verified as correct ?	✓			
6. Units verified as correct?	✓			
7. Dilutions have been properly applied and RL's adjusted appropriately?			✓	✓

Level I Analyst: Erin Drummond Date: 12/16/98

Comments:

Level II Reviewer: [illegible] Date: 981217

Comments:

COOLER RECEIPT FORM

Quanterra ® Cooler Receipt Form/Narrative
North Canton Facility

Client: CRA Project: _____ Quote# 25175
Cooler Received on: 12-2-98 Opened on: 12-2-98 by: _____ (Signature)

Fedx ☒ Client Drop Off ☐ UPS ☐ Airborne ☐
Other: _____

Cooler ☒ Safe ☐ Foam Box ☐ Client Cooler ☐ Other: _____
Quanterra Shipper No#: H100

1. Were custody seals on the outside of the cooler and intact? Yes ☒ No ☐
   If YES, Quantity 1 Location over closure
   Were the custody seals signed and dated? Yes ☒ No ☐ NA ☐
2. Shipper's packing slip attached to this form? Yes ☒ No ☐
3. Were custody papers included inside the cooler and relinquished? Yes ☒ No ☐
4. Did you sign the custody papers in the appropriate place? Yes ☒ No ☐
5. Packing material used:

Peanuts ☐ Bubble Wrap ☒ Vermiculite ☐ Foam ☒ None ☐ Other : _____

6. Cooler temperature upon receipt 0.3 °C (see back of form for multiple coolers/temp)

METHOD: Temperature Vial ☐ Coolant ☒ Against Bottles ☐
COOLANT: Wet Ice ☒ Blue Ice ☐ Dry Ice ☐ None ☐

7. Were all the bottles sealed in separate plastic bags? Yes ☐ No ☒
8. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
9. Did all bottle labels and tags agree with the custody papers? Yes ☒ No ☐
10. Were samples at the correct pH? Yes ☐ No ☐ NA ☒
11. Were correct bottles used for the tests indicated? Yes ☒ No ☐
12. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☐ NA ☒
13. Was a sufficient amount of sample sent in each bottle? ? Yes ☐ No ☐

Contacted PM ALM Date: 12-2-98 by: cde via Voice Mail ☒ Verbal ☐ Other ☐
Concerning: limited Qnty

Check √	MACRO	MACRO
1. CHAIN OF CUSTODY		
	SR1A	Samples were received under proper custody procedures and without discrepancies.
	SR1B	The chain of custody and sample bottles did not agree. The following discrepancies occurred _____
2. SAMPLE CONDITION		
	SR2A	Sample(s) _____ were received or requested after the recommended holding time had expired.
	SR2B	Sample(s) _____ were received with insufficient volume
	SR2C	Sample(s) _____ were received in a broken container.
3. SAMPLE PRESERVATION		
√	SR3A	The temperature of the cooler was _____ ° C
	SR3C	Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving.
	SR3D	Sample(s) _____ were received incorrectly preserved and split off in sample receiving.
	SR3E	Samples (s) _____ were received incorrectly preserved and were unable to be analyzed.
	SR3F	Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)
X	N/A	See back for other anomalies Rec'd only one small container for each sample PM aware

INTERNAL CHAIN-OF-CUSTODY

RSR280

Quanterra Incorporated
Sample Control Record

Client: 1628

Lot #: A8L020132

Case Number/SDG: 13307

Storage Location: W20

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
CNW60	EZZOL	12/02/98	Yes		Storage	
CNW64	EZZOL	12/02/98	Yes		Storage	
CNW65	EZZOL	12/02/98	Yes		Storage	
CNW66	EZZOL	12/02/98	Yes		Storage	
CNW67	EZZOL	12/02/98	Yes		Storage	
CNW68	EZZOL	12/02/98	Yes		Storage	
CNW69	EZZOL	12/02/98	Yes		Storage	
CNW6A	EZZOL	12/02/98	Yes		Storage	
CNW6C	EZZOL	12/02/98	Yes		Storage	
CNW6D	EZZOL	12/02/98	Yes		Storage	
CNW6E	EZZOL	12/02/98	Yes		Storage	
CNW6F	EZZOL	12/02/98	Yes		Storage	
CNW6G	EZZOL	12/02/98	Yes		Storage	
CNW6H	EZZOL	12/02/98	Yes		Storage	
CNW6J	EZZOL	12/02/98	Yes		Storage	
CNW6L	EZZOL	12/02/98	Yes		Storage	
CNW6M	EZZOL	12/02/98	Yes		Storage	
CNW6N	EZZOL	12/02/98	Yes		Storage	
CNW6P	EZZOL	12/02/98	Yes		Storage	
CNW6Q	EZZOL	12/02/98	Yes		Storage	
CNW6R	EZZOL	12/02/98	Yes		Storage	
CNW6T	EZZOL	12/02/98	Yes		Storage	
CNW6V	EZZOL	12/02/98	Yes		Storage	

RSR280

Quanterra Incorporated
Sample Control Record

Client: 1628

Lot #: A8L020132

Case Number/SDG: 13307

Storage Location: W20

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
CNW6W	EZZOL	12/02/98	Yes		Storage	
CNW6X	EZZOL	12/02/98	Yes		Storage	
CNW71	EZZOL	12/02/98	Yes		Storage	
CNW73	EZZOL	12/02/98	Yes		Storage	
CNW74	EZZOL	12/02/98	Yes		Storage	
CNW76	EZZOL	12/02/98	Yes		Storage	
CNW78	EZZOL	12/02/98	Yes		Storage	
CNW7A	EZZOL	12/02/98	Yes		Storage	
CNW7C	EZZOL	12/02/98	Yes		Storage	
CNW7E	EZZOL	12/02/98	Yes		Storage	
CNW7G	EZZOL	12/02/98	Yes		Storage	
CNW7H	EZZOL	12/02/98	Yes		Storage	

LOT NUMBER	SAMPLE	SAMPLE SUFFIX	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	DATE OF TRANSFER	TRANSFERRED BY	ANALYSIS DATE	ANALYST
A8L020132	1		CNW60101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	2		CNW64101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	3		CNW65101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	4		CNW66101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	5		CNW67101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	6		CNW68101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	7		CNW69101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	8		CNW6A101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	9		CNW6C101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	10		CNW6D101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	11		CNW6E101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	12		CNW6F101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	13		CNW6G101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	14		CNW6H101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	15		CNW6J101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	16		CNW6L101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	17		CNW6M101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/21/98	Raymond Risden
A8L020132	18		CNW6N101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	19		CNW6P101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	20		CNW6Q101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/18/98	Raymond Risden
A8L020132	21		CNW6R101	GC8082_S	12/03/98	Eric Miller	12/10/98	Lee Nelmes	12/19/98	Raymond Risden
A8L020132	22		CNW6T101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	23		CNW6V101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	24		CNW6W101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	25		CNW6X101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden

LOT NUMBER	SAMPLE	SAMPLE SUFFIX	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	DATE OF TRANSFER	TRANSFERRED BY	ANALYSIS DATE	ANALYST
A8L020132	26		CNW71101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	27		CNW73101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	28		CNW74101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	29		CNW76101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	30		CNW78101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	31		CNW7A101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	32		CNW7C101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	33		CNW7E101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	34		CNW7G101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L020132	35		CNW7H101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden

*** END OF REPORT ***

LOT NUMBER	SAMPLE	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	ANALYSIS DATE	ANALYST
A8L020132	1	CNM60102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	2	CNM64102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	3	CNM65102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	4	CNM66102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	5	CNM67102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	6	CNM68104	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	7	CNM69102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	8	CNM6A102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	9	CNM6C102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	10	CNM6D102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	11	CNM6E102	TS	12/15/98	Erin Drummond	12/16/98	Erin Drummond
A8L020132	12	CNM6F102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	13	CNM6G102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	14	CNM6H104	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	15	CNM6J102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	16	CNM6L102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	17	CNM6M102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	18	CNM6N102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	19	CNM6P102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	20	CNM6Q102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	21	CNM6R102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	22	CNM6T102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	23	CNM6V102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	24	CNM6W104	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	25	CNM6X102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond

LOT NUMBER	SAMPLE	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	ANALYSIS DATE	ANALYST
A8L020132	26	CNM71102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	27	CNM73102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	28	CNM74102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	29	CNM76102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	30	CNM78102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	31	CNM7A102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	32	CNM7C102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	33	CNM7E102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	34	CNM7G104	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond
A8L020132	35	CNM7H102	TS	12/02/98	Melissa Fuller-Gustavel	12/03/98	Erin Drummond

*** END OF REPORT ***

CHAIN-OF-CUSTODY

p1 of 3

CRA
CONESTOGA–ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380–9933

SHIPPED TO (Laboratory Name): QuanTerra

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB	REMARKS
	12/1/98		S-120198-IH-001	soil	1	✓	standard Turn
			002		1	✓	
			003		1	✓	
			004		1	✓	
			005		1	✓	
			006		1	✓	MS/MSD
			007		1	✓	
			008		1	✓	
			009		1	✓	
			010		1	✓	
			011		1	✓	
			012		1	✓	
			013		1	✓	
			014		1	✓	MS/MSD
			015		1	✓	
			TOTAL NUMBER OF CONTAINERS		15		

RELINQUISHED BY: ① John Hargens	DATE: 12/1/98 TIME: 1900	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed Ex AIR BILL No. 808 686399535

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY:
DATE: 12-2-98 TIME: 10⁰⁰

4053

1001(FORMS)–OCT 24/96–REV.0–(C)(F–01)

p 2 of 3

CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

SHIPPED TO (Laboratory Name): Quanterra

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB	REMARKS
	12/1/98		S-120198-SH-016	soil	1	✓	
			017		1	✓	
			018		1	✓	
			019		1	✓	
			020		1	✓	
			021		1	✓	
			022		1	✓	
			023		1	✓	
			024		1	✓	MS/MSD
			025		1	✓	
			026		1	✓	
			027		1	✓	
			028		1	✓	
			029		1	✓	
			030		1	✓	
			TOTAL NUMBER OF CONTAINERS		15		

RELINQUISHED BY: ① John Hargens	DATE: 12/1/98 TIME: 1400	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed Ex AIR BILL No. 808686399535

White —Fully Executed Copy
Yellow —Receiving Laboratory Copy
Pink —Shipper Copy
Goldenrod —Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY:
DATE: 12-2-98 TIME: 10⁵⁰

4054

1001(FOF -OCT 24/96-REV.0-(C)(F-01)

p3 of 3

CRA
CONESTOGA–ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380–9933

SHIPPED TO (Labora Name): Quanterra

REFERENCE NUMBER: 13307

PROJECT NAME: CaterPillar

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB	REMARKS
	12/1/98		S-120198-SH-0[redacted]31	soil	1	✓	
			0[redacted]32		1	✓	
			0[redacted]33		1	✓	
			034		1	✓	MS/MSD
			035		1	✓	
			TOTAL NUMBER OF CONTAINERS		5	+15 +15 = 35 Total	

RELINQUISHED BY: ① John Hargens	DATE: 12/1/98 TIME: 1900	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed Ex AIR BILL No. 808686399535

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY:

DATE: 12-2-98 TIME: 1000

4045

1001(FORMS)–OCT 24/96–REV.0–(C)(F–01)

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

ANALYTICAL REPORT

PROJECT NO. 13307

CATERPILLAR

Lot #: A9B040136

Steve Day

Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick
Project Manager

February 4, 1999

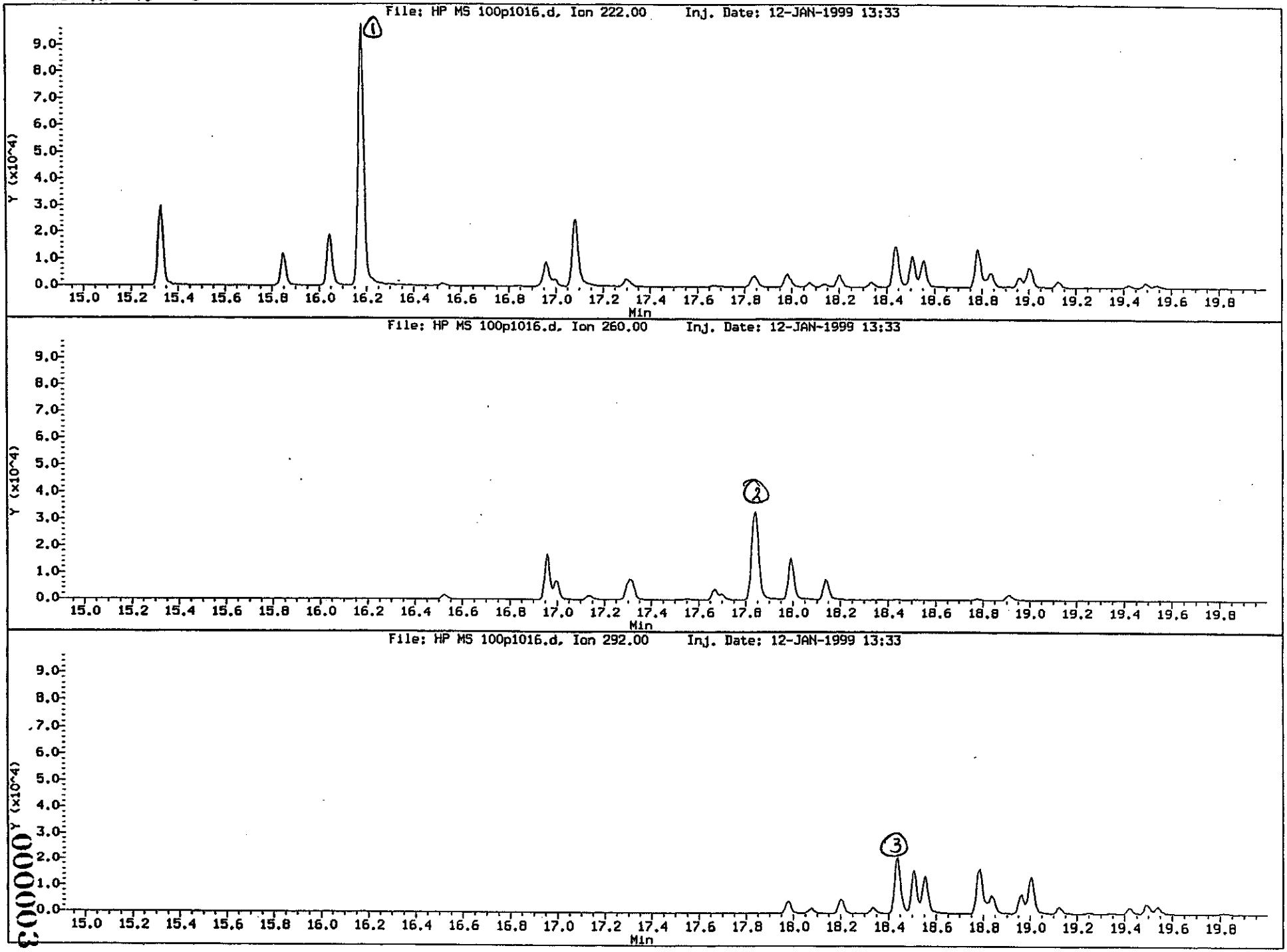
CASE NARRATIVE

The following report contains the chromatograms from the GC/MS confirmation of one solid sample submitted to Quanterra-North Canton by Conestoga-Rovers & Associates, Inc. from the Caterpillar Site, project number 13307. The sample was received December 2, 1998, according to documented sample acceptance procedures and was analyzed for Polychlorinated Biphenyls. On January 8, 1999, the client requested GC/MS confirmation.

Quanterra utilizes USEPA approved methods in all analytical work. Results were provided by facsimile transmission to Steve Day on January 15 and 18, 1999.

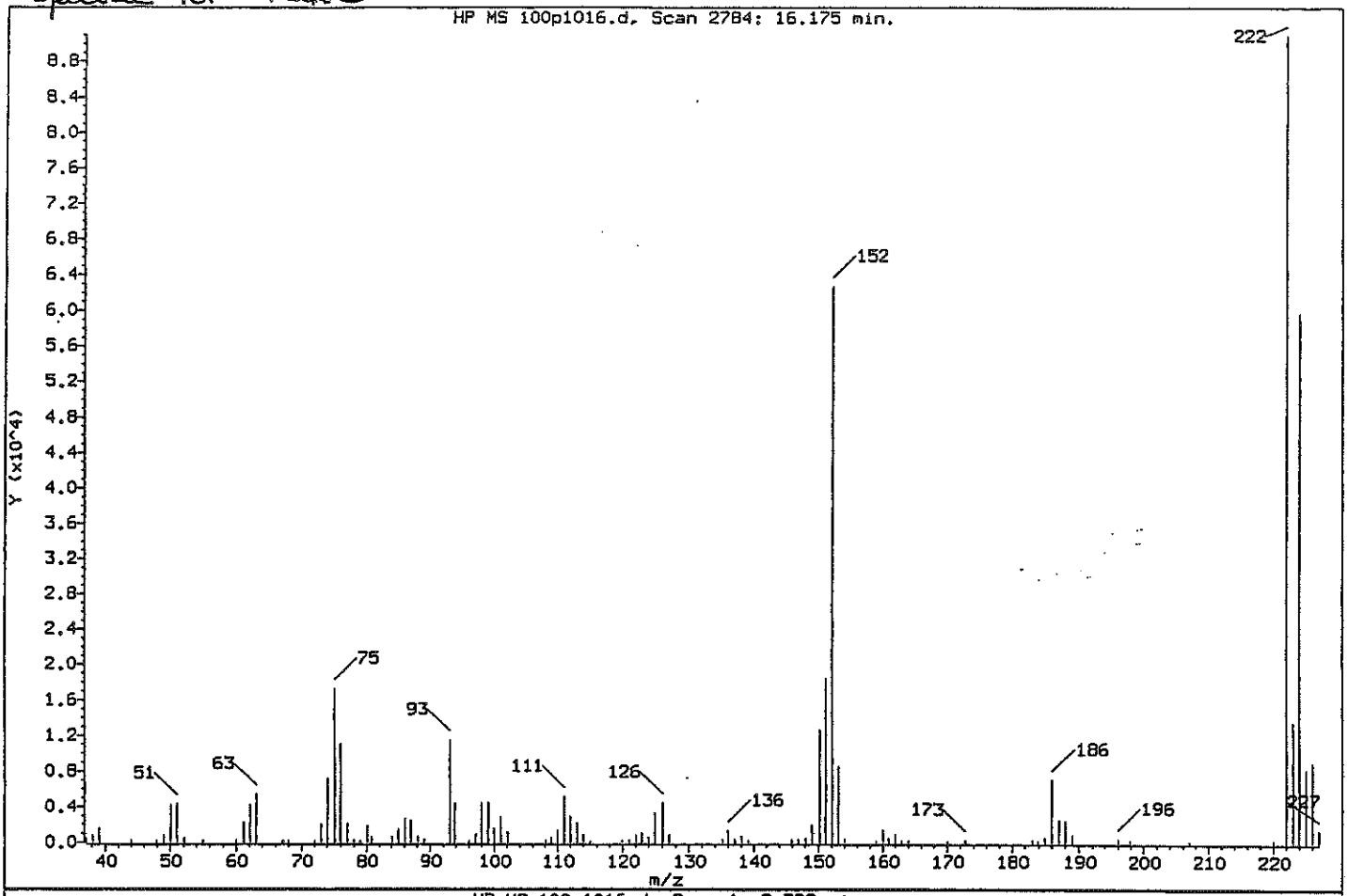
AROCLOR 1016
STANDARD

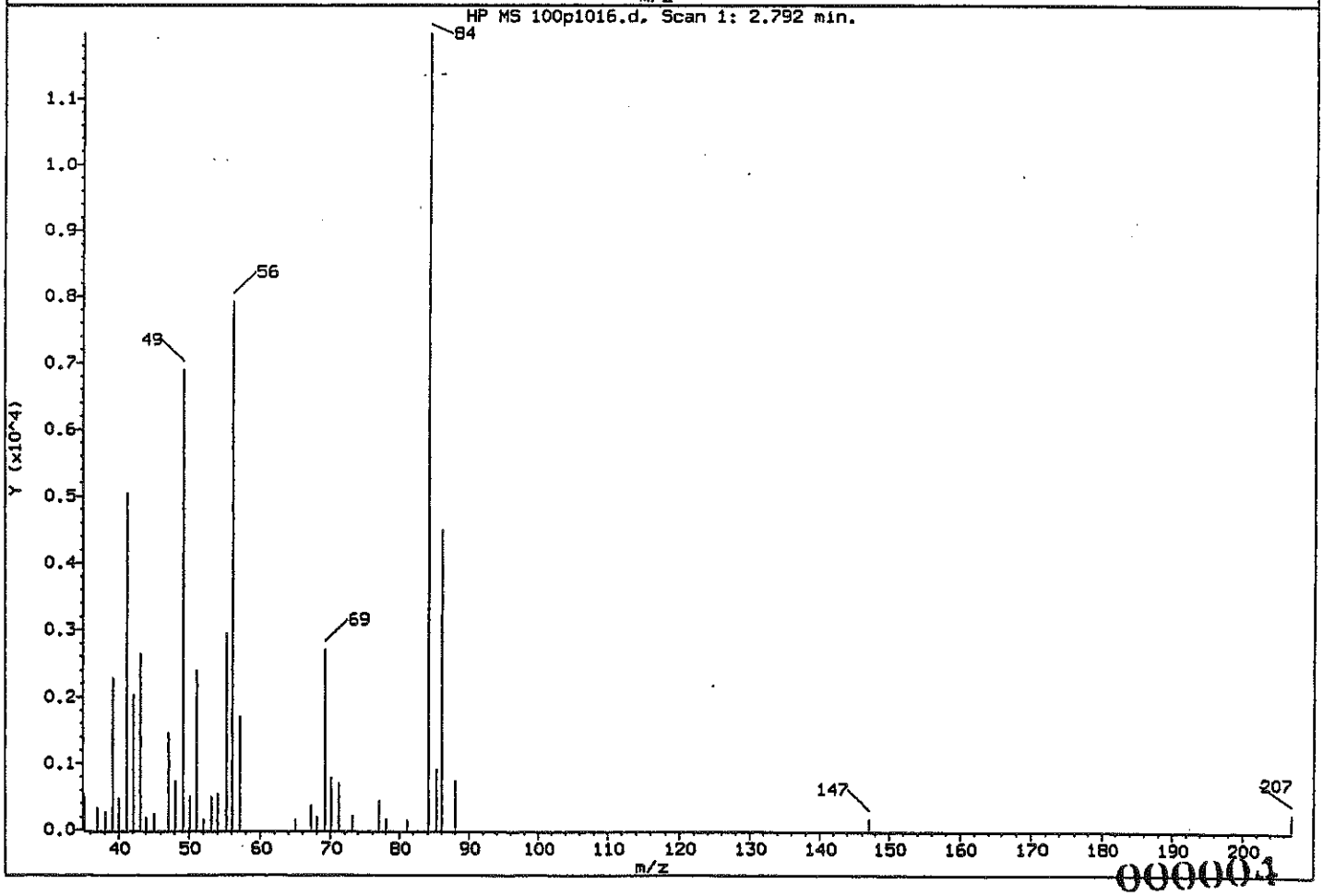
100NG AR1016 STD



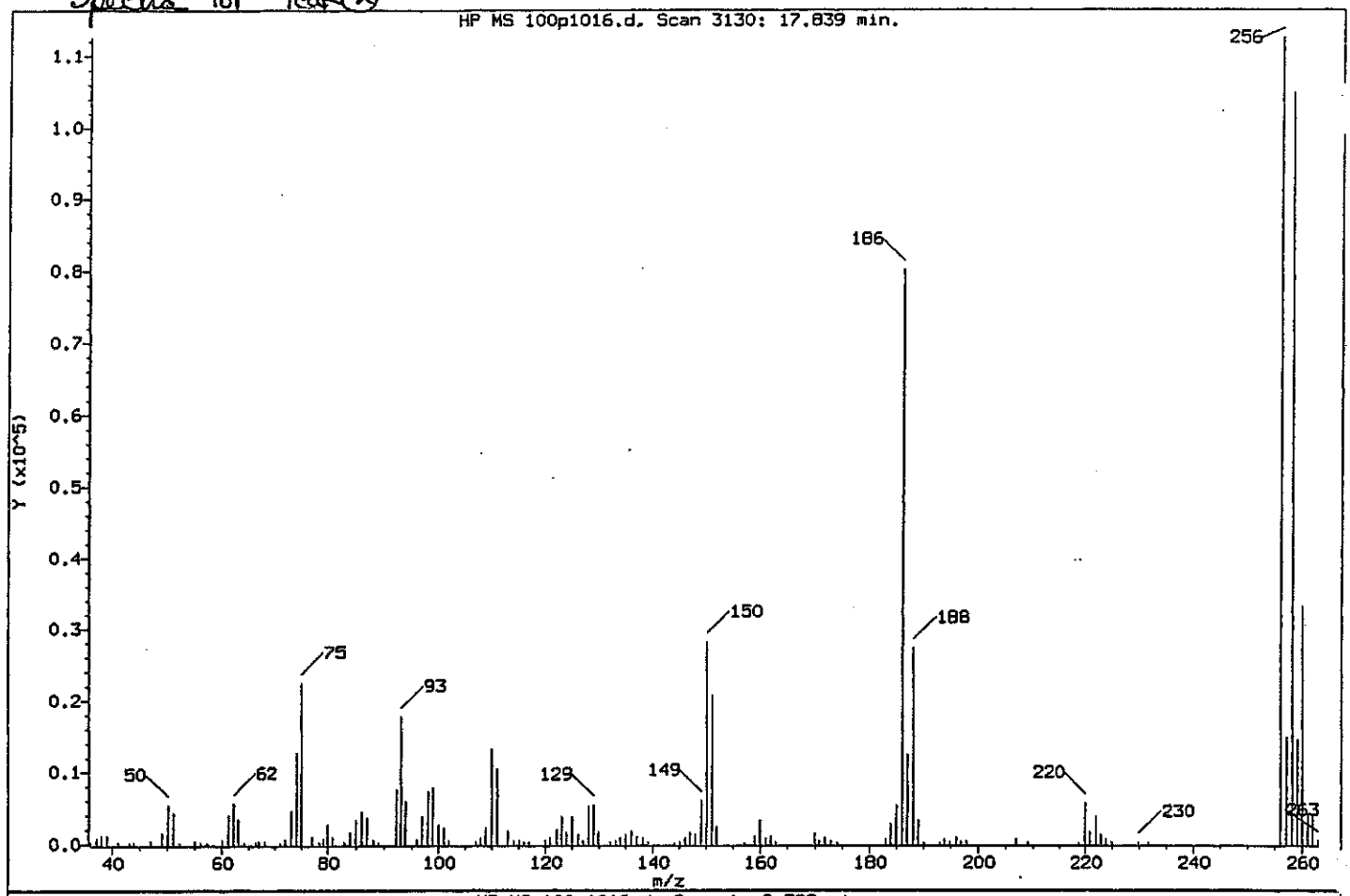
000003

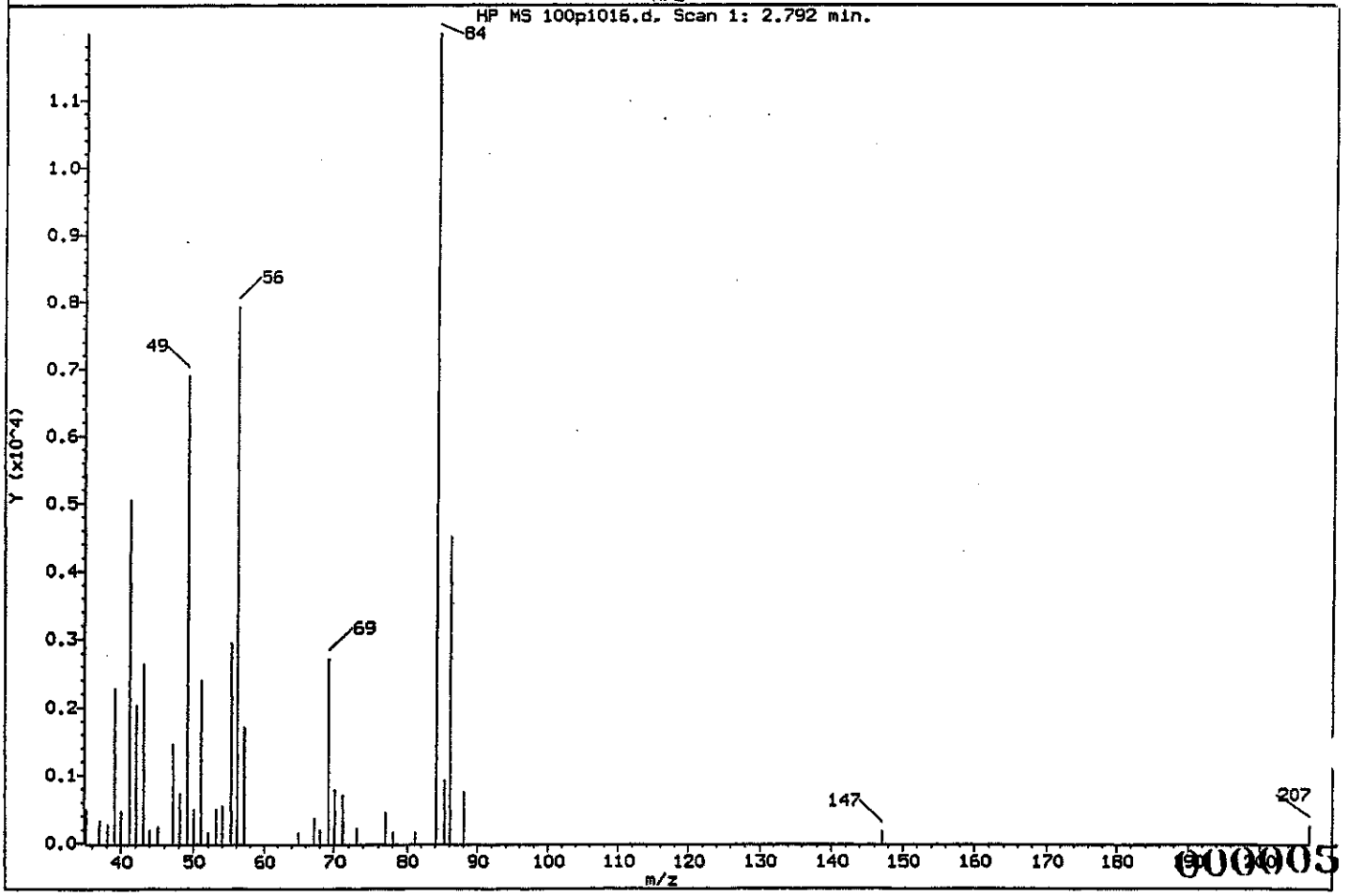
Spectra for Peak ①



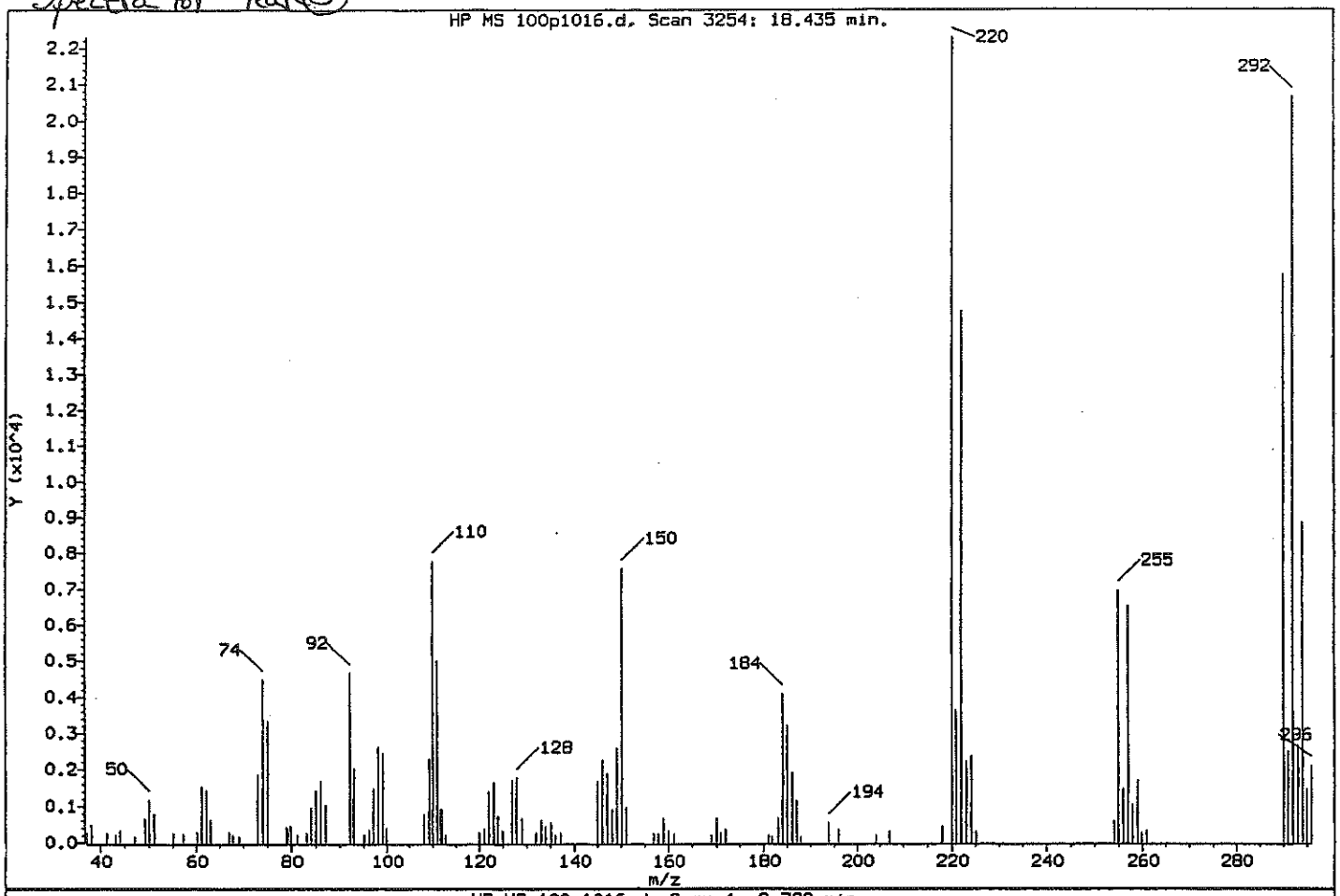


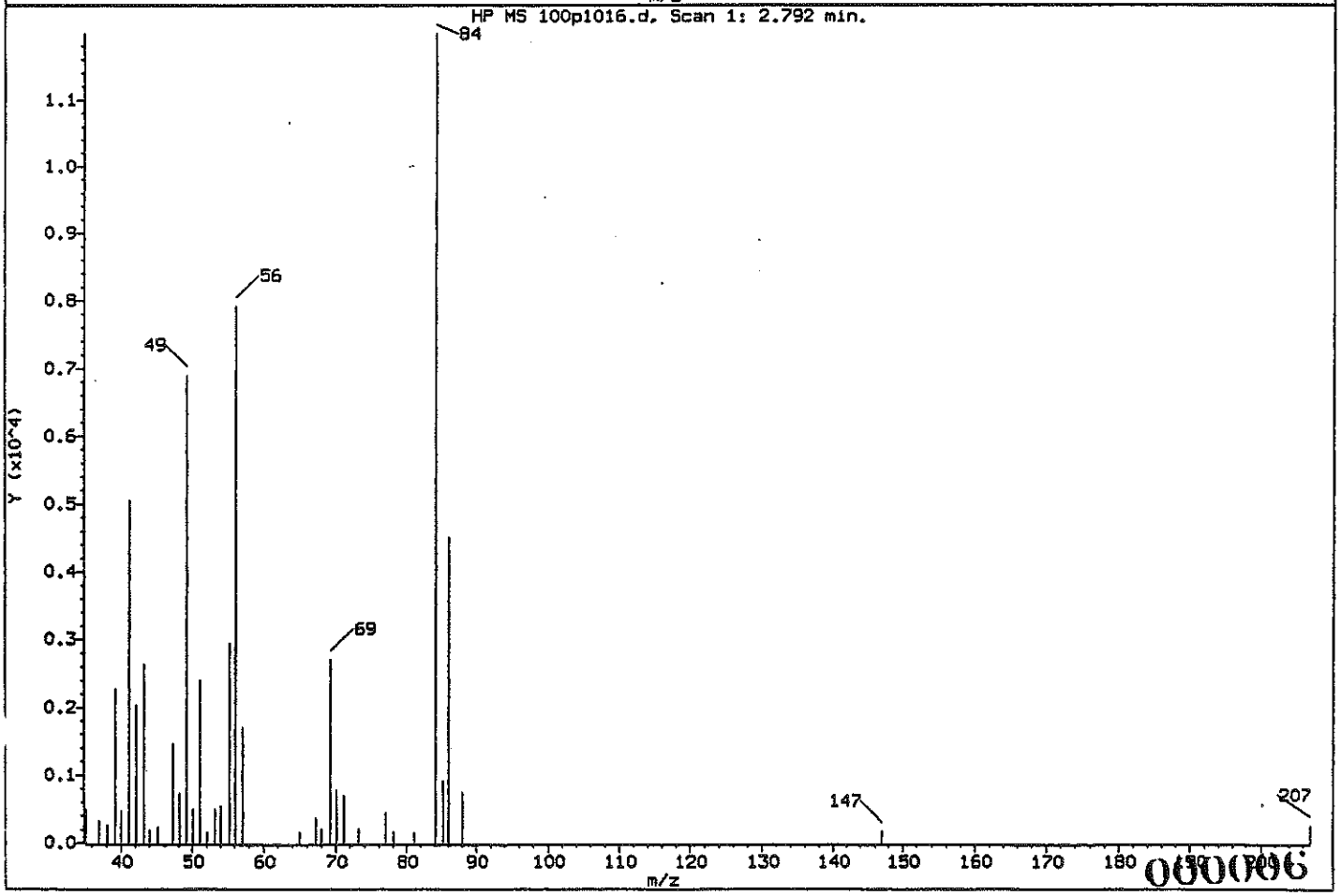
Spectra for Peak (2)



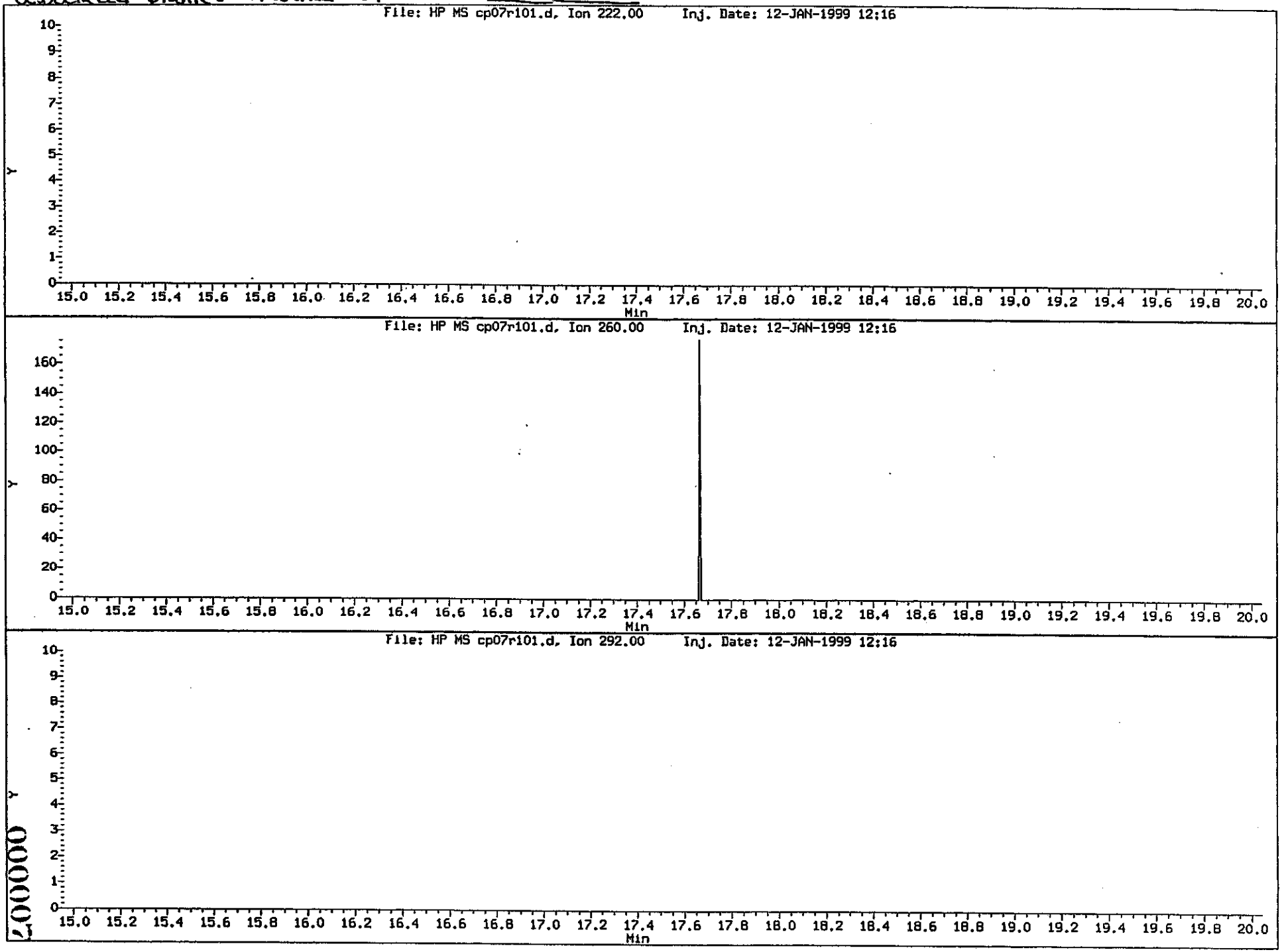


Spectra for Peak (3)

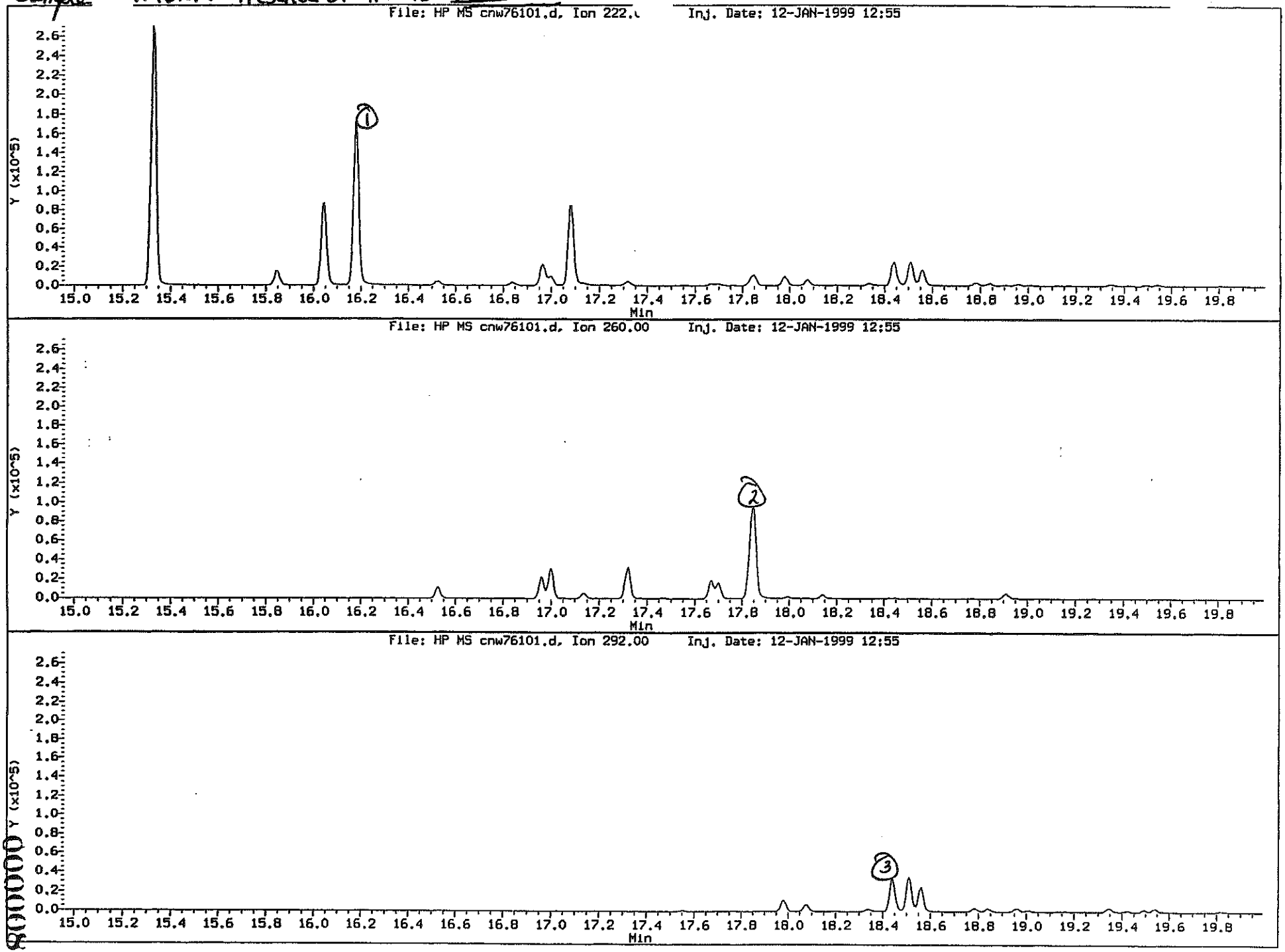




Associated Blank: Presence of AR1016 Not detected.

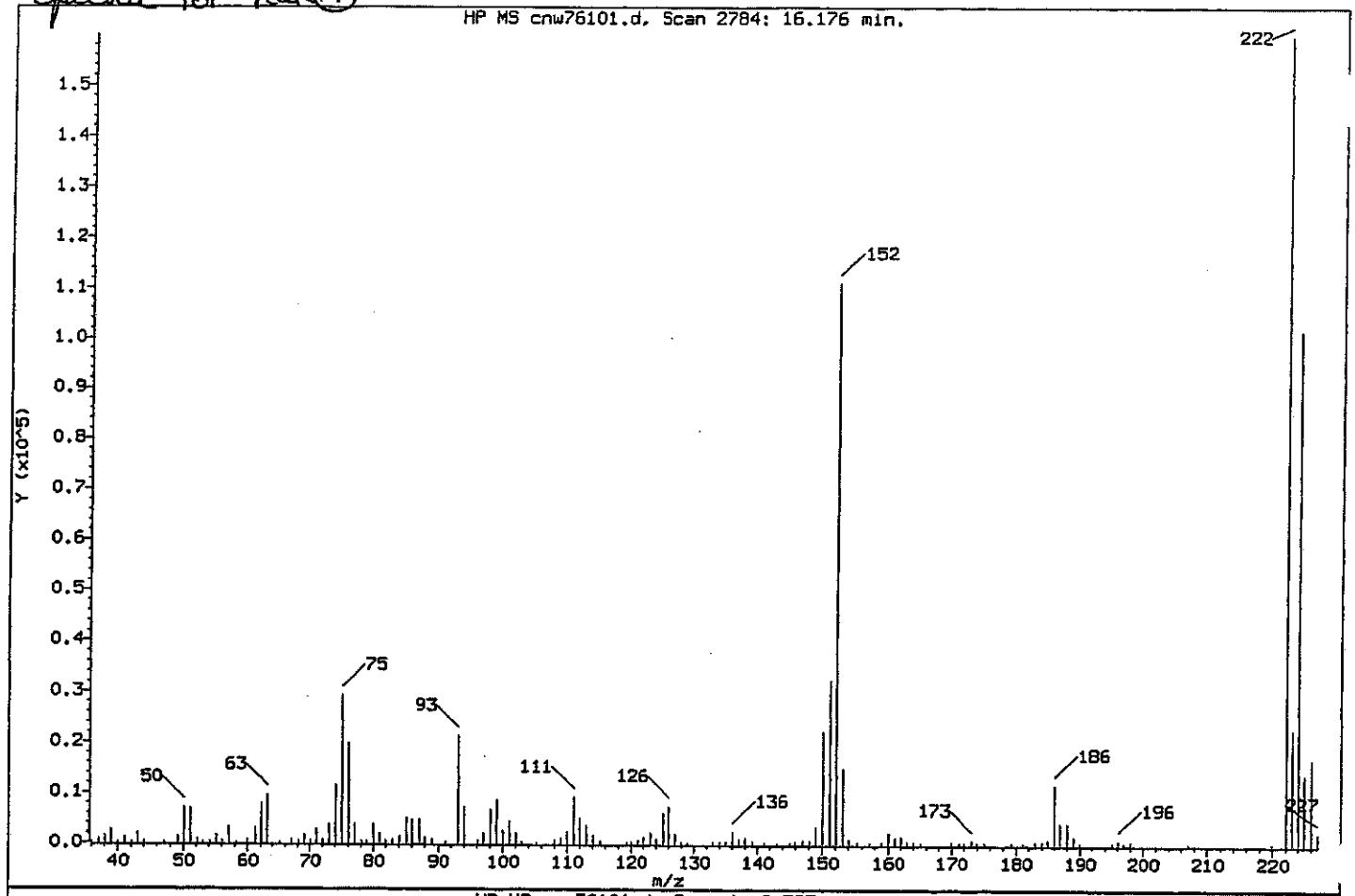


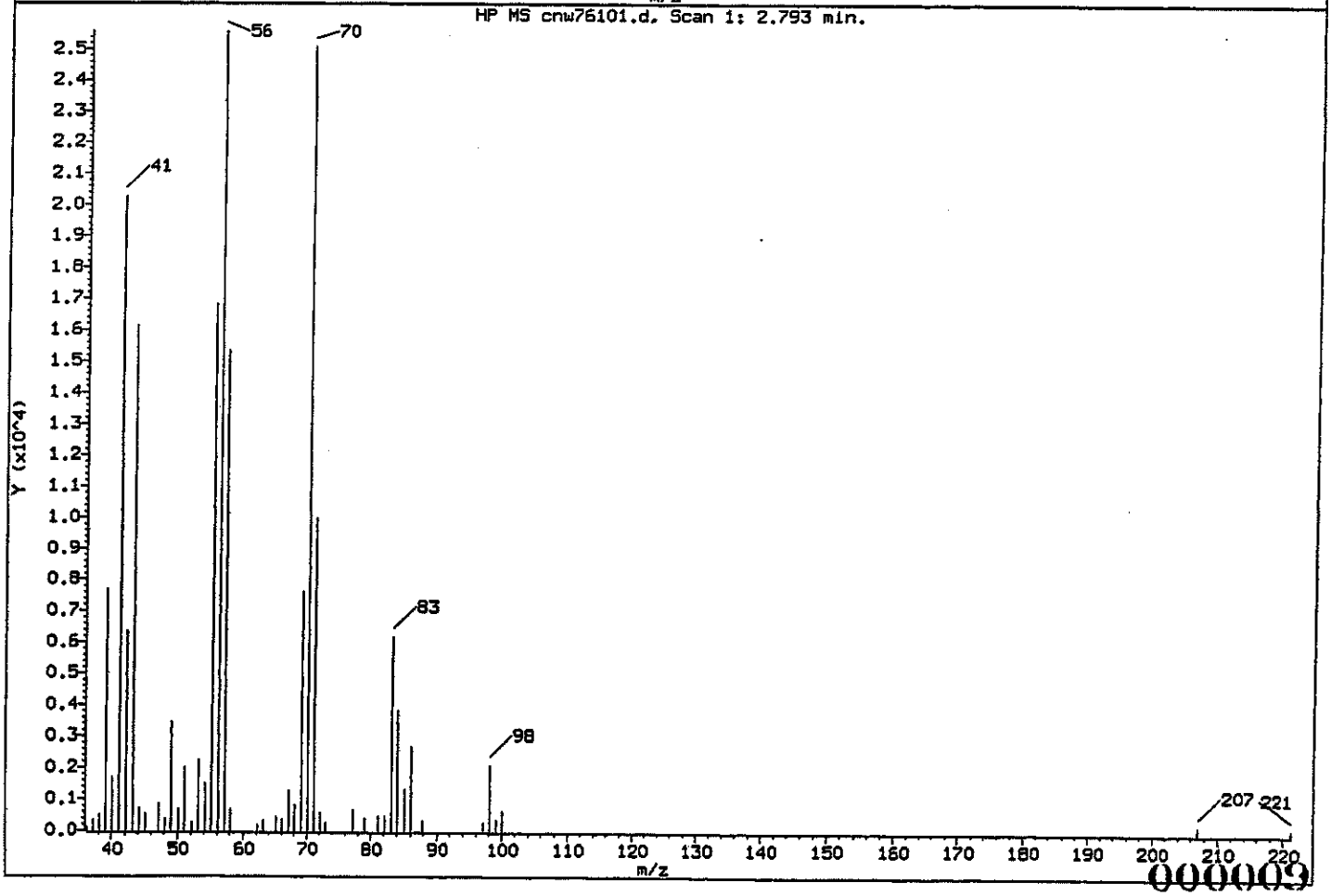
Sample W76101: Presence of AR1016 Confirmed:



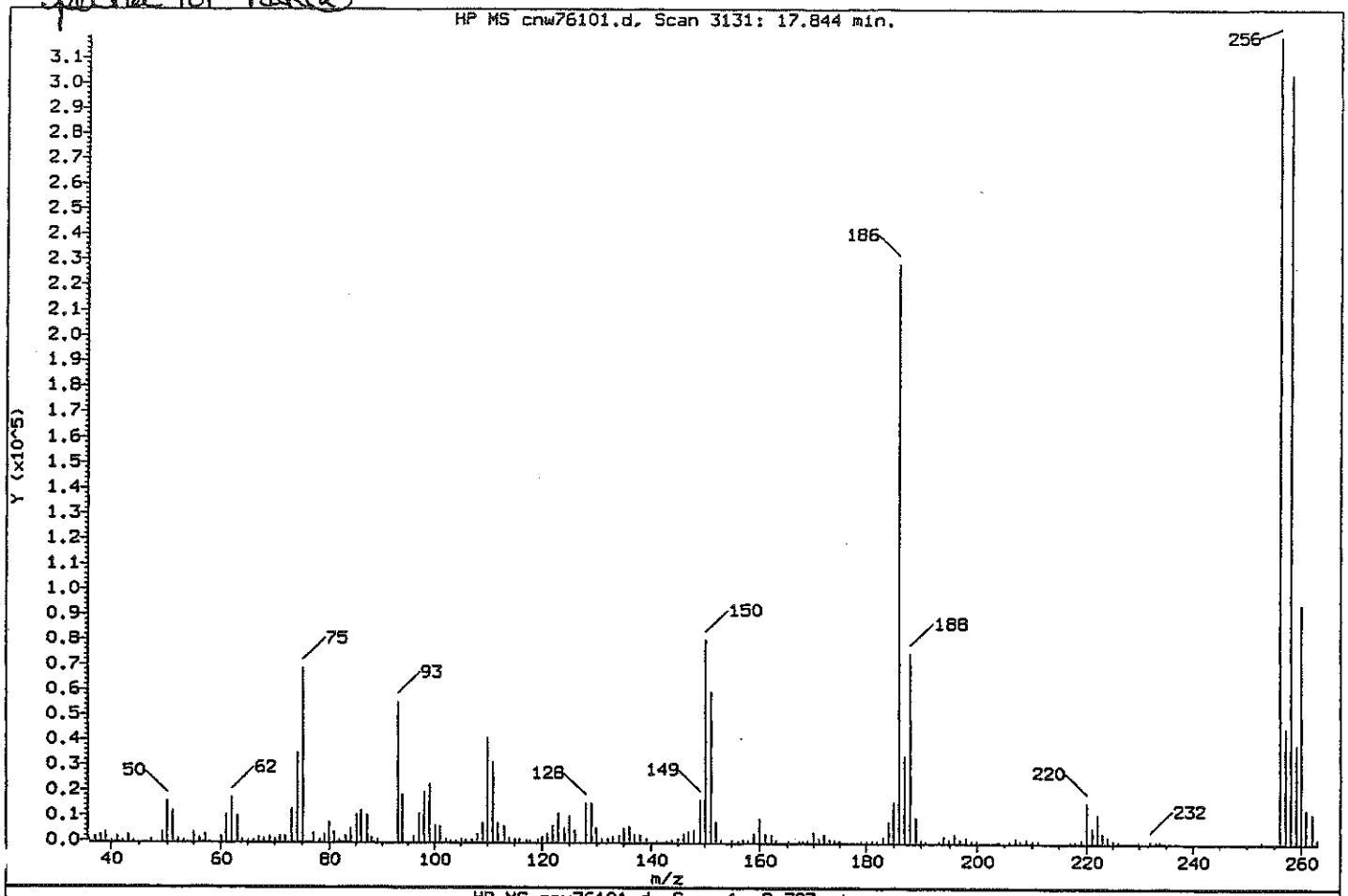
000008

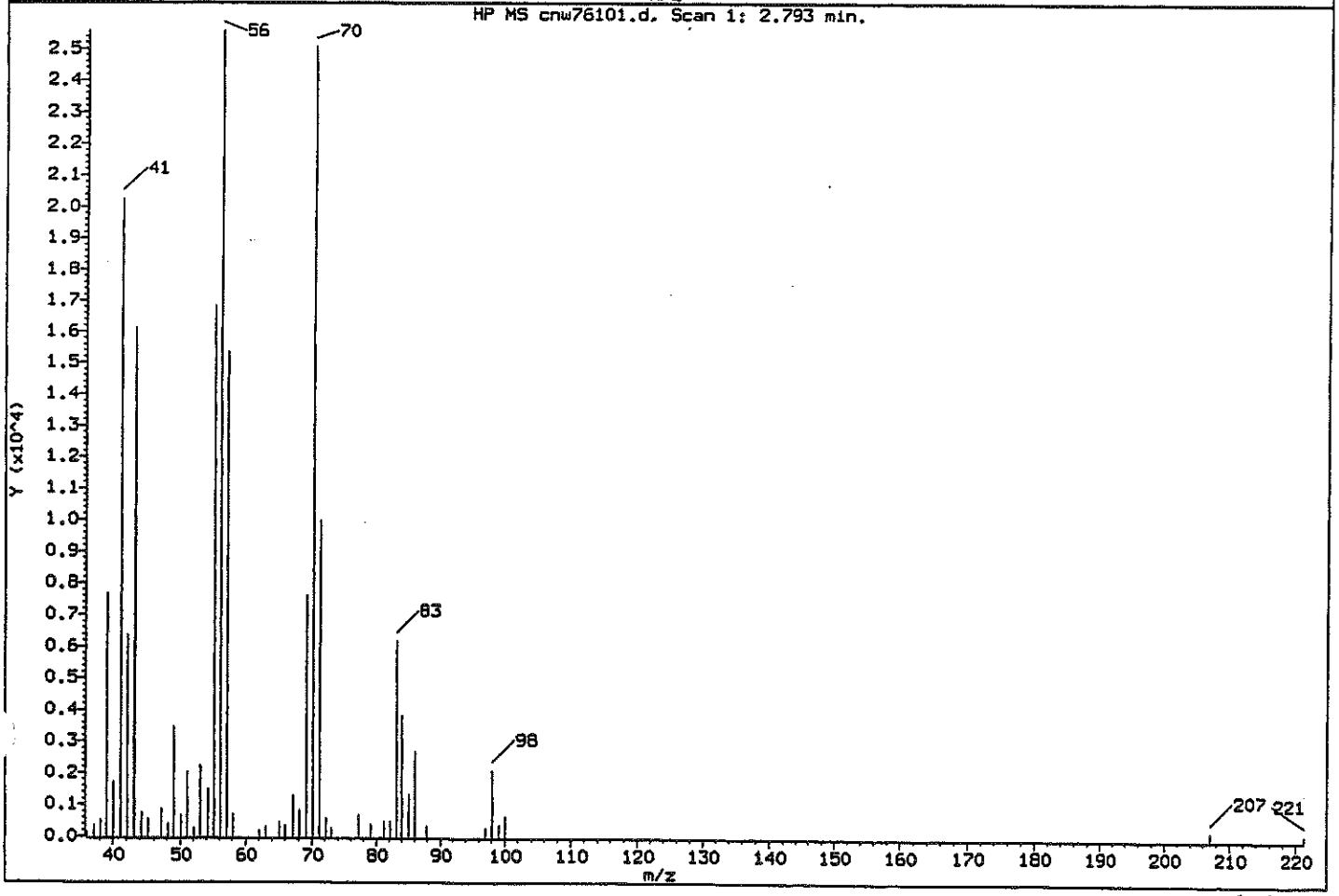
Spectra for Peak (1)



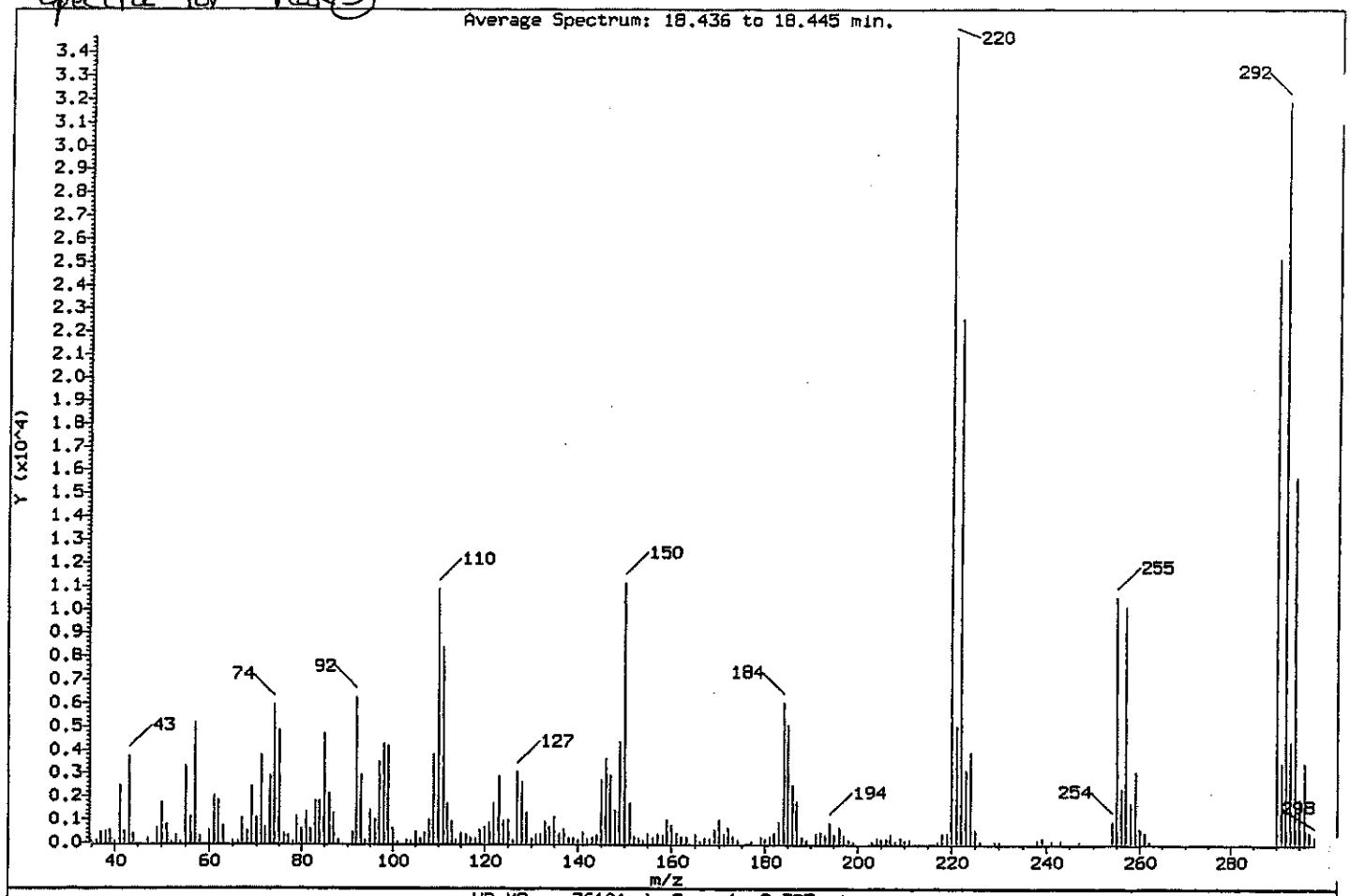


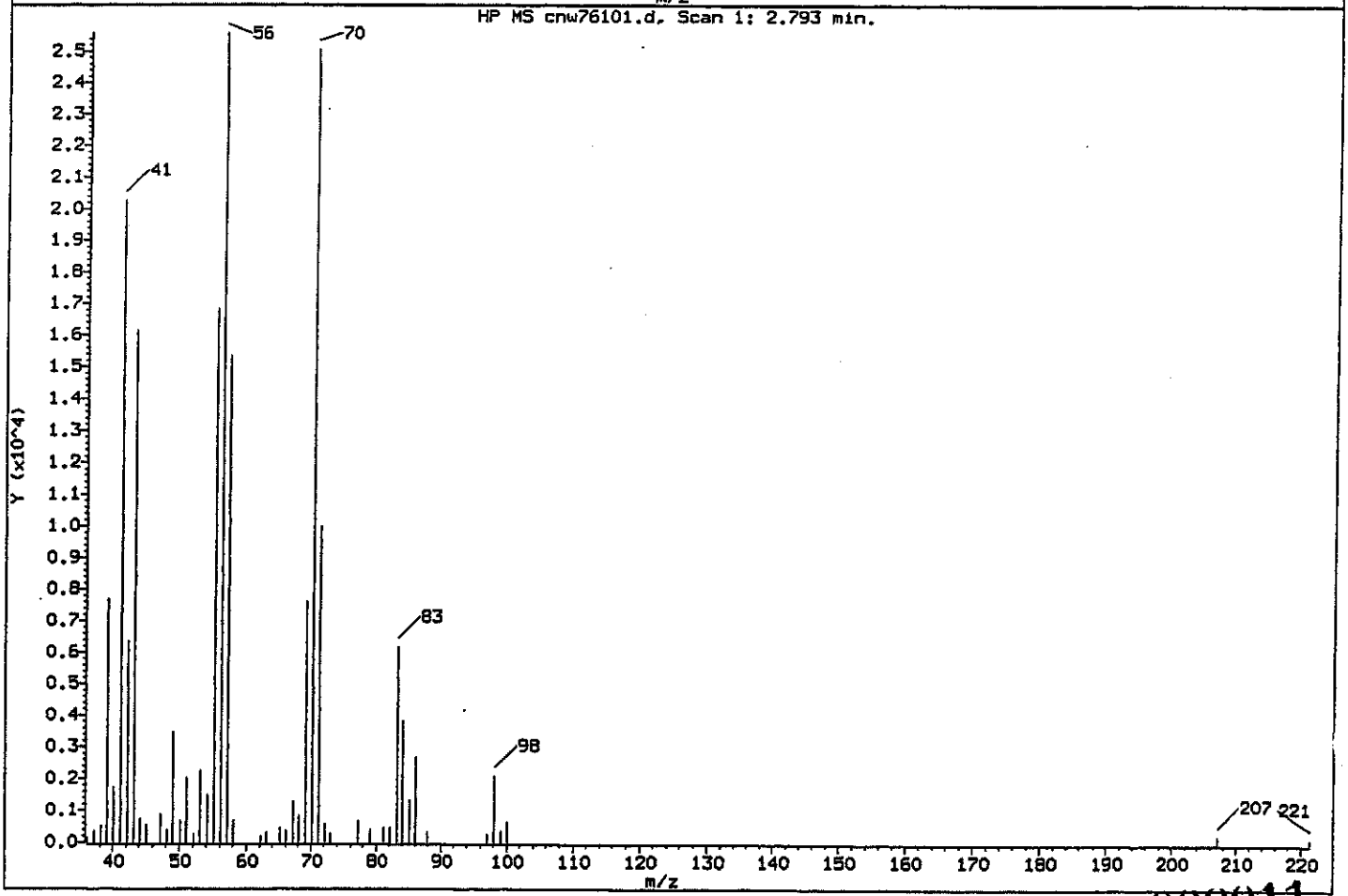
Spectra for Peak (2)





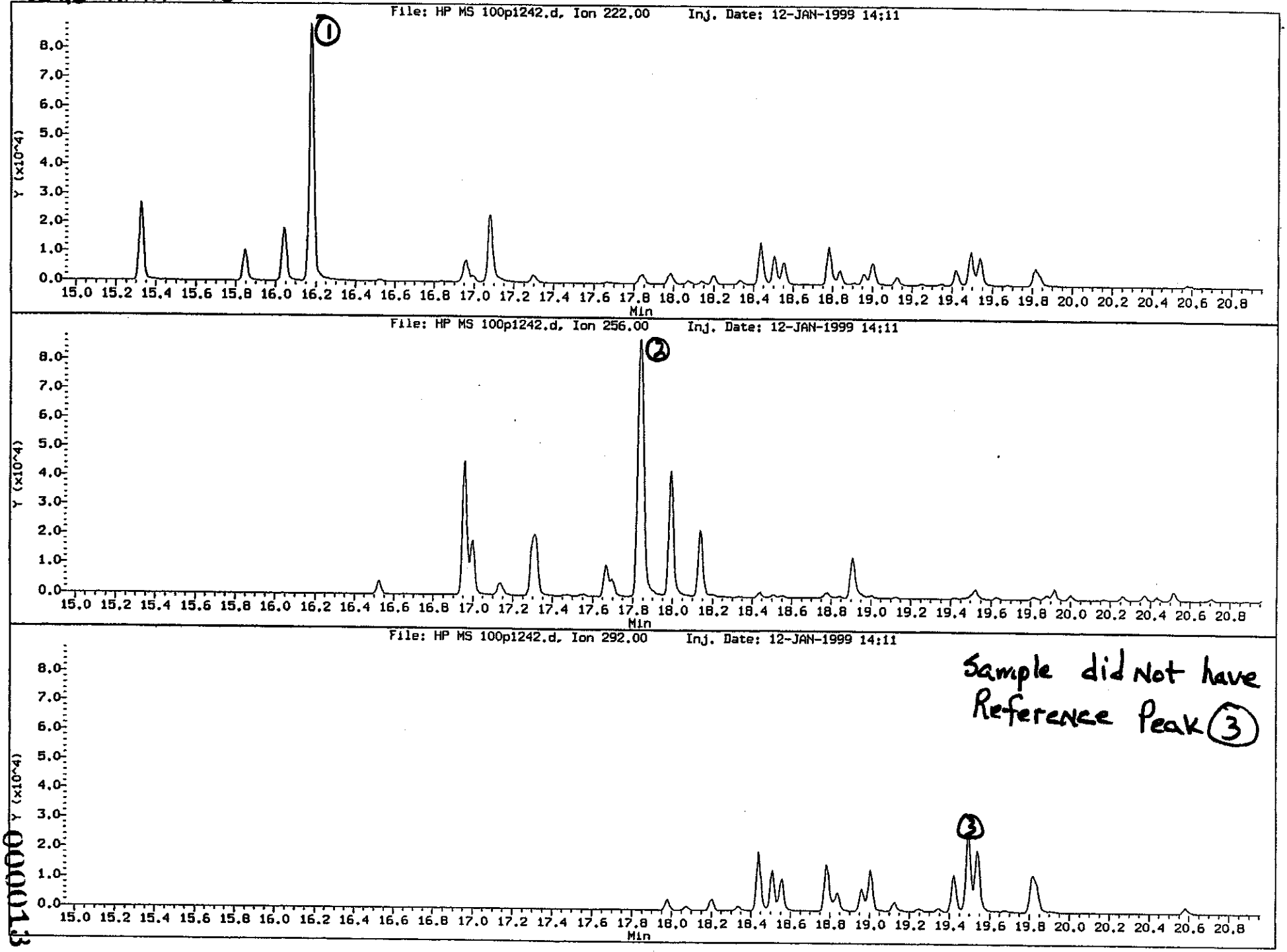
Spectra for Peak (3)





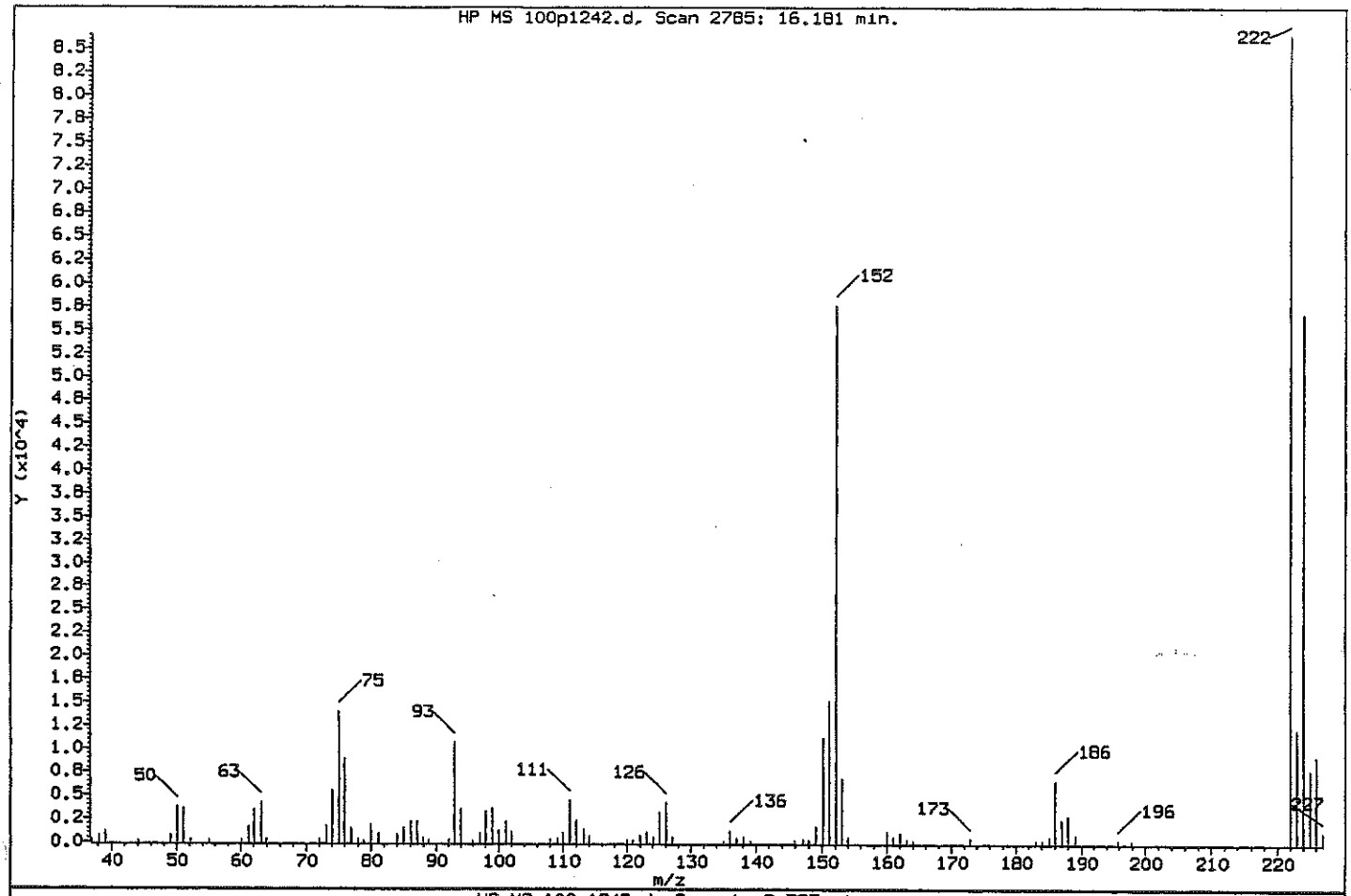
AROCLOR 1242
STANDARD

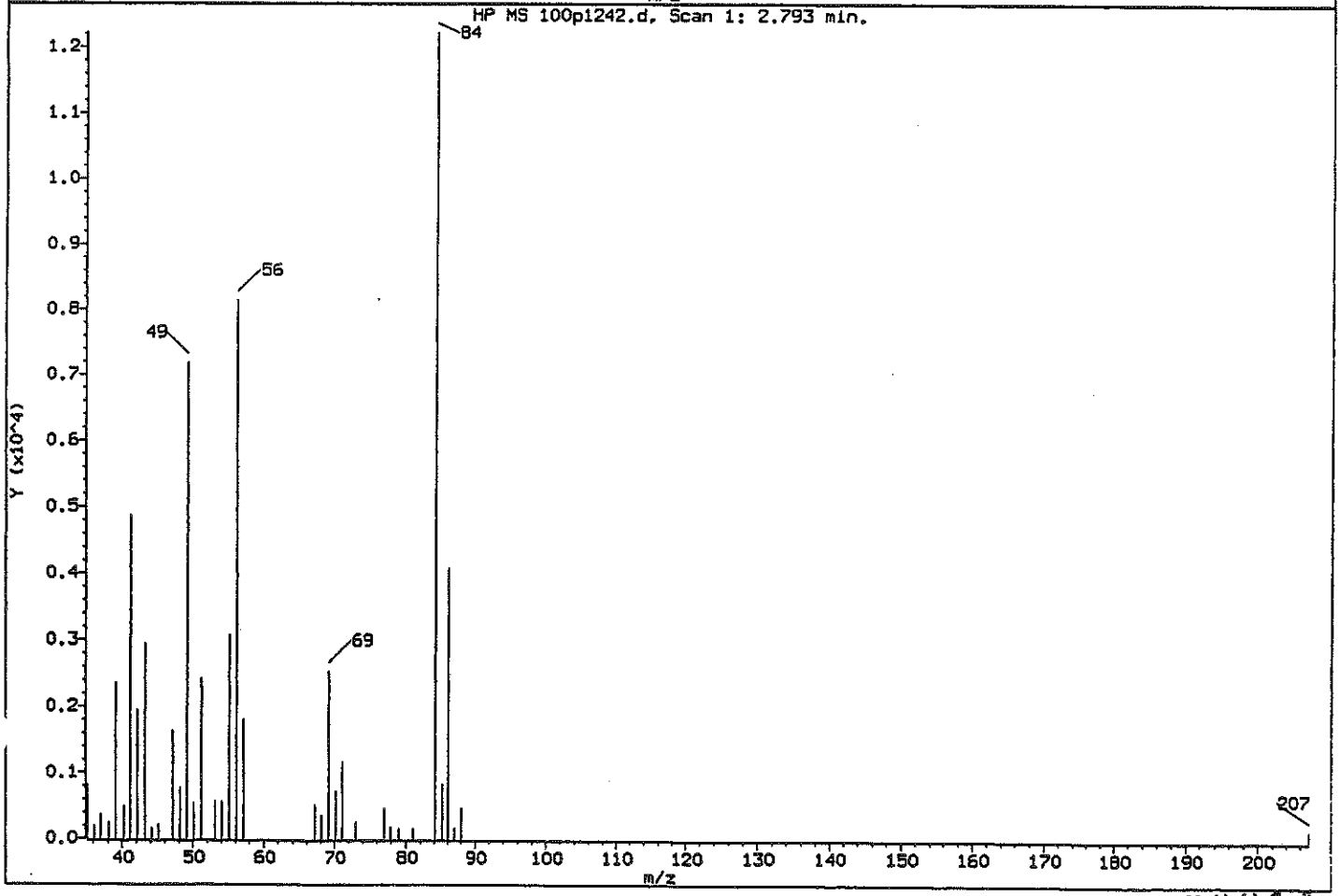
100 NG AR1242 STD

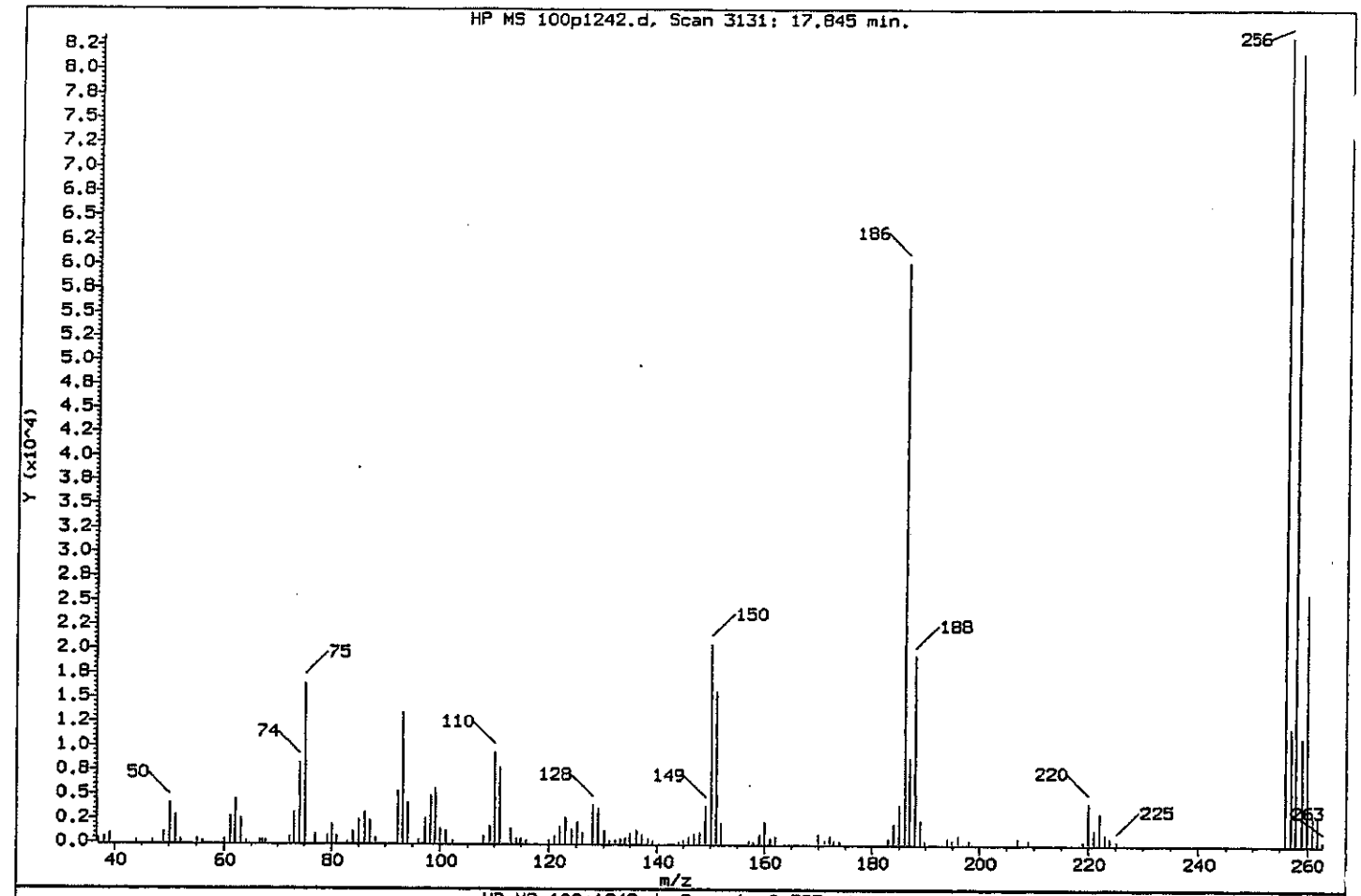


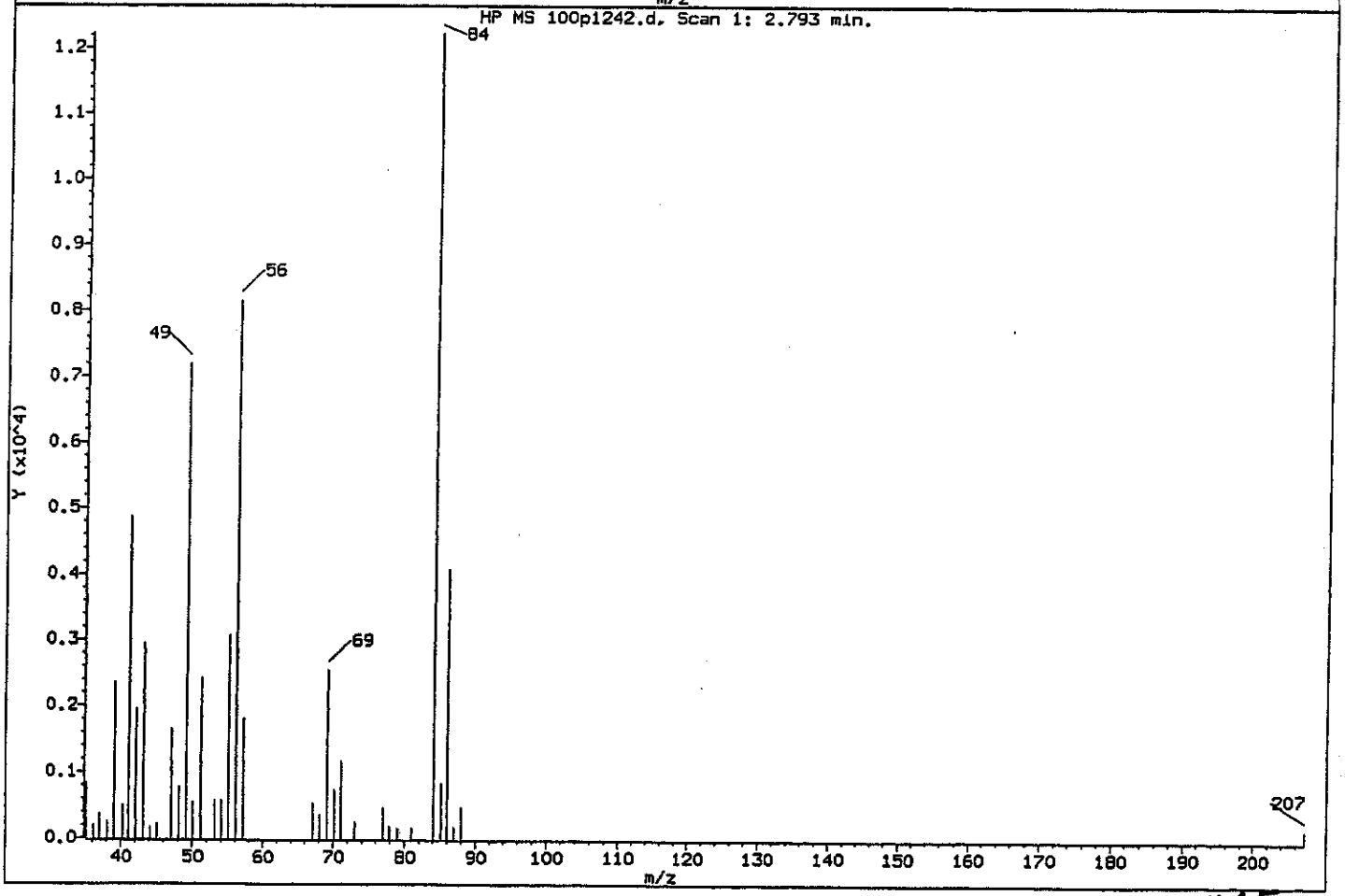
Sample did Not have Reference Peak (3)

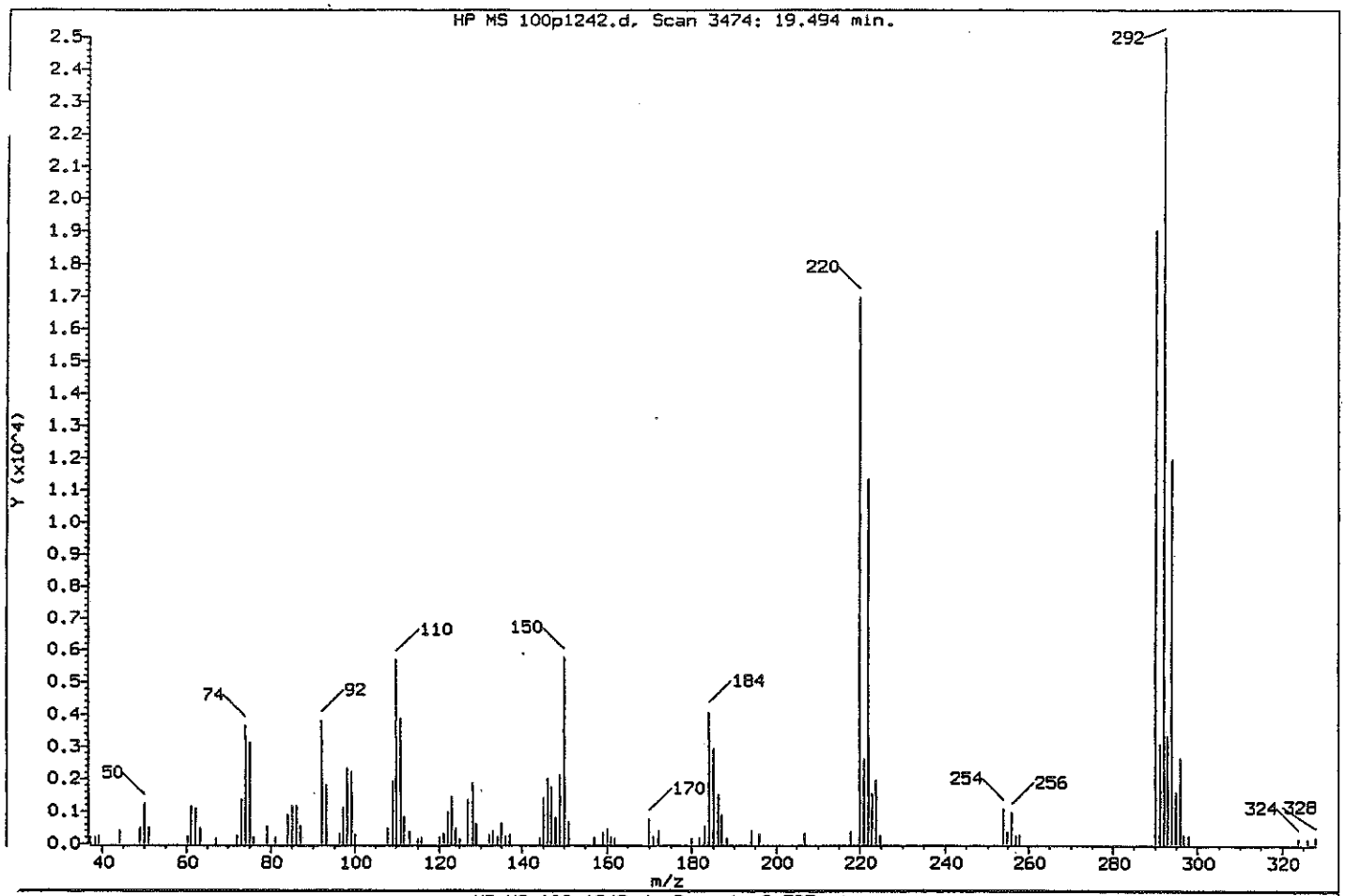
000013


HP MS 100p1242.d, Scan 2785: 16.181 min.
Y (x10^4)
m/z
222
152
75
93
50
63
111
126
136
173
186
196


HP MS 100p1242.d, Scan 1: 2.793 min.
Y (x10^4)
m/z
84
56
49
69
207


HP MS 100p1242.d, Scan 3131: 17.845 min.
Y (x10^4)
m/z
256
186
188
150
75
74
110
50
128
149
220
225
263


HP MS 100p1242.d, Scan 1: 2.793 min.
Y (x10^4)
m/z
84
56
49
69
207


HP MS 100p1242.d, Scan 3474: 19.494 min.
Y (x10^4)
m/z
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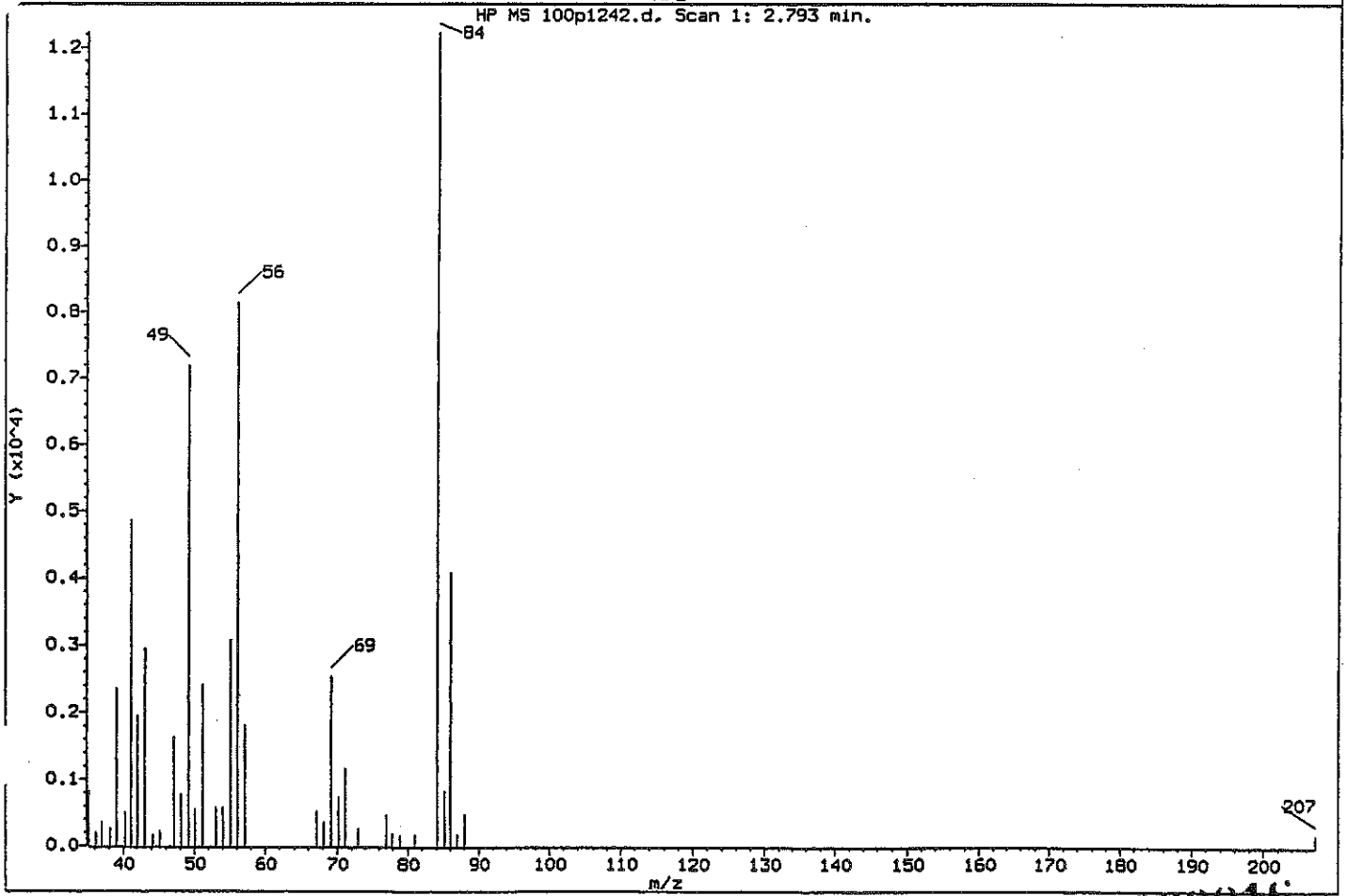
220
110
150
74
92
184
50
170
254
256
324
328


HP MS 100p1242.d, Scan 1: 2.793 min.
Y (x10^4)
m/z
84
56
49
69
207

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

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JAN 18 1999

ANALYTICAL REPORT

RECEIVED

PROJECT NO. 13307

CATERPILLAR

Lot #: A8L030146

Steve Day

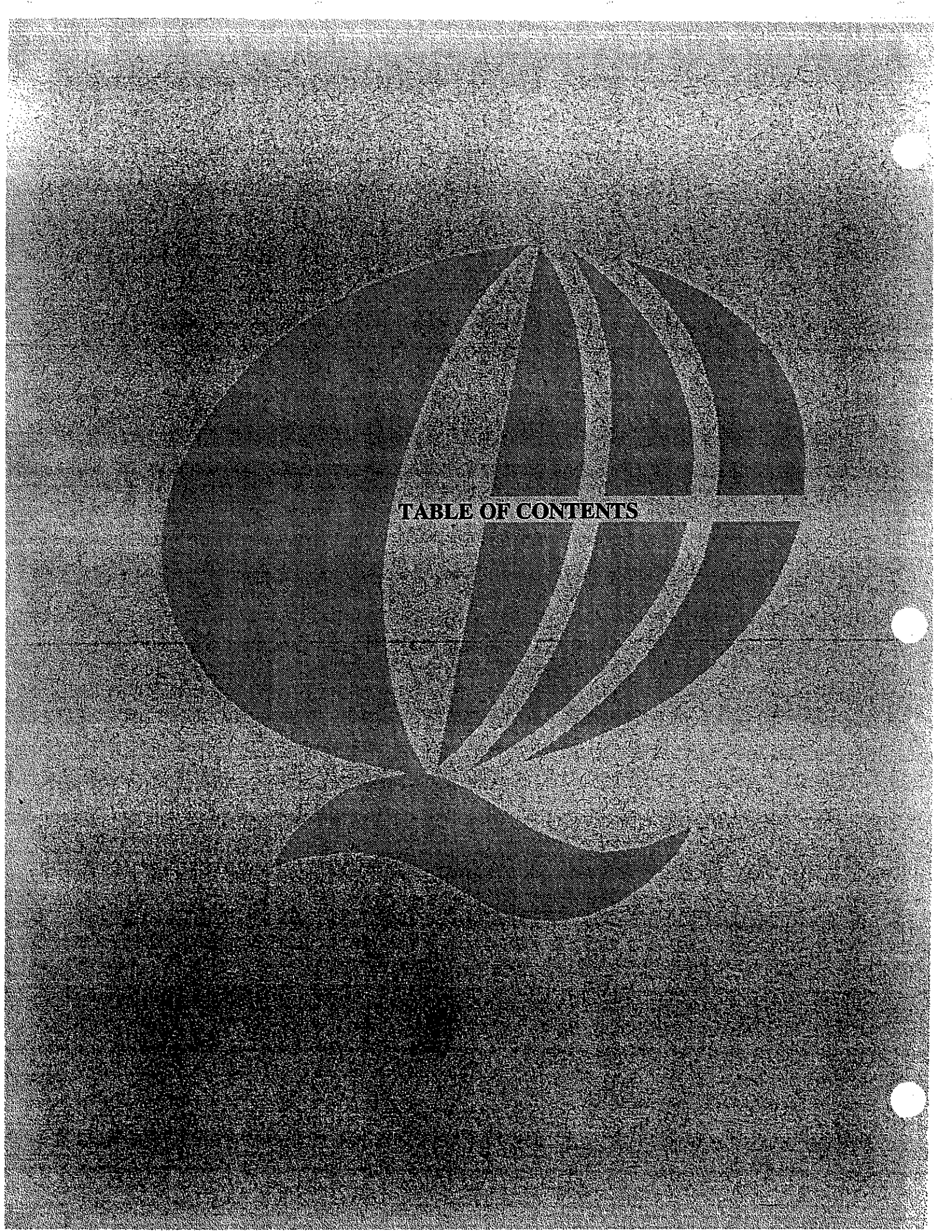
Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick

Amy L. McCormick
Project Manager

January 15, 1999



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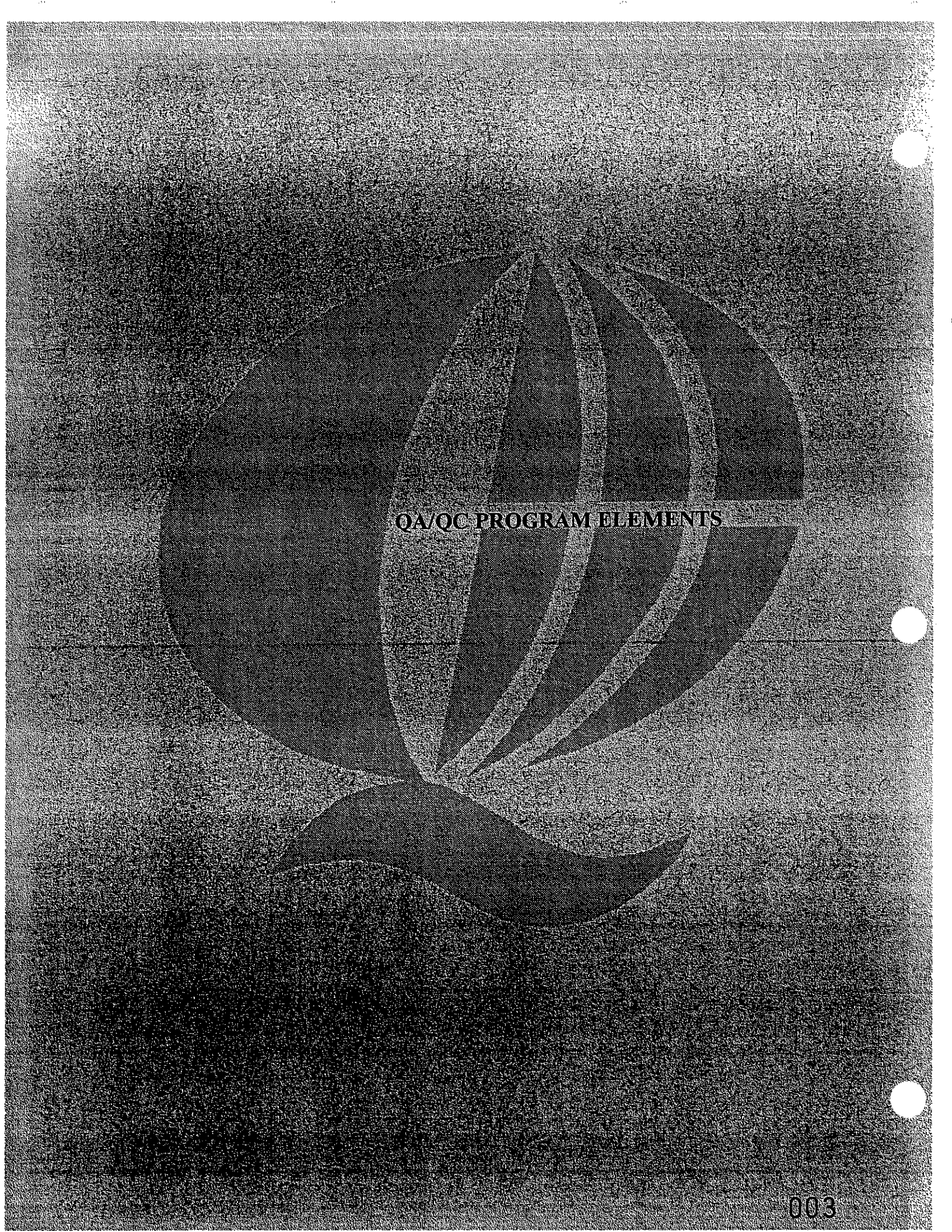
CASE NARRATIVE

CASE NARRATIVE

The following report contains the analytical results for twenty-six solid samples submitted to Quanterra-North Canton by Conestoga-Rovers & Associates, Inc. from the Caterpillar Site, project number 13307. The samples were received December 3, 1998, according to documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Results were provided by facsimile transmission to Steve Day on January 8, 1999. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.


QA/QC PROGRAM ELEMENTS

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

METHOD BLANK (continued)
The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE
A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

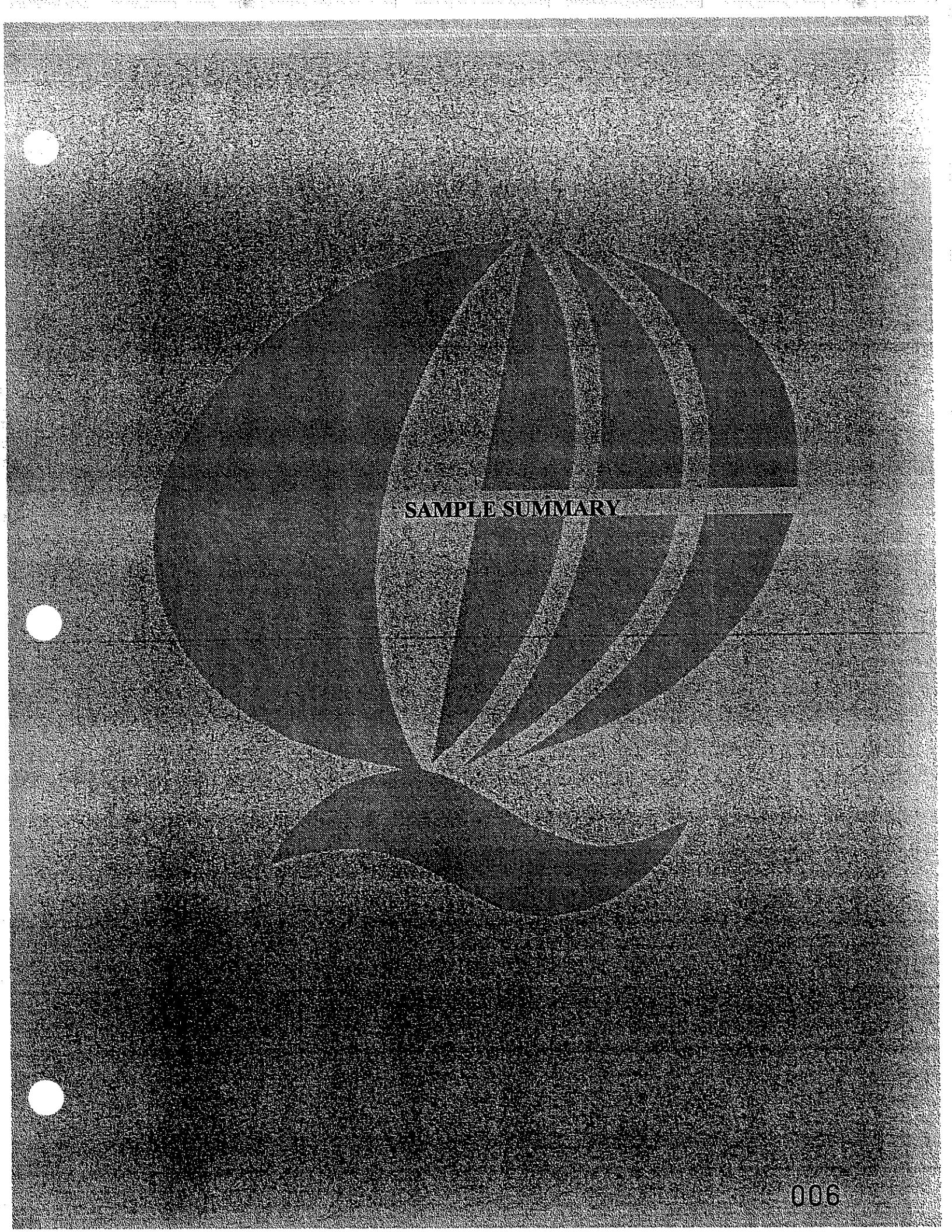
SURROGATE COMPOUNDS
In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. If the dilution is more than 5X, the recoveries will be reported as diluted out. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.


SAMPLE SUMMARY

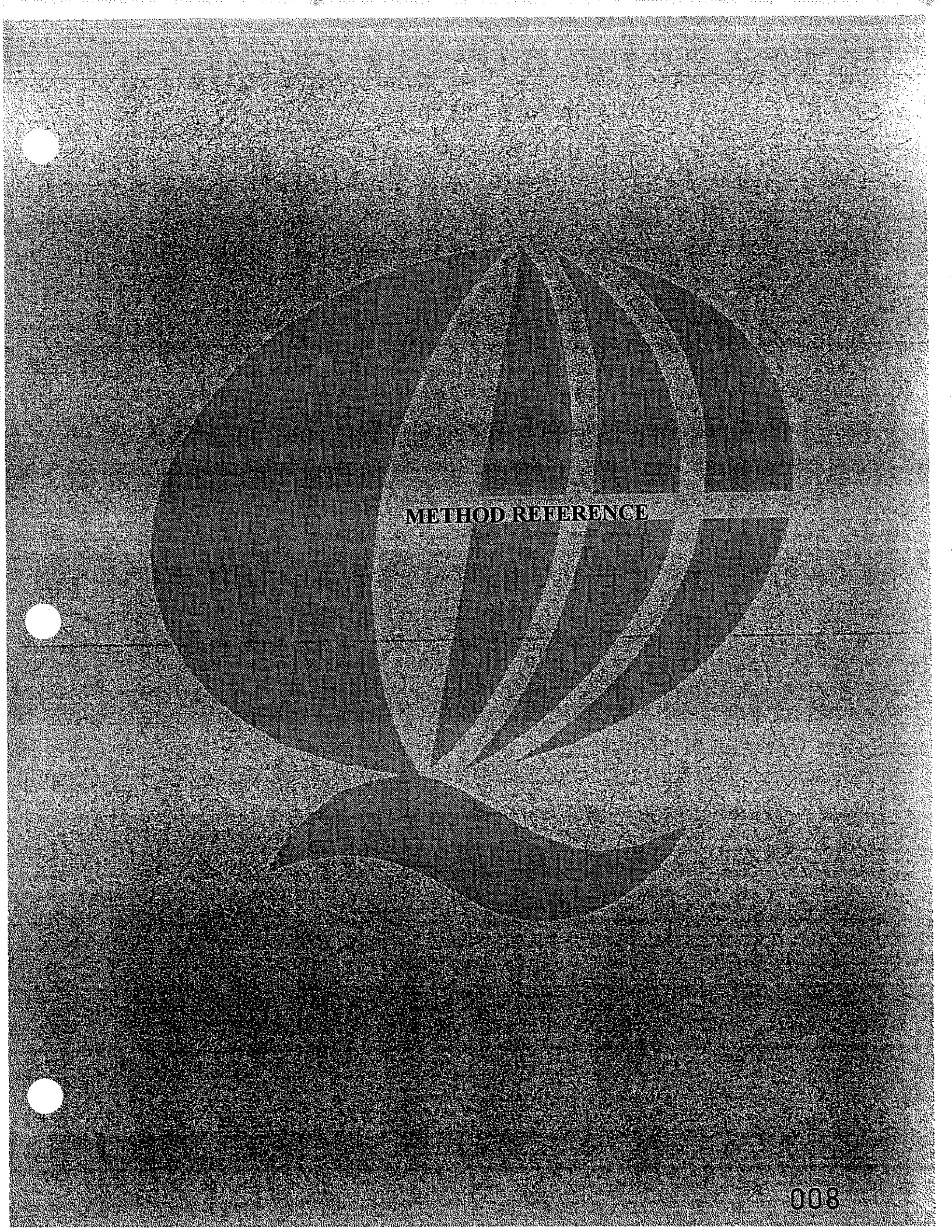
SAMPLE SUMMARY

A8L030146

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CNX9X	001	S-120298-JH-036	12/02/98	
CNXA5	002	S-120298-JH-037	12/02/98	
CNXA6	003	S-120298-JH-038	12/02/98	
CNXAC	004	S-120298-JH-039	12/02/98	
CNXAD	005	S-120298-JH-040	12/02/98	
CNXAG	006	S-120298-JH-041	12/02/98	
CNXAJ	007	S-120298-JH-042	12/02/98	
CNXAL	008	S-120298-JH-043	12/02/98	
CNXAN	009	S-120298-JH-044	12/02/98	
CNXAR	010	S-120298-JH-045	12/02/98	
CNXAT	011	S-120298-JH-046	12/02/98	
CNXAW	012	S-120298-JH-047	12/02/98	
CNXC1	013	S-120298-JH-048	12/02/98	
CNXCD	014	S-120298-JH-049	12/02/98	
CNXCF	015	S-120298-JH-050	12/02/98	
CNXCH	016	S-120298-JH-051	12/02/98	
CNXCL	017	S-120298-JH-052	12/02/98	
CNXCM	018	S-120298-JH-053	12/02/98	
CNXCN	019	S-120298-JH-054	12/02/98	
CNXCP	020	S-120298-JH-055	12/02/98	
CNXCQ	021	S-120298-JH-056	12/02/98	
CNXCR	022	S-120298-JH-057	12/02/98	
CNXD0	023	S-120298-JH-058	12/02/98	
CNXD1	024	S-120298-JH-059	12/02/98	
CNXD2	025	S-120298-JH-060	12/02/98	
CNXD3	026	S-120298-JH-061	12/02/98	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.


METHOD REFERENCE

ANALYTICAL METHODS SUMMARY

A8L030146

PARAMETER	ANALYTICAL METHOD
PCBs	SW846 8082
Total Residue as Percent Solids	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

POLYCHLORINATED BIPHENYLS
QC SUMMARY DATA

SW846 8082 SURROGATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN QESSDG:

Lot #: A8L030146

	CLIENT ID.	SRG01	SRG02	TOT OUT
01	S-120298-JH-039	128D	468D	01
02	S-120298-JH-040	92 D	115D	00
03	S-120298-JH-041	213D	456D	02
04	S-120298-JH-042	439D	992D	02
05	S-120298-JH-043	593D	69 D	01
06	S-120298-JH-044	82	93	00
07	S-120298-JH-045	74	82	00
08	S-120298-JH-046	76	92	00
09	S-120298-JH-047	60	75	00
10	S-120298-JH-049	892D	366D	02
11	S-120298-JH-050	441D	85 D	01
12	S-120298-JH-051	88	104	00
13	S-120298-JH-052	86	108	00
14	S-120298-JH-053	97 D	161D	01
15	S-120298-JH-054	80 D	128D	00
16	S-120298-JH-055	85 D	86 D	00
17	S-120298-JH-056	523D	104D	01
18	S-120298-JH-057	337D	195D	02
19	S-120298-JH-048	78	89	00
20	S-120298-JH-058	85	106	00
21	S-120298-JH-059	592D	598D	02
22	S-120298-JH-060	240D	222D	02
23	S-120298-JH-061	652D	0.0D	02
24	INTRA-LAB QC	108	107	00
25	METHOD BLK. CP08N101	91	99	00
26	METHOD BLK. CP35A101	103	109	00
27	LCS CP08N102	91	105	00

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8082 SURROGATE RECOVERY

Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN QESSDG:

Lot #: A8L030146

	CLIENT ID.	SRG01	SRG02	TOT OUT
01	LCS CP35A102	108	113	00
02	LAB MS/MSD D	98	104	00
03	LCSD CP08N103	77	92	00
04	LAB MS/MSD S	59	98	00
05	S-120298-JH-037	141D	279D	02
06	S-120298-JH-038	141D	347D	02
07	S-120298-JH-036	80 D	140D	01
08	METHOD BLK. CP07R101	89	94	00
09	LCS CP07R102	94	107	00
10	LCSD CP07R103	86	92	00

SURROGATES		QC LIMITS
SRG01	= Tetrachloro-m-xylene	(10-129)
SRG02	= Decachlorobiphenyl	(10-138)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

SW846 8082 CHECK SAMPLE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L040000 WO #: CP07R102
BATCH: 8338112

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	270	81	60 - 133	
Aroclor 1260	330	310	92	59 - 129	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 CHECK SAMPLE DUPLICATE RECOVERY

I Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L040000 WO #: CP07R103
BATCH: 8338112

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	260	77	60 - 133	
Aroclor 1260	330	280	84	59 - 129	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 CHECK SAMPLE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L040000 WO #: CP08N102
BATCH: 8338126

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	250	76	60 - 133	
Aroclor 1260	330	300	91	59 - 129	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 CHECK SAMPLE DUPLICATE RECOVERY

I Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L040000 WO #: CP08N103
BATCH: 8338126

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	230	68	60- 133	
Aroclor 1260	330	270	81	59- 129	

NOTES(S):

* Values outside of QC limits

ke Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 CHECK SAMPLE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A8L080000 WO #: CP35A102
BATCH: 8342110

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	310	92	60 - 133	
Aroclor 1260	330	340	101	59 - 129	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Matrix Spike ID: LAB MS/MSD Level: (low/med) LOW

Lot #: A8L040127 WO #: CP0TA10F
BATCH: 8342110

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
Aroclor 1016	330	ND	310	93	44 - 139	
Aroclor 1260	330	ND	270	82	44 - 139	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Matrix Spike ID: LAB MS/MSD Level:(low/med) LOW

Lot #: A8L040127 WO #: CP0TA10G
BATCH: 8342110

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
Aroclor 1016	330	290	86	7.2	28	44 - 139	
Aroclor 1260	330	350	106	26	28	44 - 139	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 2 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 METHOD BLANK SUMMARY

BLANK WORKORDER NO.: CP07R101

I Name: QUANTERRA

Lab Code: QESCAN

SDG Number:

Lab File ID: 040f0101.

Lot Number: A8L030146

Matrix: SOLID

Extraction Method: 3550

Date Extracted: 12/04/98

Date Analyzed(1): 12/17/98

Date Analyzed(2): N/A

Time Analyzed(1): 08:20

Time Analyzed(2): N/A

Instrument ID(1): K

Instrument ID(2): N/A

GC Column(1): N/A ID: N/A GC Column(2): N/A ID: N/A

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

	CLIENT ID.	SAMPLE WORK ORDER #	DATE ANALYZED(1)	DATE ANALYZED(2)
01	S-120298-JH-037	CNXA5101	12/17/98	N/A
02	S-120298-JH-038	CNXA6101	12/17/98	N/A
03	S-120298-JH-036	CNX9X101	12/17/98	N/A
04	LCS CHECK SAMPLE	CP07R102 C	12/17/98	N/A
05	DUPLICATE CHECK	CP07R103 L	12/17/98	N/A
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

COMMENTS:

SW846 8082 METHOD BLANK SUMMARY

BLANK WORKORDER NO.: CP08N101

Lab Name: QUANTERRA

Lab Code: QESCAN

SDG Number:

Lab File ID: 046f0101.

Lot Number: A8L030146

Matrix: SOLID

Extraction Method: 3550

Date Extracted: 12/04/98

Date Analyzed(1): 12/22/98

Date Analyzed(2): N/A

Time Analyzed(1): 06:32

Time Analyzed(2): N/A

Instrument ID(1): K

Instrument ID(2): N/A

GC Column(1): N/A ID: N/A GC Column(2): N/A ID: N/A

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

	CLIENT ID.	SAMPLE WORK ORDER #	DATE ANALYZED(1)	DATE ANALYZED(2)
01	S-120298-JH-039	CNXAC101	12/23/98	N/A
02	S-120298-JH-040	CNXAD101	12/22/98	N/A
03	S-120298-JH-041	CNXAG101	12/23/98	N/A
04	S-120298-JH-042	CNXAJ101	12/22/98	N/A
05	S-120298-JH-043	CNXAL101	12/22/98	N/A
06	S-120298-JH-044	CNXAN101	12/22/98	N/A
07	S-120298-JH-045	CNXAR101	12/22/98	N/A
08	S-120298-JH-046	CNXAT101	12/22/98	N/A
09	S-120298-JH-047	CNXAW101	12/22/98	N/A
10	S-120298-JH-049	CNXCD101	12/22/98	N/A
11	S-120298-JH-050	CNXCF101	12/22/98	N/A
12	S-120298-JH-051	CNXCH101	12/22/98	N/A
13	S-120298-JH-052	CNXCL101	12/22/98	N/A
14	S-120298-JH-053	CNXCM101	12/22/98	N/A
15	S-120298-JH-054	CNXCN101	12/22/98	N/A
16	S-120298-JH-055	CNXCP101	12/22/98	N/A
17	S-120298-JH-056	CNXCQ101	12/22/98	N/A
18	S-120298-JH-057	CNXCR101	12/22/98	N/A
19	S-120298-JH-048	CNXC1101	12/22/98	N/A
20	S-120298-JH-058	CNXD0101	12/22/98	N/A
21	CHECK SAMPLE	CP08N102 C	12/22/98	N/A
22	DUPLICATE CHECK	CP08N103 L	12/22/98	N/A

COMMENTS:

BLANK WORKORDER NO.

CP35A101

SW846 8082 METHOD BLANK SUMMARY

L Name: QUANTERRA

Lab Code: QESCAN

SDG Number:

Lab File ID: 066f0101.

Lot Number: A8L030146

Matrix: SOLID

Extraction Method: 3550

Date Extracted: 12/08/98

Date Analyzed(1): 12/15/98

Date Analyzed(2): N/A

Time Analyzed(1): 13:56

Time Analyzed(2): N/A

Instrument ID(1): K

Instrument ID(2): N/A

GC Column(1): N/A ID: N/A GC Column(2): N/A ID: N/A

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

	CLIENT ID.	SAMPLE WORK ORDER #	DATE ANALYZED(1)	DATE ANALYZED(2)
01	S-120298-JH-059	CNXD1101	12/15/98	N/A
02	S-120298-JH-060	CNXD2101	12/15/98	N/A
03	-120298-JH-061	CNXD3101	12/17/98	N/A
04	LAB MS/MSD	CP0TA10F S	12/15/98	N/A
05	LAB MS/MSD	CP0TA10G D	12/15/98	N/A
06	INTRA-LAB QC	CP0TA101	12/15/98	N/A
07	CHECK SAMPLE	CP35A102 C	12/15/98	N/A
08				
09				
10				
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12				
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15				
16				
17				
18				
19				
20				

COMMENTS:

POLYCHLORINATED BIPHENYLS
SAMPLE DATA

CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 001

Sample WT/Vol: 30 / g
Work Order: CNX9X101
Dilution factor: 5
Moisture %:6.4

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120298-JH-036

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	**Aroclor 1016**	**430**	
11104-28-2	Aroclor 1221	180	U
11141-16-5	Aroclor 1232	180	U
53469-21-9	Aroclor 1242	180	U
12672-29-6	Aroclor 1248	180	U
11097-69-1	Aroclor 1254	180	U
11096-82-5	Aroclor 1260	180	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/048f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/048f0101.d
Lab Smp Id: CNX9X101 Client Smp ID: S-120298-JH-036
Inj Date : 17-DEC-1998 11:08
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNX9X101,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 5.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	5.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.272	4.272	0.000	5232	0.00319	5.317	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.803	4.802	0.001	4522	0.14593	243.2	80.00- 120.00	30.12 (M)
	5.347	5.347	0.000	9050	0.16754	279.2	125.29- 208.81	60.27
	6.105	6.105	0.000	15966	0.19044	317.4	207.30- 345.49	106.33
	6.442	6.442	0.000	7498	0.21902	365.0	84.66- 141.09	49.94
	6.640	6.642	-0.002	17680	0.49650	827.5	81.88- 136.47	117.75
Average of Peak Concentrations =						406.5		
7 AROCLOR-1254						CAS #: 11097-69-1		
	9.027	9.027	0.000	9005	0.09279	154.6	200.11- 333.51	21.00
	9.587	9.588	-0.001	6435	0.09218	153.6	146.07- 243.45	15.01
	9.993	9.967	0.026	5109	0.09299	155.0	109.33- 182.22	11.92

PCBs are degraded

MCAL

Data File: /chem/can/gcs/a2hpk.i/81216a.b/048f0101.d
Report Date: 17-Dec-1998 13:22

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
7 AROCLOR-1254 (continued)							
10.498	10.547	-0.049	5893	0.07489	124.8	155.51- 259.19	13.74
Average of Peak Concentrations =					147.0		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	7381	0.00560	9.330	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81216a.b/048f0101.d

Date : 17-DEC-1998 11:08

Client ID: S-120298-JH-036

Instrument: a2hpk.i

Sample Info: CNX9X101,5

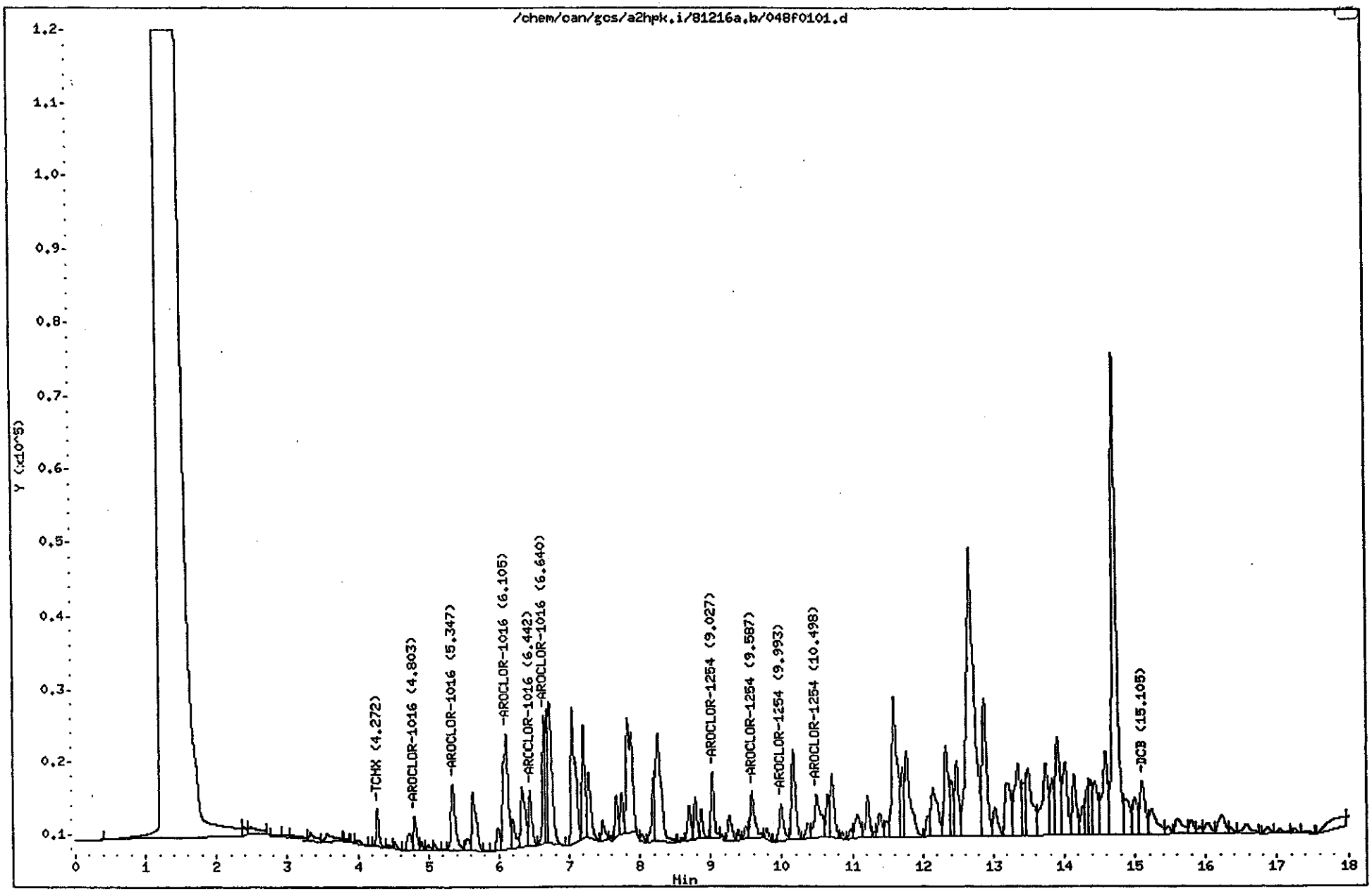
Volume Injected (uL): 1.0

Operator: 1808

Column phase: RTX-CLP PESTICIDES

Column diameter: 0.32

027



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 002

Sample WT/Vol: 30 / g
Work Order: CNXA5101
Dilution factor: 1000
Moisture %:7.1

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120298-JH-037

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	58000	
11104-28-2	Aroclor 1221	36000	U
11141-16-5	Aroclor 1232	36000	U
53469-21-9	Aroclor 1242	36000	U
12672-29-6	Aroclor 1248	36000	U
11097-69-1	Aroclor 1254	36000	U
11096-82-5	Aroclor 1260	36000	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/046f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/046f0101.d
Lab Smp Id: CNXA5101 Client Smp ID: S-120298-JH-037
Inj Date : 17-DEC-1998 10:26
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXA5101,1000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

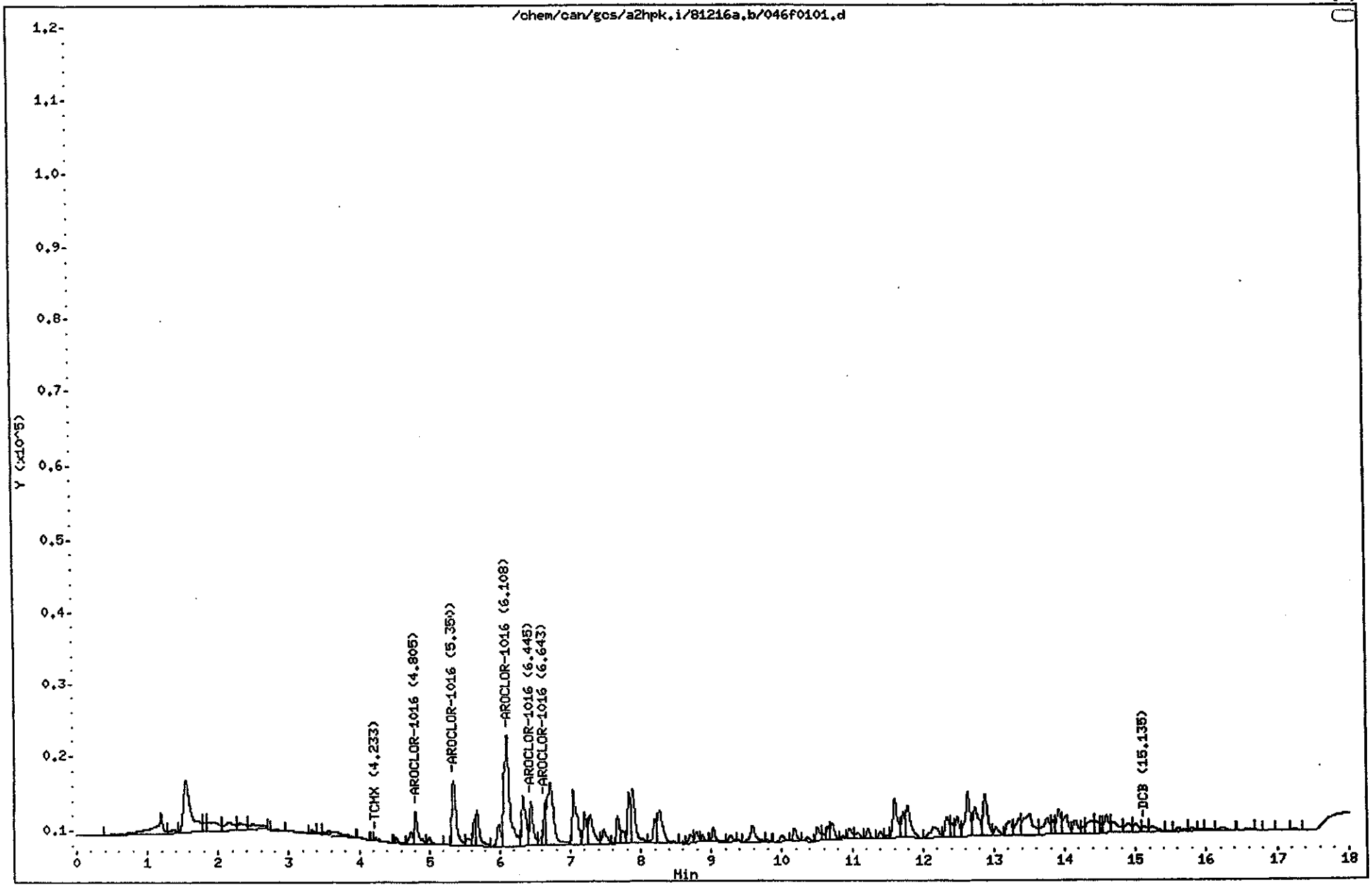
				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.233	4.272	-0.039	464	0.000283	94.31	80.00- 120.00	100.00(R)
3 AROCLOR-1016					CAS #: 12674-11-2		
4.805	4.802	0.003	4199	0.13551	45170	80.00- 120.00	27.11(M)
5.350	5.347	0.003	8687	0.16082	53600	125.29- 208.81	56.08
6.108	6.105	0.003	14901	0.17774	59250	207.30- 345.49	96.20
6.445	6.442	0.003	5834	0.17041	56800	84.66- 141.09	37.66
6.643	6.642	0.001	5677	0.15942	53140	81.88- 136.47	36.65
Average of Peak Concentrations =					53590		
$ 9 DCB					CAS #: 2051-24-3		
15.135	15.105	0.030	737	0.000559	186.3	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81216a.b/046f0101.d
Report Date: 17-Dec-1998 13:22

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

D ile: /chem/can/gcs/a2hpk.i/81216a.b/046f0101.d
Da ; 17-DEC-1998 10:26
Client ID: S-120298-JH-037
Instrument: a2hpk.i
Sample Info: CNXA5101,1000
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 003

Sample WT/Vol: 30 / g
Work Order: CNXA6101
Dilution factor: 100
Moisture %:8.5

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: S-120298-JH-038

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	7700	
11104-28-2	Aroclor 1221	3600	U
11141-16-5	Aroclor 1232	3600	U
53469-21-9	Aroclor 1242	3600	U
12672-29-6	Aroclor 1248	3600	U
11097-69-1	Aroclor 1254	3600	U
11096-82-5	Aroclor 1260	3600	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/047f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/047f0101.d
Lab Smp Id: CNXA6101 Client Smp ID: S-120298-JH-038
Inj Date : 17-DEC-1998 10:47
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXA6101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

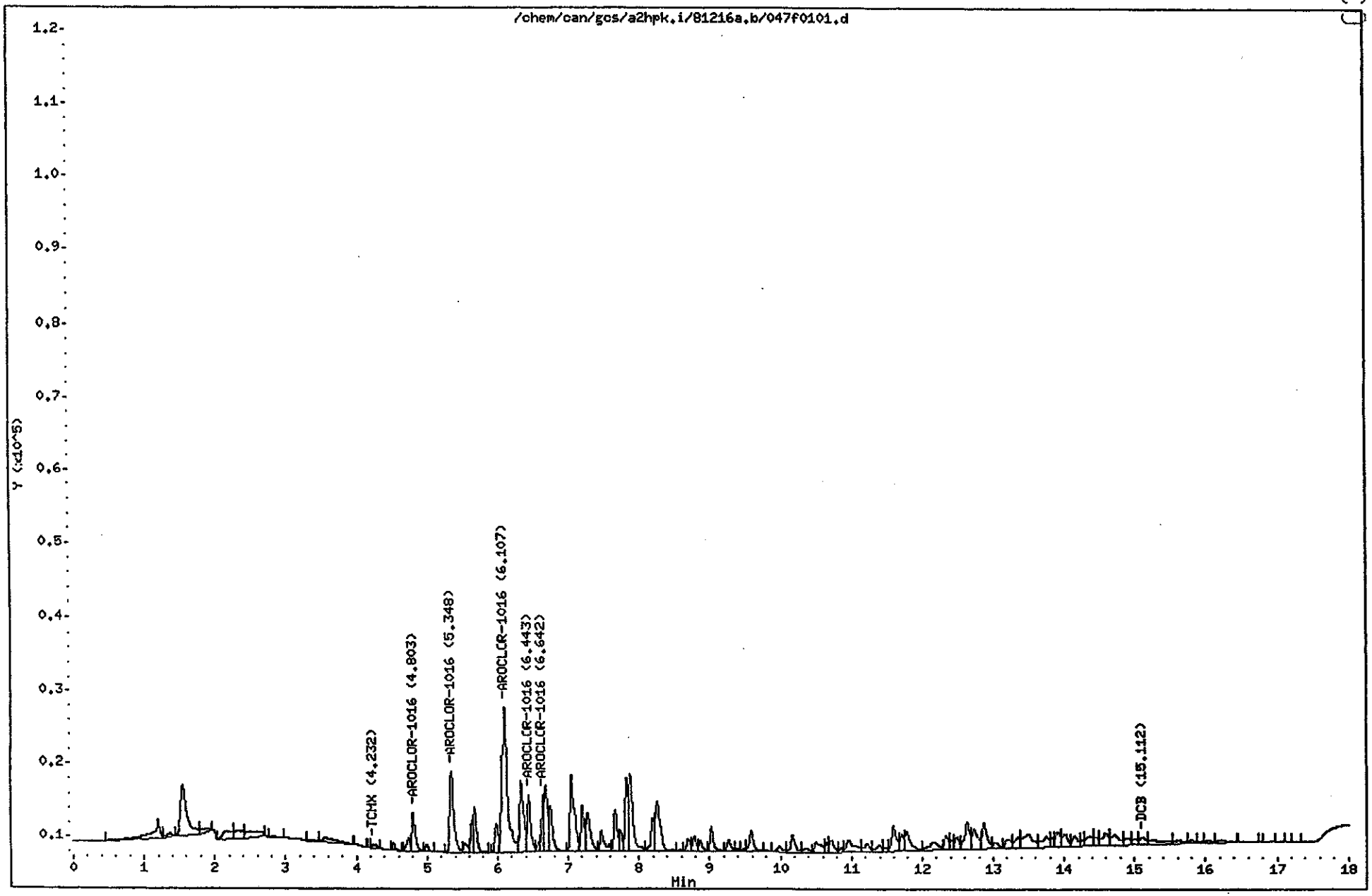
				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.232	4.272	-0.040	461	0.000281	9.370	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.803	4.802	0.001	5243	0.16920	5640	80.00- 120.00	29.81(M)
5.348	5.347	0.001	10929	0.20232	6744	125.29- 208.81	62.13
6.107	6.105	0.002	19810	0.23630	7876	207.30- 345.49	112.62
6.443	6.442	0.001	7792	0.22760	7587	84.66- 141.09	44.30
6.642	6.642	0.000	7819	0.21958	7319	81.88- 136.47	44.45
Average of Peak Concentrations =					7033		
$ 9 DCB					CAS #: 2051-24-3		
15.112	15.105	0.007	915	0.000694	23.13	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81216a.b/047f0101.d
Report Date: 17-Dec-1998 13:22

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

D ile: /chem/can/gcs/a2hpk.i/81216a.b/047f0101.d
Da . 17-DEC-1998 10:47
Client ID: S-120298-JH-038
Instrument: a2hpk.i
Sample Info: CNXA6101,100
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name: QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID: A8L030146 004

Sample WT/Vol: 30.05 / g
Work Order: CNXAC101
Dilution factor: 100
Moisture %: 9.2

Date Received: 12/03/98
Date Extracted: 12/04/98
Date Analyzed: 12/23/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-039

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3600	U
11104-28-2	Aroclor 1221	3600	U
11141-16-5	Aroclor 1232	3600	U
53469-21-9	**Aroclor 1242**	**10000**	
12672-29-6	Aroclor 1248	3600	U
11097-69-1	Aroclor 1254	3600	U
11096-82-5	Aroclor 1260	3600	U

Data File: /chem/can/gcs/a2hpk.i/81223c.b/014f0101.d
Report Date: 26-Dec-1998 15:33

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81223c.b/014f0101.d
Lab Smp Id: CNXAC101 Client Smp ID: S-120298-JH-039
Inj Date : 23-DEC-1998 20:30
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAC101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 24-Dec-1998 13:05 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.050	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.377	4.292	0.085	420	0.000256	8.522	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.830	4.830	0.000	5466	0.20546	6837	80.00- 120.00	25.61(M)
	5.380	5.378	0.002	13203	0.29474	9808	127.14- 211.90	61.86
	6.147	6.145	0.002	21625	0.32442	10800	190.79- 317.98	101.31
	6.375	6.373	0.002	9472	0.25148	8369	108.39- 180.65	44.38
	6.487	6.487	0.000	8289	0.30937	10300	78.46- 130.76	38.83
Average of Peak Concentrations =						9221		
$ 9 DCB						CAS #: 2051-24-3		
	15.223	15.192	0.031	1233	0.000935	31.12	80.00- 120.00	100.00(R)

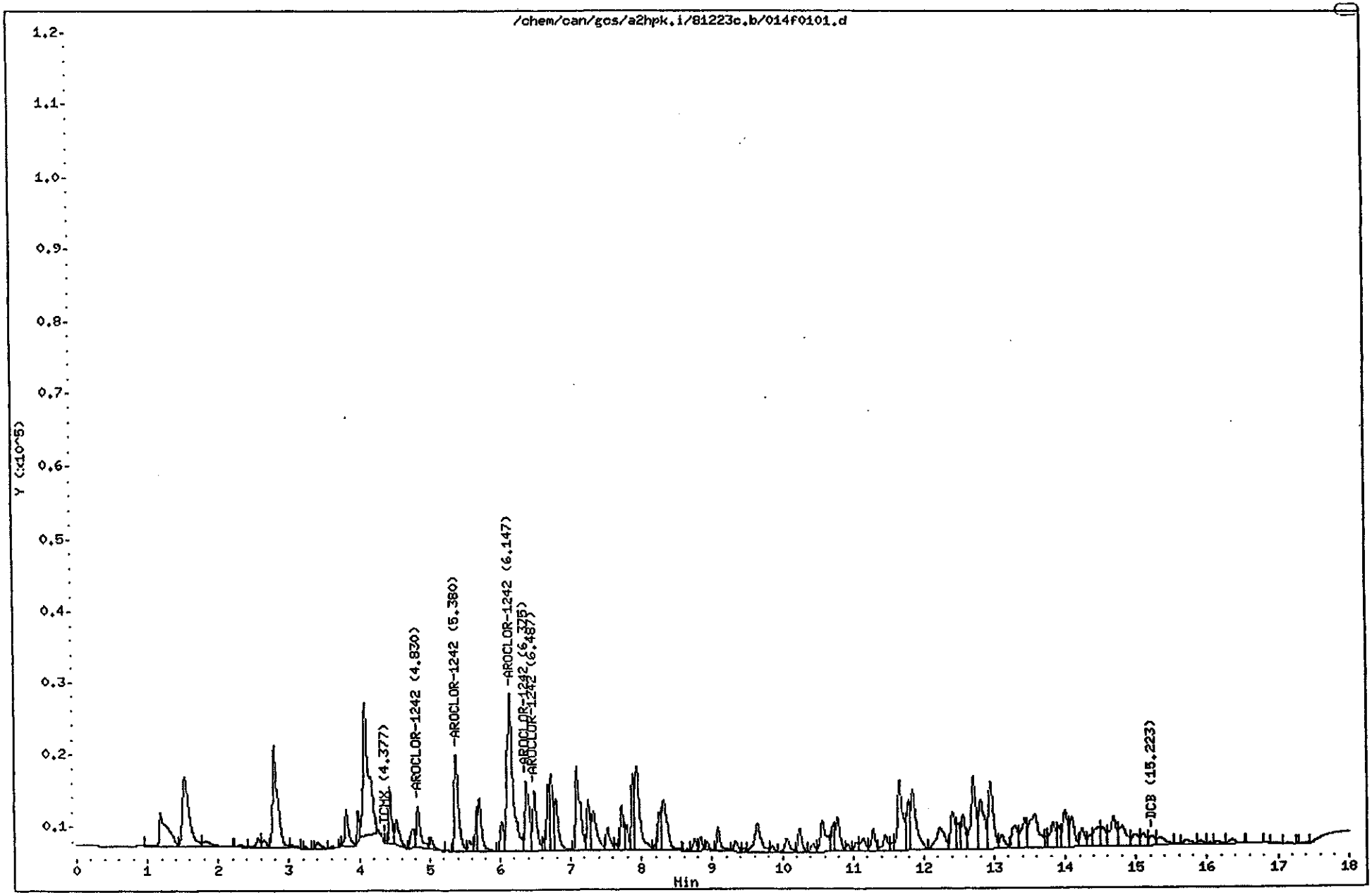
other peaks on chromatogram match no Aroclor

Data File: /chem/can/gcs/a2hpk.i/81223c.b/014f0101.d
Report Date: 26-Dec-1998 15:33

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chem/can/gcs/a2hpk.i/81223c.b/014f0101.d
Date : 23-DEC-1998 20:30
Client ID: S-120298-JH-039
Instrument: a2hpk.i
Sample Info: CNXAC101,100
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 005

Sample WT/Vol: 30.17 / g
Work Order: CNXAD101
Dilution factor: 10
Moisture %:7.9

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-040

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	360	U
11104-28-2	Aroclor 1221	360	U
11141-16-5	Aroclor 1232	360	U
53469-21-9	Aroclor 1242	360	U
12672-29-6	**Aroclor 1248**	**1600**	
11097-69-1	Aroclor 1254	360	U
11096-82-5	Aroclor 1260	360	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/050f0101.d
Report Date: 22-Dec-1998 14:43

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/050f0101.d
Lab Smp Id: CNXAD101 Client Smp ID: S-120298-JH-040
Inj Date : 22-DEC-1998 07:56
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAD101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.170	initial volume

PCB'S ARE DEGRADED

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.295	4.293	0.002	3026	0.00185	6.116	80.00- 120.00	100.00
6 AROCLOR-1248					CAS #: 12672-29-6		
5.375	5.373	0.002	12390	0.51231	1698	80.00- 120.00	22.26 (MH)
7.073	7.083	-0.010	34838	0.60919	2019	179.01- 298.35	62.59
9.062	9.073	-0.011	9756	0.29458	976.4	103.93- 173.22	17.53
9.627	9.640	-0.013	7295	0.32427	1075	71.80- 119.67	13.11
Average of Peak Concentrations =					1442		
$ 9 DCB					CAS #: 2051-24-3		
15.145	15.143	0.002	3044	0.00231	7.652	80.00- 120.00	100.00

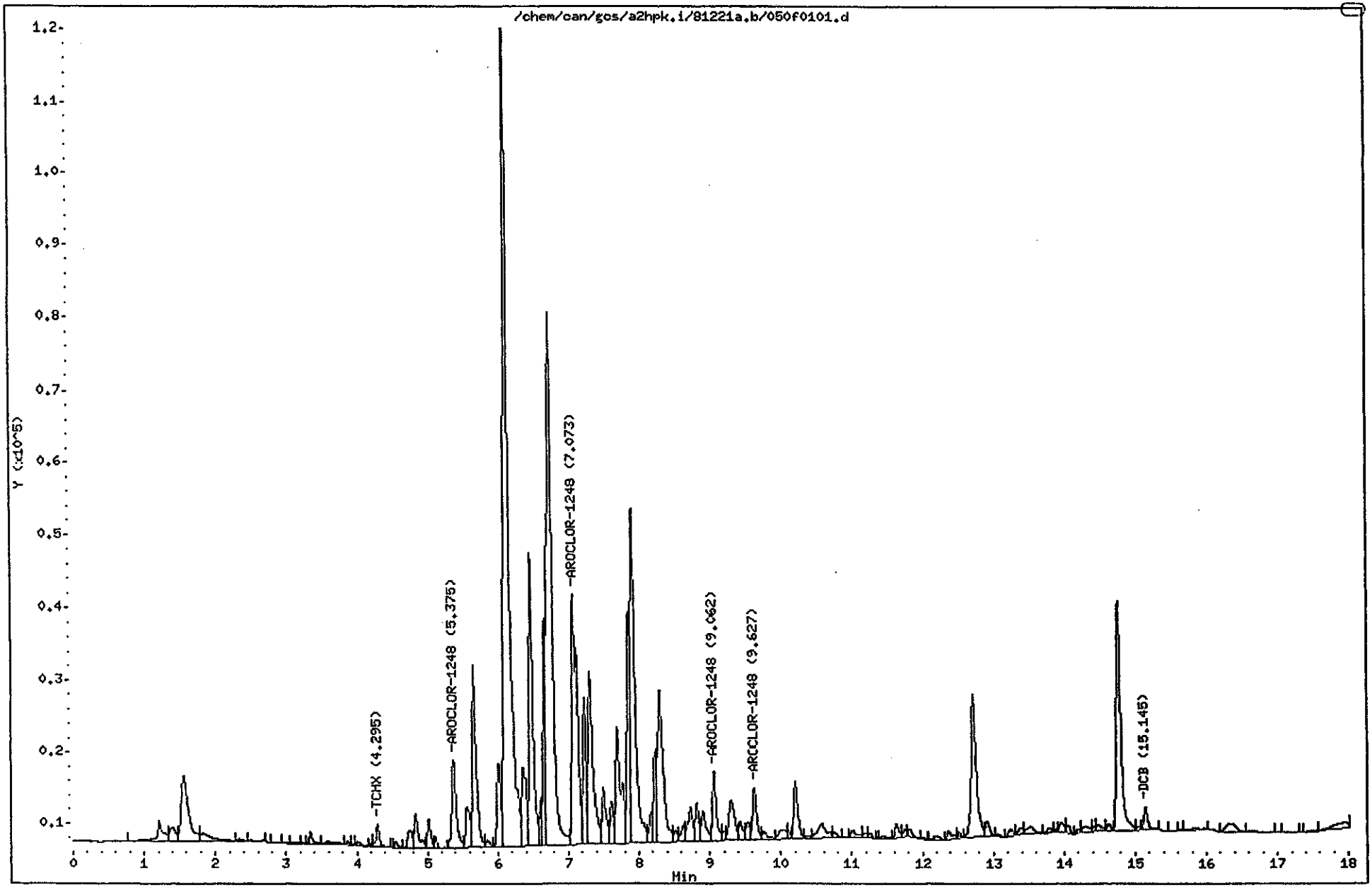
Data File: /chem/can/gcs/a2hpk.i/81221a.b/050f0101.d
Report Date: 22-Dec-1998 14:43

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

File: /chem/can/gcs/a2hpk.i/81221a.b/050f0101.d
Date : 22-DEC-1998 07:56
Client ID: S-120298-JH-040
Instrument: a2hpk.i
Sample Info: CNXAD101,10
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32

043



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 006

Sample WT/Vol: 30.16 / g
Work Order: CNXAG101
Dilution factor: 50
Moisture %:8.8

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/23/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-041

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	1800	U
11104-28-2	Aroclor 1221	1800	U
11141-16-5	Aroclor 1232	1800	U
53469-21-9	**Aroclor 1242**	**5300**	
12672-29-6	Aroclor 1248	1800	U
11097-69-1	Aroclor 1254	1800	U
11096-82-5	Aroclor 1260	1800	U

Data File: /chem/can/gcs/a2hpk.i/81223c.b/015f0101.d
Report Date: 26-Dec-1998 15:33

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81223c.b/015f0101.d
Lab Smp Id: CNXAG101 Client Smp ID: S-120298-JH-041
Inj Date : 23-DEC-1998 20:51
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAG101,50
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 24-Dec-1998 13:05 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	50.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.160	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.377	4.292	0.085	1398	0.000852	14.13	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
4.832	4.830	0.002	6073	0.22828	3784	80.00- 120.00	23.50(M)
5.382	5.378	0.004	16589	0.37033	6139	127.14- 211.90	64.20
6.147	6.145	0.002	23009	0.34518	5722	190.79- 317.98	89.05
6.375	6.373	0.002	8868	0.23544	3903	108.39- 180.65	34.32
6.487	6.487	0.000	7558	0.28208	4676	78.46- 130.76	29.25
Average of Peak Concentrations =					4845		
$ 9 DCB					CAS #: 2051-24-3		
15.225	15.192	0.033	2407	0.00183	30.26	80.00- 120.00	100.00(R)

other pks match no Aroclor

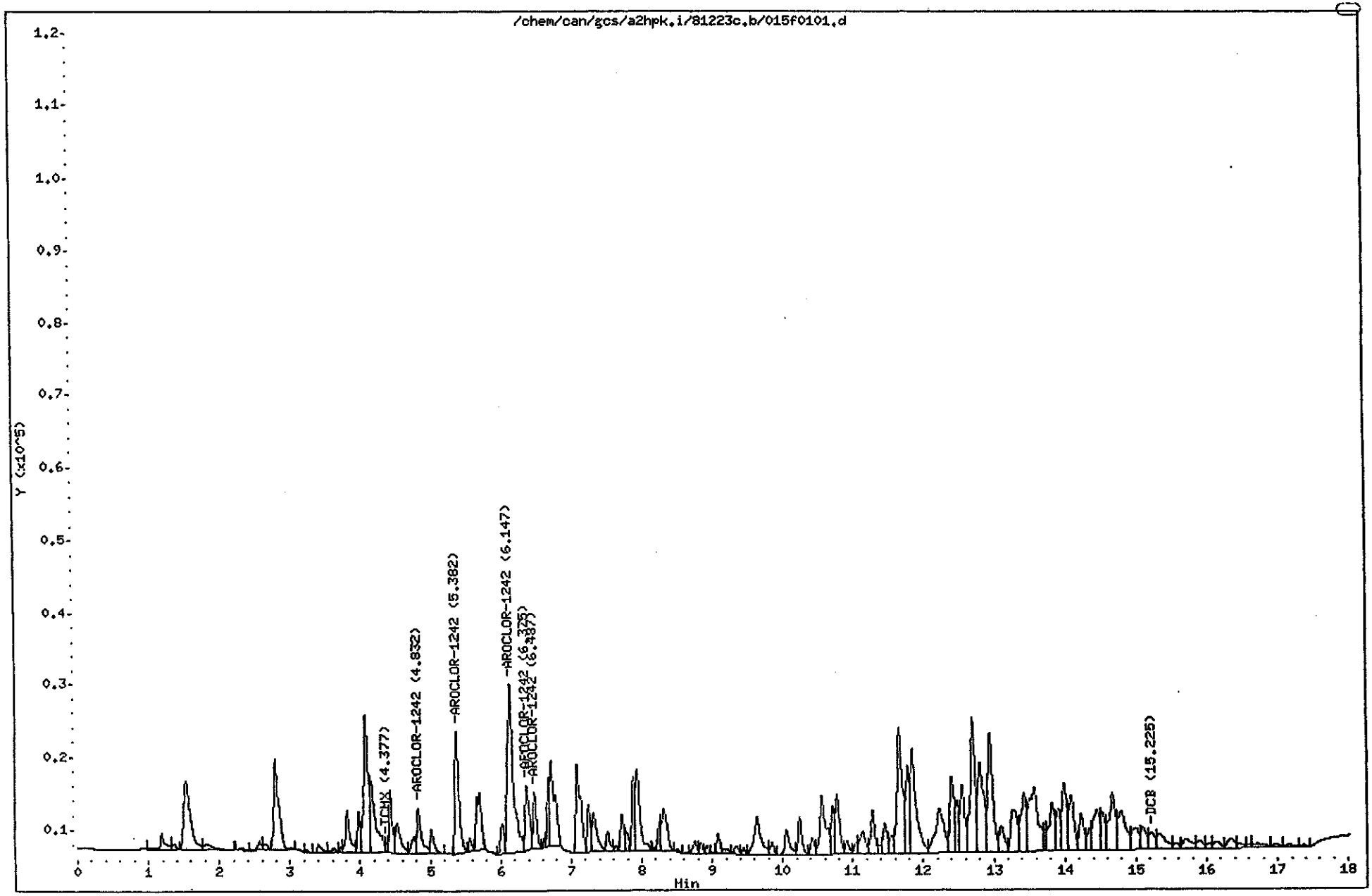
Data File: /chem/can/gcs/a2hpk.i/81223c.b/015f0101.d
Report Date: 26-Dec-1998 15:33

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

D ile: /chem/can/gcs/a2hpk.i/81223c.b/015f0101.d
Date : 23-DEC-1998 20:51
Client ID: S-120298-JH-041
Instrument: a2hpk.i
Sample Info: CNXAC101,50
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32

047



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 007

Sample WT/Vol: 30.04 / g
Work Order: CNXAJ101
Dilution factor: 100
Moisture %:8.6

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-042

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		3600	U
11104-28-2	Aroclor 1221		3600	U
11141-16-5	Aroclor 1232		3600	U
53469-21-9	**Aroclor 1242**		**17000**	
12672-29-6	Aroclor 1248		3600	U
11097-69-1	Aroclor 1254		3600	U
11096-82-5	Aroclor 1260		3600	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/052f0101.d
Report Date: 22-Dec-1998 14:44

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/052f0101.d
Lab Smp Id: CNXAJ101 Client Smp ID: S-120298-JH-042
Inj Date : 22-DEC-1998 08:38
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAJ101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.040	initial volume

				CONCENTRATIONS ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE		RATIO
$ 1 TCMX					CAS #: 877-09-8			
4.255	4.293	-0.038	1440	0.000878	29.23	80.00- 120.00		100.00(R)
S AROCLOR-1242					CAS #: 53469-21-9			
4.828	4.770	0.058	8082	0.30380	10110	80.00- 120.00		26.74(M)
5.372	5.378	-0.006	23187	0.51762	17230	533.15- 888.59		76.72
6.133	6.142	-0.009	33370	0.50062	16660	834.87-1391.44		110.42
6.362	6.368	-0.006	16964	0.45039	14990	469.04- 781.74		56.13
6.472	6.480	-0.008	14099	0.52621	17520	343.34- 572.23		46.65
Average of Peak Concentrations =					15300			
$ 9 DCB					CAS #: 2051-24-3			
15.150	15.143	0.007	2615	0.00198	66.02	80.00- 120.00		100.00(R)

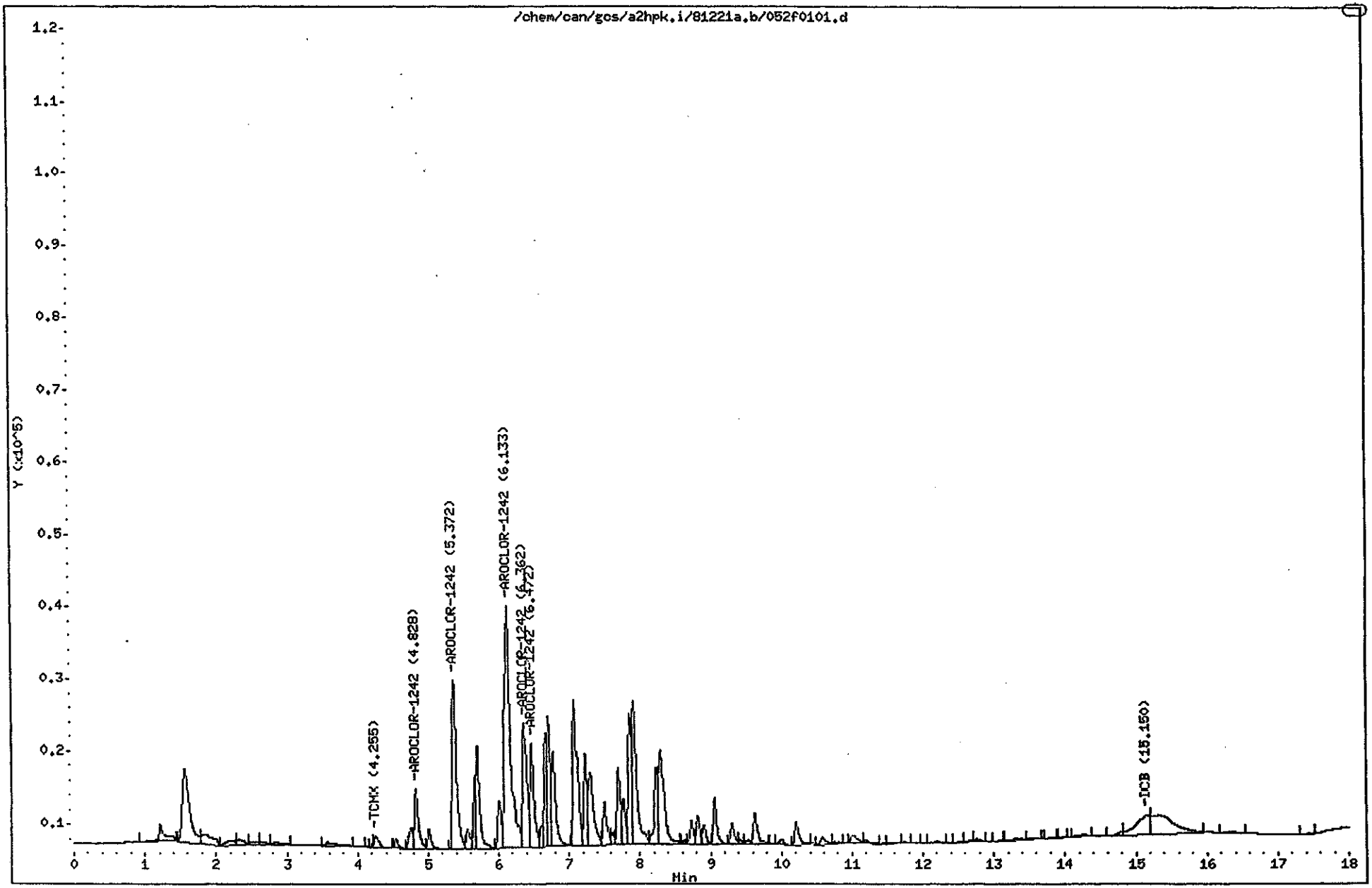
PCB'S ARE DEGRADED

Data File: /chem/can/gcs/a2hpk.i/81221a.b/052f0101.d
Report Date: 22-Dec-1998 14:44

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

D ile: /chem/can/gcs/a2hpk.i/81221a.b/052f0101.d
Dat : 22-DEC-1998 08:38
Client ID: S-120298-JH-042
Instrument: a2hpk.i
Sample Info: CNXAJ101,100
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 008

Sample WT/Vol: 30.11 / g
Work Order: CNXAL101
Dilution factor: 100
Moisture %:12

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-043

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3700	U
11104-28-2	Aroclor 1221	3700	U
11141-16-5	Aroclor 1232	3700	U
53469-21-9	**Aroclor 1242**	**19000**	
12672-29-6	Aroclor 1248	3700	U
11097-69-1	Aroclor 1254	3700	U
11096-82-5	Aroclor 1260	3700	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/095f0101.d
Report Date: 23-Dec-1998 10:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/095f0101.d
Lab Smp Id: CNXAL101 Client Smp ID: S-120298-JH-043
Inj Date : 22-DEC-1998 23:40
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAL101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.110	initial volume

PCB'S ARE DEGRADED

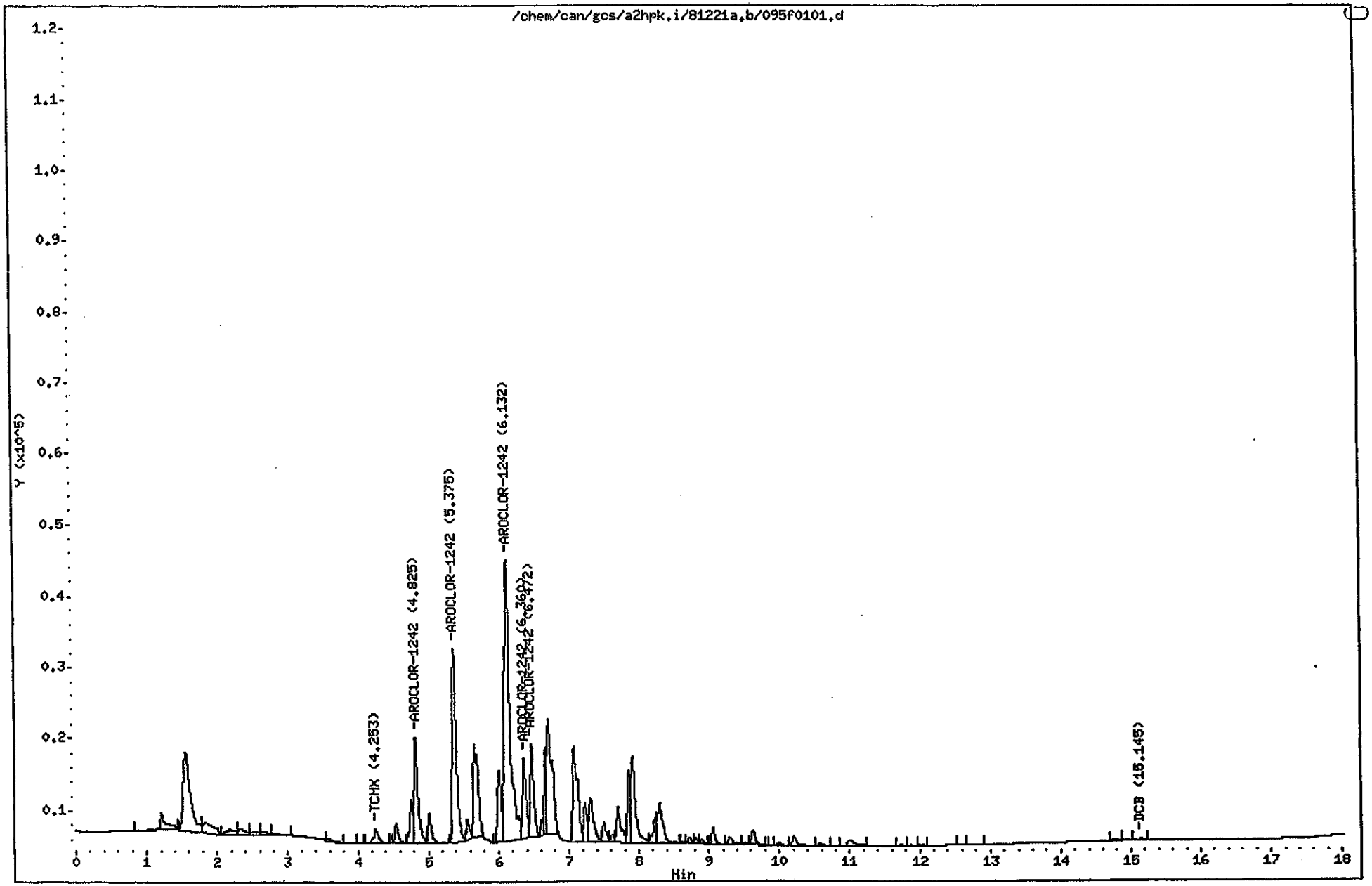
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.253	4.295	-0.042	1945	0.00119	39.39	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
4.825	4.833	-0.008	14517	0.54568	18120	80.00- 120.00	26.53(M)
5.375	5.378	-0.003	26955	0.60174	19980	123.50- 205.84	49.26
6.132	6.142	-0.010	39182	0.58781	19520	193.39- 322.32	71.61
6.360	6.368	-0.008	11066	0.29380	9757	108.65- 181.08	20.22
6.472	6.480	-0.008	12631	0.47142	15660	79.53- 132.55	23.08
Average of Peak Concentrations =					16610		
$ 9 DCB					CAS #: 2051-24-3		
15.145	15.142	0.003	181	0.000137	4.559	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81221a.b/095f0101.d
Report Date: 23-Dec-1998 10:22

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Dat e: /chem/can/gcs/a2hpk.i/81221a.b/095f0101.d
Date . 22-DEC-1998 23:40
Client ID: S-120298-JH-043
Instrument: a2hpk.i
Sample Info: CNXAL101,100
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 009

Sample WT/Vol: 30.17 / g
Work Order: CNXAN101
Dilution factor: 1
Moisture %:12

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-044

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38	U
11104-28-2	Aroclor 1221	38	U
11141-16-5	Aroclor 1232	38	U
53469-21-9	Aroclor 1242	38	U
12672-29-6	Aroclor 1248	38	U
11097-69-1	Aroclor 1254	38	U
11096-82-5	Aroclor 1260	38	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/057f0101.d
Report Date: 22-Dec-1998 14:44

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/057f0101.d
Lab Smp Id: CNXAN101 Client Smp ID: S-120298-JH-044
Inj Date : 22-DEC-1998 10:23
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAN101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

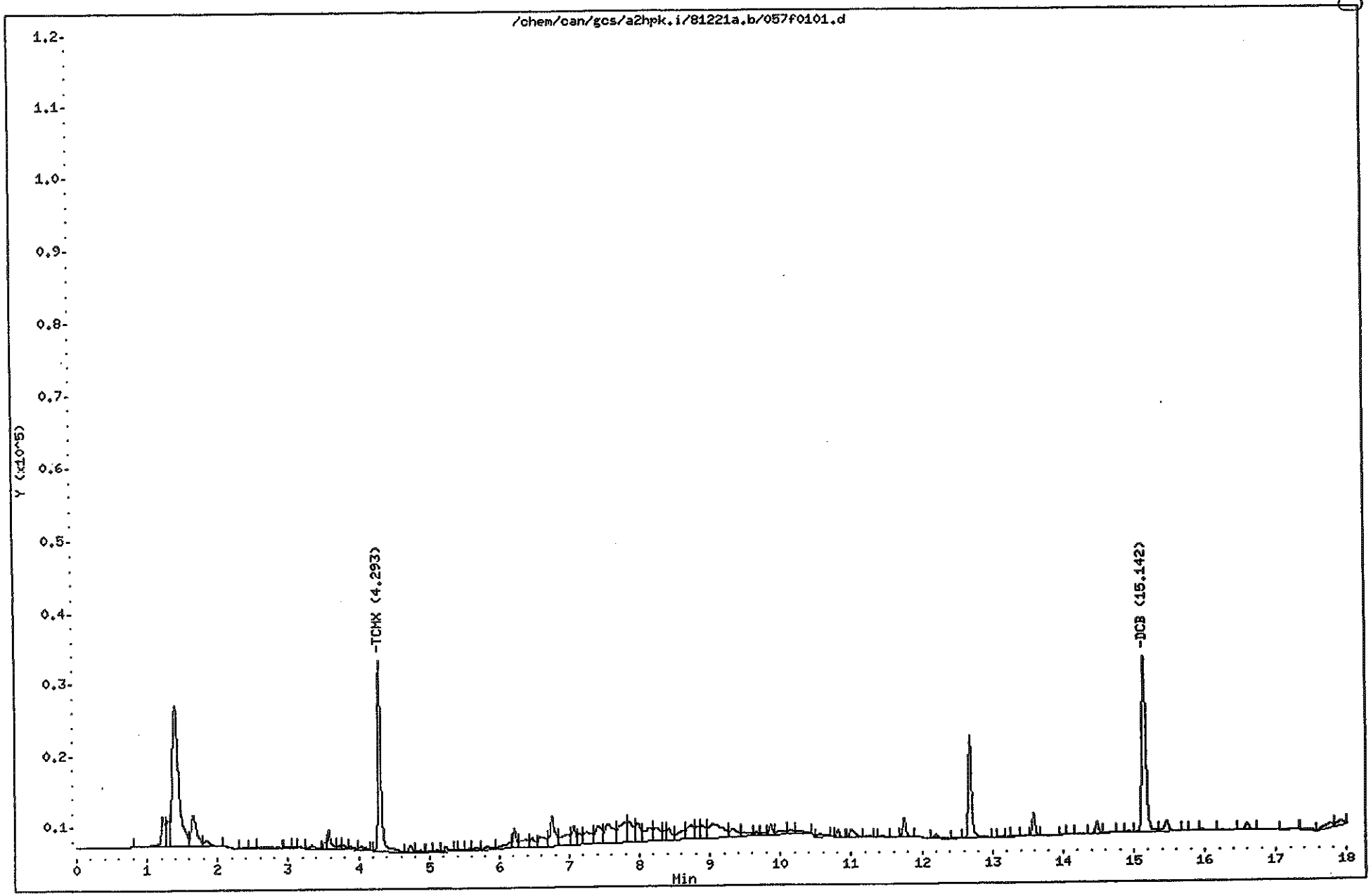
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.170	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.293	4.293	0.000	26794	0.01634	5.415	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	15.142	15.143	-0.001	24589	0.01865	6.181	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/057f0101.d
Date : 22-DEC-1998 10:23
Client ID: S-120298-JH-044
Sample Info: CNXAN101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 010

Sample WT/Vol: 30 / g
Work Order: CNXAR101
Dilution factor: 1
Moisture %:13

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-045

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38	U
11104-28-2	Aroclor 1221	38	U
11141-16-5	Aroclor 1232	38	U
53469-21-9	Aroclor 1242	38	U
12672-29-6	Aroclor 1248	38	U
11097-69-1	Aroclor 1254	38	U
11096-82-5	Aroclor 1260	38	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/058f0101.d
Report Date: 22-Dec-1998 14:44

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/058f0101.d
Lab Smp Id: CNXAR101 Client Smp ID: S-120298-JH-045
Inj Date : 22-DEC-1998 10:44
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAR101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

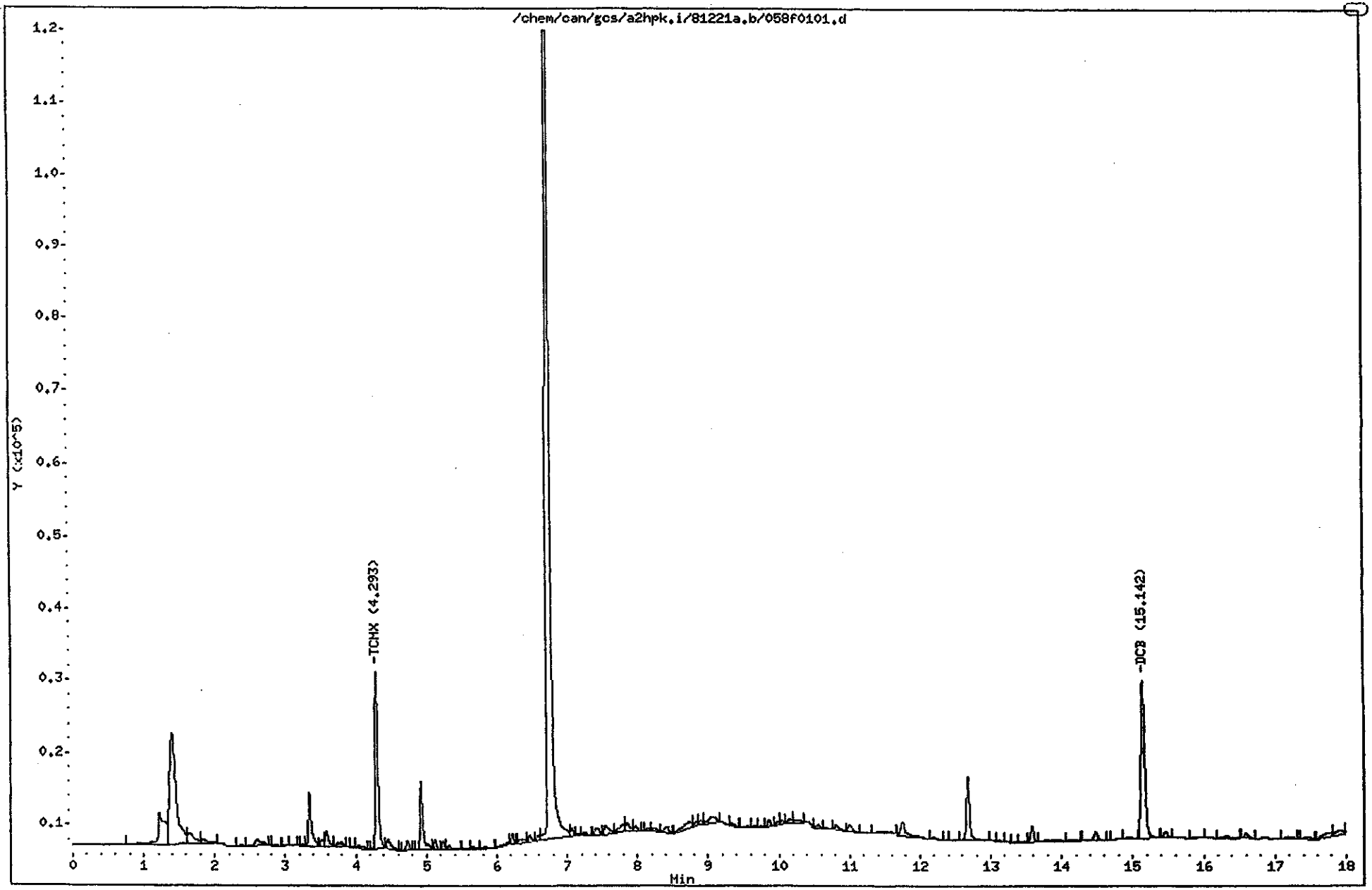
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.293	4.293	0.000	24288	0.01481	4.936	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.142	15.143	-0.001	21730	0.01648	5.493	80.00- 120.00	100.00

Da le: /chem/can/gcs/a2hpk.i/81221a.b/058f0101.d
Date : 22-DEC-1998 10:44
Client ID: S-120298-JH-045
Sample Info: CNXAR101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

061



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 011

Sample WT/Vol: 30.15 / g
Work Order: CNXAT101
Dilution factor: 1
Moisture %:16

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-046

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		39	U
11104-28-2	Aroclor 1221		39	U
11141-16-5	Aroclor 1232		39	U
53469-21-9	Aroclor 1242		39	U
12672-29-6	Aroclor 1248		39	U
11097-69-1	Aroclor 1254		39	U
11096-82-5	Aroclor 1260		39	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/059f0101.d
Report Date: 22-Dec-1998 14:44

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/059f0101.d
Lab Smp Id: CNXAT101 Client Smp ID: S-120298-JH-046
Inj Date : 22-DEC-1998 11:05
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAT101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

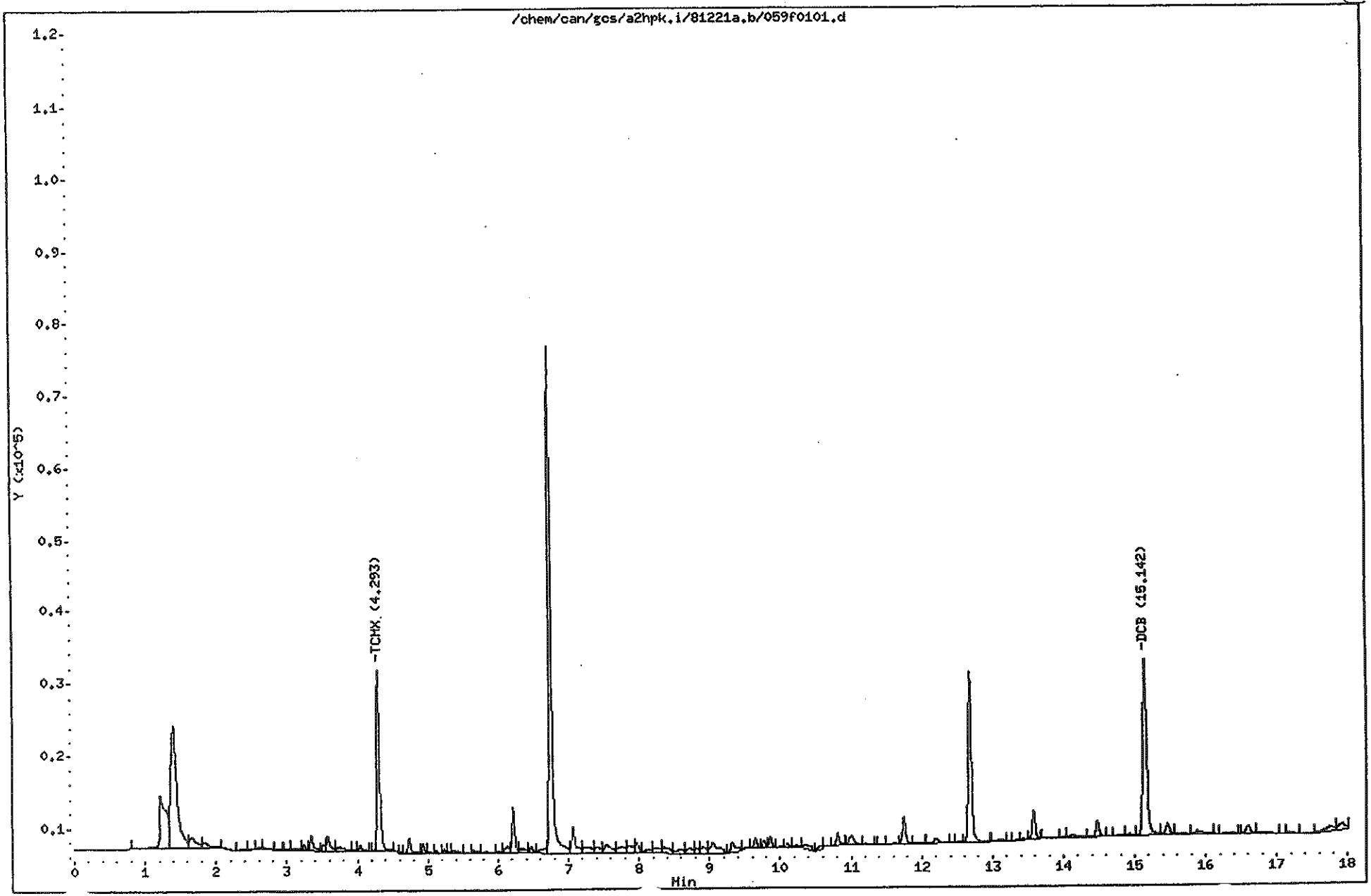
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.150	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.293	4.293	0.000	25017	0.01525	5.059	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.142	15.143	-0.001	24286	0.01842	6.109	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/059f0101.d
Date : 22-DEC-1998 11:05
Client ID: S-120298-JH-046
Sample Info: CNXAT101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

064



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 012

Sample WT/Vol: 30.04 / g
Work Order: CNXAW101
Dilution factor: 1
Moisture %:7.3

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-047

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/060f0101.d
Report Date: 22-Dec-1998 14:44

QUANTERRA-NORTH CANTON

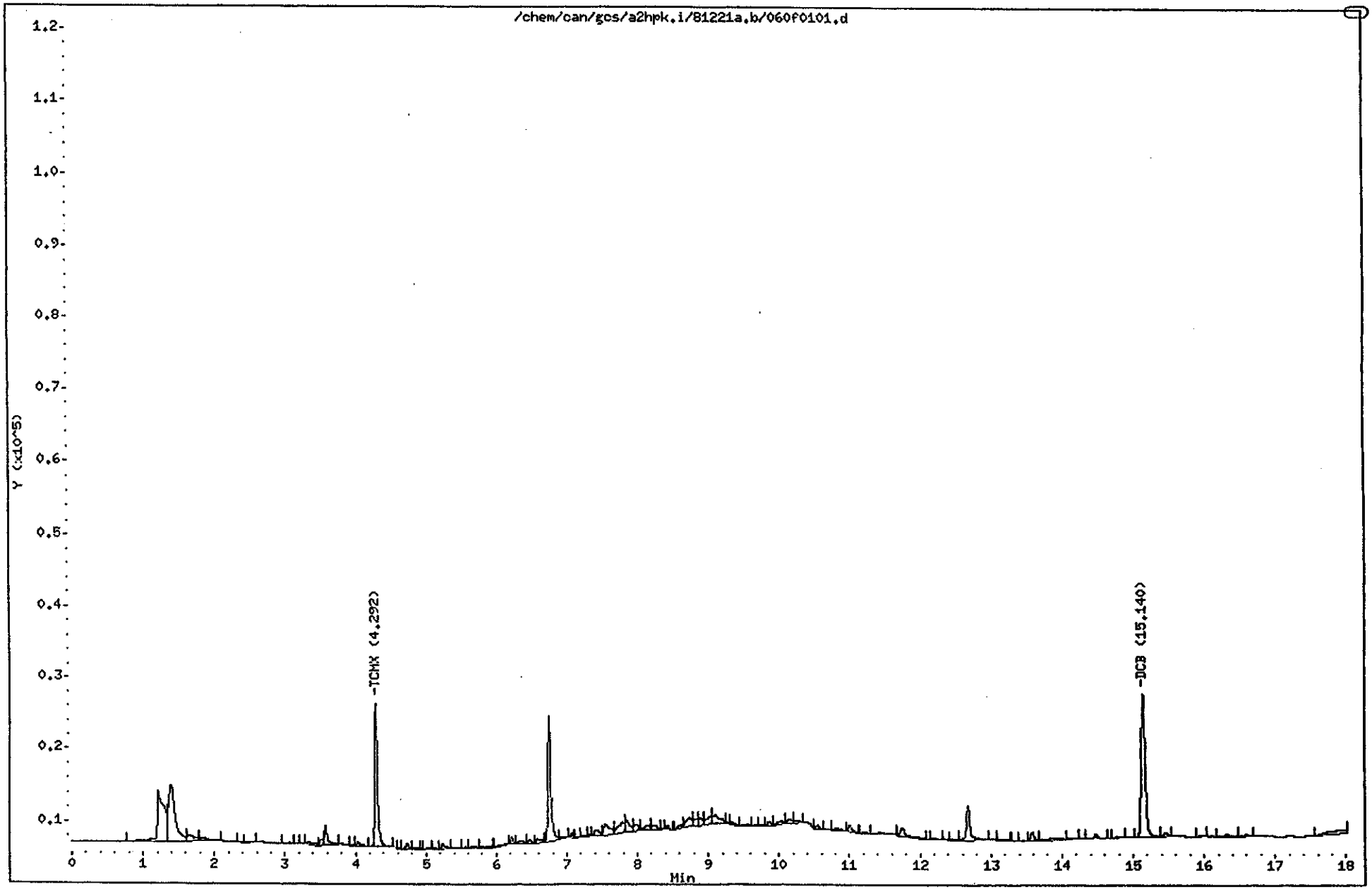
Data file : /chem/can/gcs/a2hpk.i/81221a.b/060f0101.d
Lab Smp Id: CNXAW101 Client Smp ID: S-120298-JH-047
Inj Date : 22-DEC-1998 11:26
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXAW101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.040	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.292	4.293	-0.001	19727	0.01203	4.004	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.140	15.143	-0.003	19726	0.01496	4.980	80.00- 120.00	100.00

Da le: /chem/can/gcs/a2hpk.i/81221a.b/060f0101.d
Dat . 22-DEC-1998 11:26
Client ID: S-120298-JH-047
Instrument: a2hpk.i
Sample Info: CNXAW101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 013

Sample WT/Vol: 30 / g
Work Order: CNXC1101
Dilution factor: 1
Moisture %:8.6

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-048

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/061f0101.d
Report Date: 22-Dec-1998 14:45

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/061f0101.d
Lab Smp Id: CNXC1101 Client Smp ID: S-120298-JH-048
Inj Date : 22-DEC-1998 11:47
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXC1101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

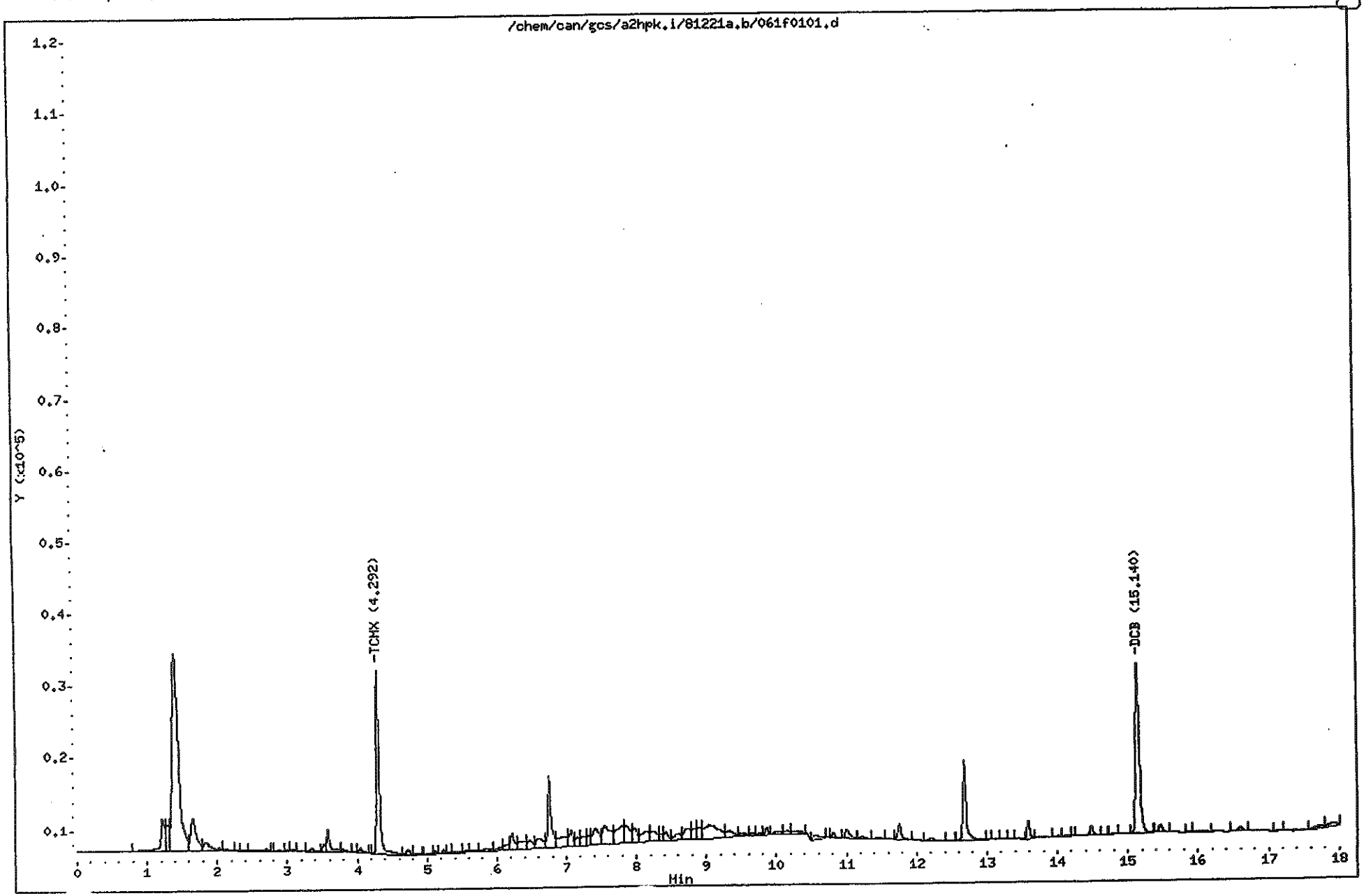
				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.292	4.293	-0.001	25494	0.01554	5.182	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.140	15.143	-0.003	23543	0.01786	5.952	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/061f0101.d
Date : 22-DEC-1998 11:47
Client ID: S-120298-JH-048
Sample Info: CNXC1101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

070



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 014

Sample WT/Vol: 30.09 / g
Work Order: CNXCD101
Dilution factor: 500
Moisture %:10

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-049

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	18000	U
11104-28-2	Aroclor 1221	18000	U
11141-16-5	Aroclor 1232	18000	U
53469-21-9	Aroclor 1242	18000	U
12672-29-6	**Aroclor 1248**	**96000**	
11097-69-1	Aroclor 1254	18000	U
11096-82-5	Aroclor 1260	18000	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/062f0101.d
Report Date: 22-Dec-1998 14:45

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/062f0101.d
Lab Smp Id: CNXCD101 Client Smp ID: S-120298-JH-049
Inj Date : 22-DEC-1998 12:08
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCD101,500
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 500.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	500.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.090	initial volume

PCBS ARE DEGRADED

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.207	4.293	-0.086	585	0.000357	59.27	80.00- 120.00	100.00(R)
6 AROCLOR-1248					CAS #: 12672-29-6		
5.377	5.373	0.004	6323	0.26145	43440	80.00- 120.00	21.84(M)
6.097	6.140	-0.043	29267	0.71896	119500	131.96- 219.94	101.09
7.072	7.083	-0.011	39895	0.69762	115900	179.01- 298.35	137.80
9.060	9.073	-0.013	14878	0.44923	74650	103.93- 173.22	51.39
9.628	9.640	-0.012	10359	0.46047	76520	71.80- 119.67	35.78
Average of Peak Concentrations =					86000		
$ 9 DCB					CAS #: 2051-24-3		
15.127	15.143	-0.016	1931	0.00146	243.4	80.00- 120.00	100.00(R)

Data File: /chem/can/gcs/a2hpk.i/81221a.b/062f0101.d
Report Date: 22-Dec-1998 14:45

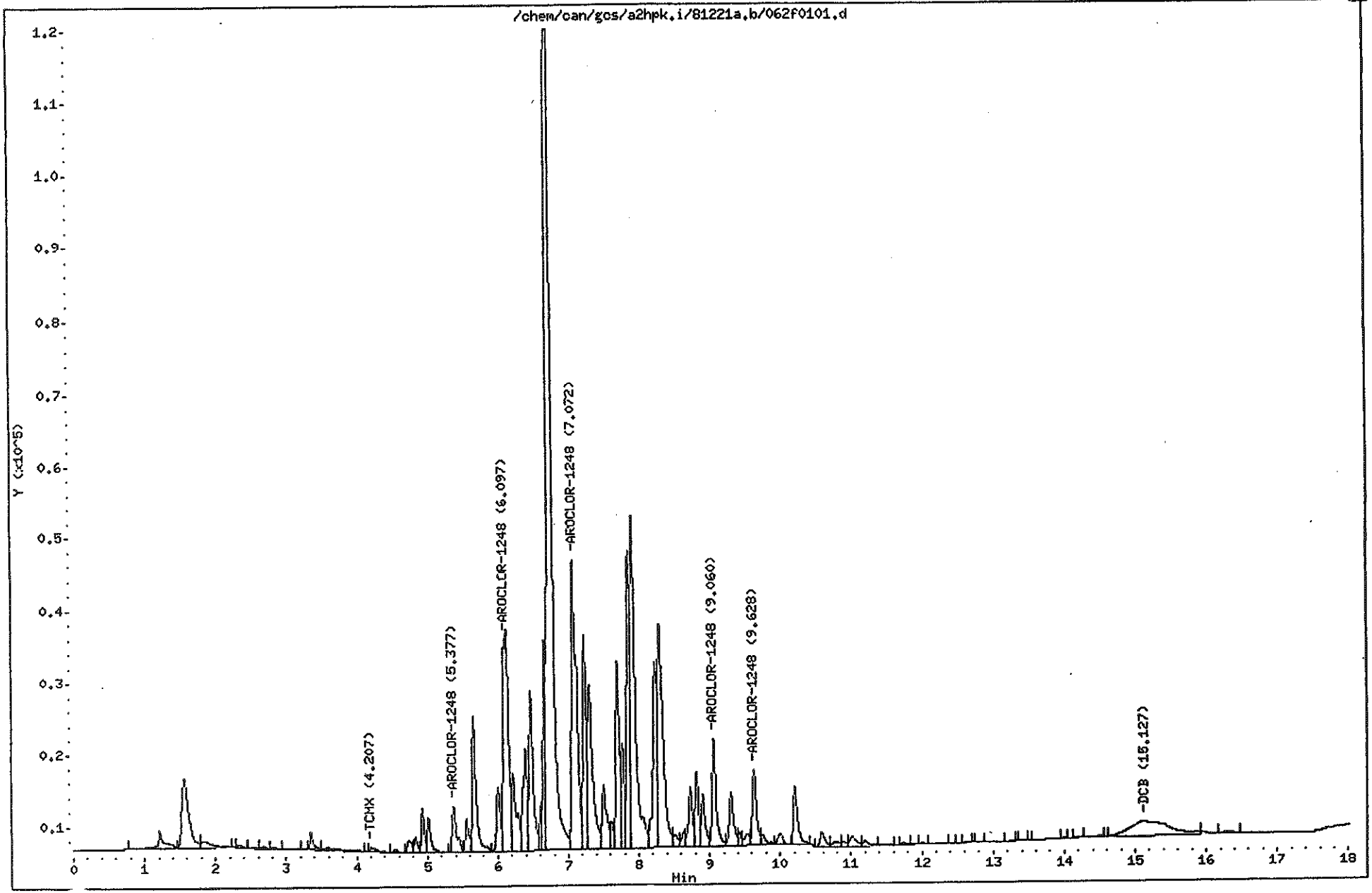
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/062f0101.d
Date : 22-DEC-1998 12:08
Client ID: S-120298-JH-049
Sample Info: CNXCD101,500
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

074



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 015

Sample WT/Vol: 30.02 / g
Work Order: CNXCF101
Dilution factor: 500
Moisture %:13

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-050

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	19000	U
11104-28-2	Aroclor 1221	19000	U
11141-16-5	Aroclor 1232	19000	U
53469-21-9	Aroclor 1242	19000	U
12672-29-6	**Aroclor 1248**	**75000**	
11097-69-1	Aroclor 1254	19000	U
11096-82-5	Aroclor 1260	19000	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/063f0101.d
Report Date: 22-Dec-1998 14:45

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/063f0101.d
Lab Smp Id: CNXCF101 Client Smp ID: S-120298-JH-050
Inj Date : 22-DEC-1998 12:29
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCF101,500
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 500.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	500.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.020	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.207	4.293	-0.086	289	0.000176	29.35	80.00- 120.00	100.00(R)
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.375	5.373	0.002	7197	0.29758	49560	80.00- 120.00	23.57(M)
	6.132	6.140	-0.008	33710	0.82811	137900	131.96- 219.94	110.38
	7.072	7.083	-0.011	21428	0.37470	62410	179.01- 298.35	70.16
	9.060	9.073	-0.013	7238	0.21855	36400	103.93- 173.22	23.70
	9.630	9.640	-0.010	5005	0.22248	37050	71.80- 119.67	16.39
Average of Peak Concentrations =						64670		
$ 9 DCB						CAS #: 2051-24-3		
	15.143	15.143	0.000	45	<0.0	5.684	80.00- 120.00	100.00

PCB'S ARE DEGRADED

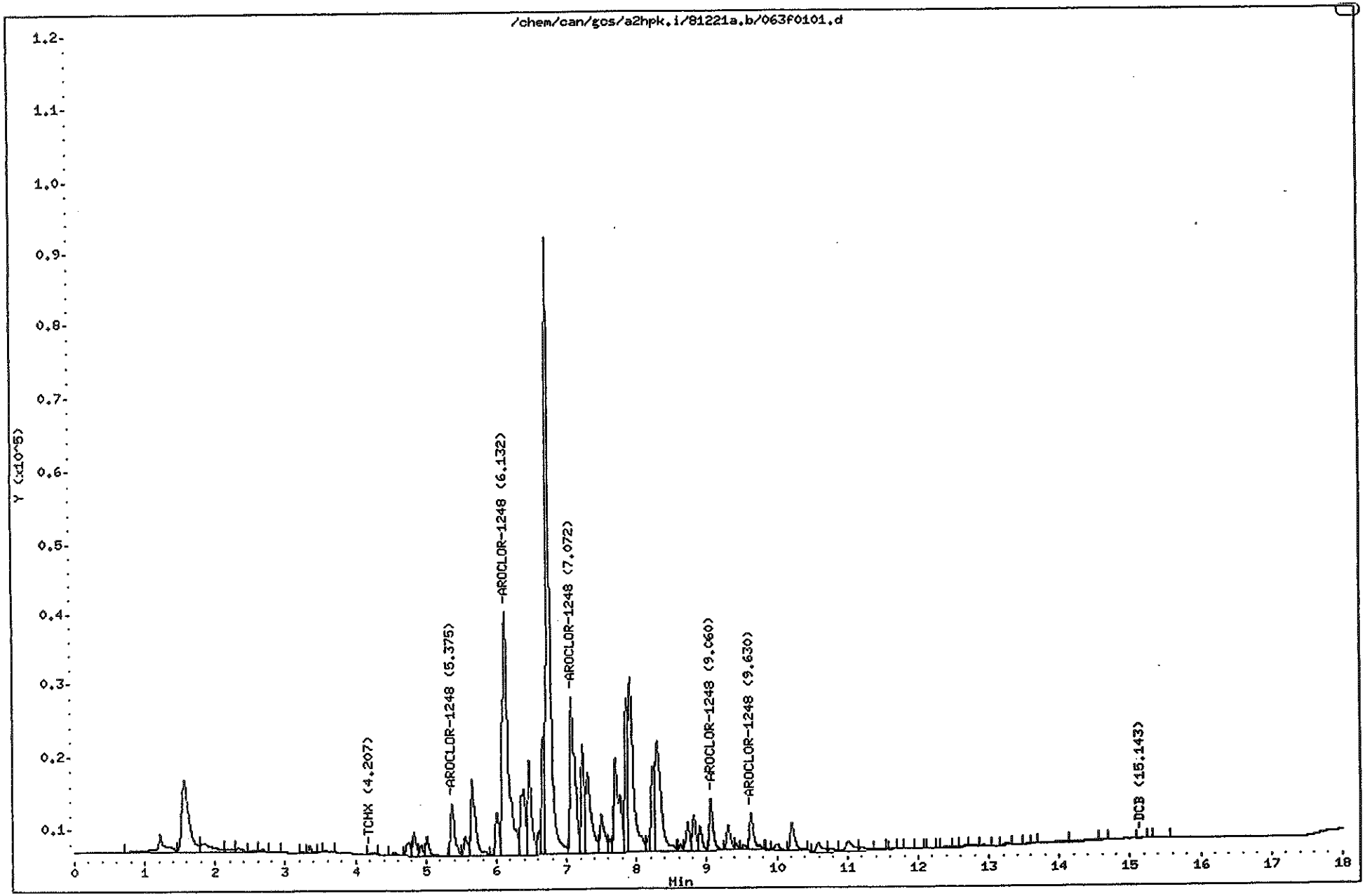
Data File: /chem/can/gcs/a2hpk.i/81221a.b/063f0101.d
Report Date: 22-Dec-1998 14:45

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/063f0101.d
Date : 22-DEC-1998 12:29
Client ID: S-120298-JH-050
Sample Info: CNXCF101,500
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 016

Sample WT/Vol: 30.11 / g
Work Order: CNXCH101
Dilution factor: 1
Moisture %:13

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-051

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38	U
11104-28-2	Aroclor 1221	38	U
11141-16-5	Aroclor 1232	38	U
53469-21-9	Aroclor 1242	38	U
12672-29-6	Aroclor 1248	38	U
11097-69-1	Aroclor 1254	38	U
11096-82-5	Aroclor 1260	38	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/064f0101.d
Report Date: 22-Dec-1998 14:45

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/064f0101.d
Lab Smp Id: CNXCH101 Client Smp ID: S-120298-JH-051
Inj Date : 22-DEC-1998 12:50
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCH101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

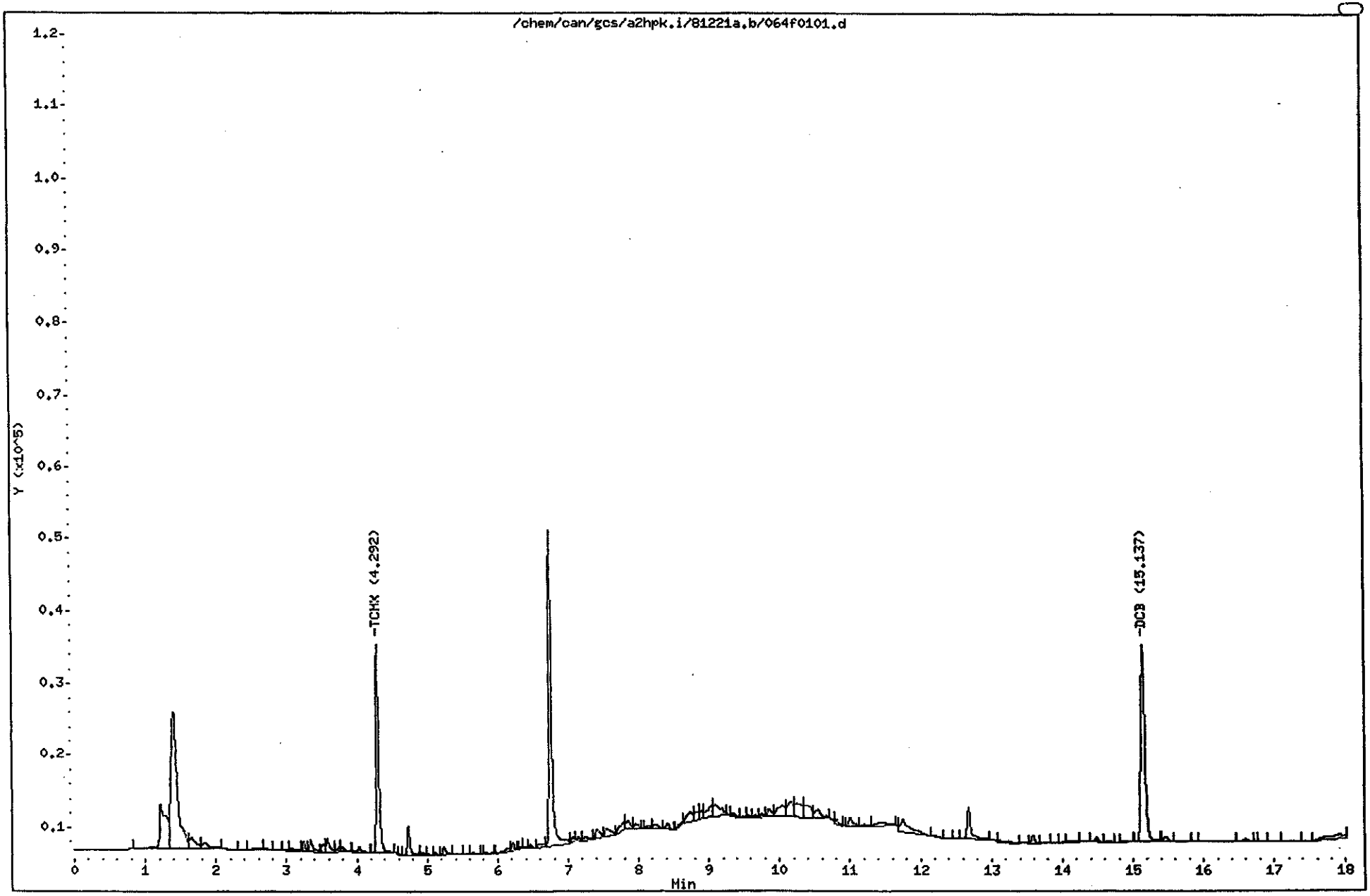
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.110	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.292	4.293	-0.001	28977	0.01767	5.868	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	15.137	15.143	-0.006	27455	0.02082	6.915	80.00- 120.00	100.00

Da ile: /chem/can/gcs/a2hpk.i/81221a.b/064f0101.d
Date : 22-DEC-1998 12:50
Client ID: S-120298-JH-051 Instrument: a2hpk.i
Sample Info: CNXCH101
Volume Injected (uL): 1.0 Operator: 1808
Column phase: RTX-CLP PESTICIDES Column diameter: 0.32

081



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 017

Sample WT/Vol: 30.06 / g
Work Order: CNXCL101
Dilution factor: 1
Moisture %:13

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-052

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		38	U
11104-28-2	Aroclor 1221		38	U
11141-16-5	Aroclor 1232		38	U
53469-21-9	Aroclor 1242		38	U
12672-29-6	Aroclor 1248		38	U
11097-69-1	Aroclor 1254		38	U
11096-82-5	Aroclor 1260		38	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/065f0101.d
Report Date: 22-Dec-1998 14:45

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/065f0101.d
Lab Smp Id: CNXCL101 Client Smp ID: S-120298-JH-052
Inj Date : 22-DEC-1998 13:11
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCL101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

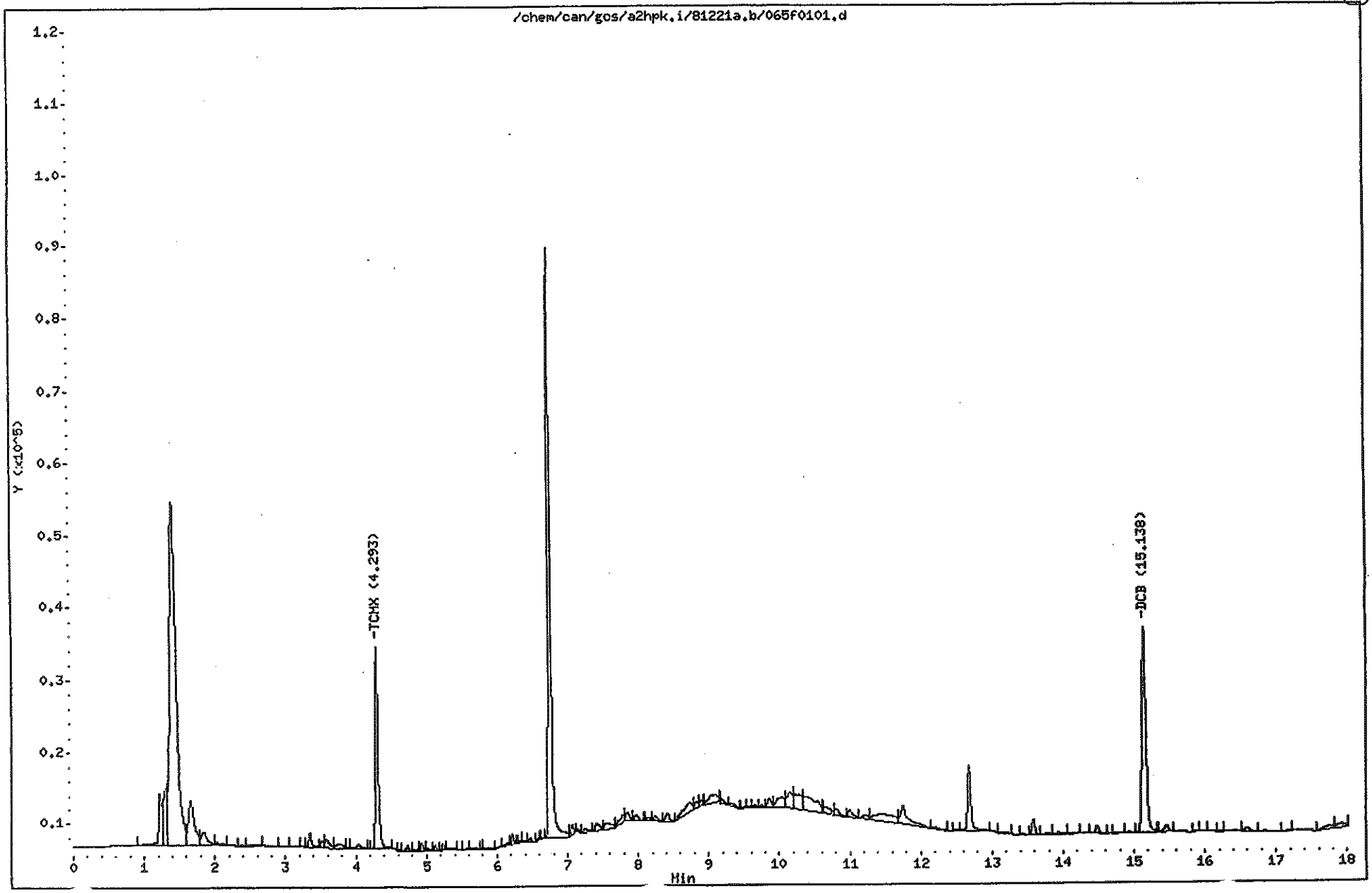
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.060	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.293	4.293	0.000	28047	0.01710	5.689	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.138	15.143	-0.005	28546	0.02165	7.202	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/065f0101.d
Date : 22-DEC-1998 13:11
Client ID: S-120298-JH-052
Sample Info: CNXCL101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 018

Sample WT/Vol: 30.14 / g
Work Order: CNXCM101
Dilution factor: 10
Moisture %:7.9

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-053

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	360	U
11104-28-2	Aroclor 1221	360	U
11141-16-5	Aroclor 1232	360	U
53469-21-9	Aroclor 1242	360	U
12672-29-6	**Aroclor 1248**	**1200**	
11097-69-1	Aroclor 1254	360	U
11096-82-5	Aroclor 1260	360	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/072f0101.d
Report Date: 23-Dec-1998 10:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/072f0101.d
Lab Smp Id: CNXCM101 Client Smp ID: S-120298-JH-053
Inj Date : 22-DEC-1998 15:38
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCM101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.140	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.292	4.295	-0.003	3178	0.00194	6.429	80.00- 120.00	100.00
6 AROCLOR-1248					CAS #: 12672-29-6		
5.368	5.365	0.003	7204	0.29787	988.3	80.00- 120.00	24.32(M)
6.132	6.132	0.000	22245	0.54646	1813	126.36- 210.60	75.11
7.070	7.072	-0.002	17714	0.30975	1028	175.17- 291.95	59.81
9.057	9.060	-0.003	8253	0.24919	826.8	99.08- 165.14	27.87
9.623	9.628	-0.005	6397	0.28435	943.4	66.11- 110.18	21.60
Average of Peak Concentrations =					1120		
$ 9 DCB					CAS #: 2051-24-3		
15.138	15.142	-0.004	4240	0.00322	10.67	80.00- 120.00	100.00

PCBs are degrade

other pks match no Aroclor

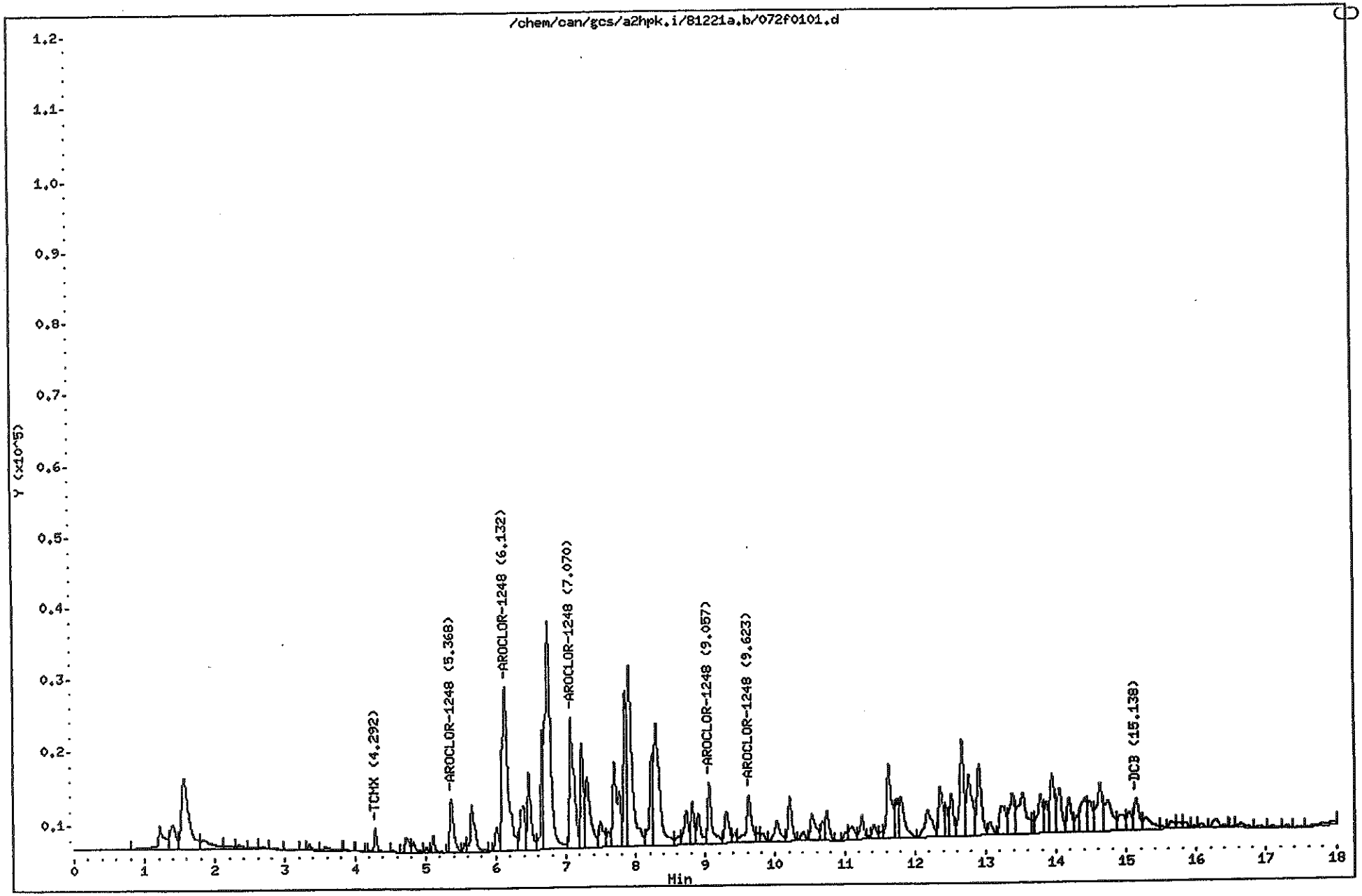
Data File: /chem/can/gcs/a2hpk.i/81221a.b/072f0101.d
Report Date: 23-Dec-1998 10:21

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/072f0101.d
Date : 22-DEC-1998 15:38
Client ID: S-120298-JH-053
Sample Info: CNXCH101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 019

Sample WT/Vol: 30.18 / g
Work Order: CNXCN101
Dilution factor: 10
Moisture %:7.0

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-054

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	350	U
11104-28-2	Aroclor 1221	350	U
11141-16-5	Aroclor 1232	350	U
53469-21-9	Aroclor 1242	350	U
12672-29-6	**Aroclor 1248**	**870**	
11097-69-1	Aroclor 1254	350	U
11096-82-5	Aroclor 1260	350	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/073f0101.d
Report Date: 23-Dec-1998 10:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/073f0101.d
Lab Smp Id: CNXCN101 Client Smp ID: S-120298-JH-054
Inj Date : 22-DEC-1998 15:59
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCN101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.180	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO	
$ 1 TCMX					CAS #: 877-09-8			
4.292	4.295	-0.003	2629	0.00160	5.311	80.00- 120.00	100.00	
6 AROCLOR-1248					CAS #: 12672-29-6			
5.370	5.365	0.005	6936	0.28679	950.3	80.00- 120.00	19.00	(M)
6.132	6.132	0.000	17529	0.43061	1427	126.36- 210.60	48.01	
7.070	7.072	-0.002	12970	0.22680	751.5	175.17- 291.95	35.53	
9.055	9.060	-0.005	4085	0.12334	408.7	99.08- 165.14	11.19	
9.618	9.628	-0.010	3457	0.15367	509.2	66.11- 110.18	9.47	
Average of Peak Concentrations =					809.3			
$ 9 DCB					CAS #: 2051-24-3			
15.138	15.142	-0.004	3375	0.00256	8.481	80.00- 120.00	100.00	

PCB'S ARE RECORDED

other pks match no Aroclor

090

Data File: /chem/can/gcs/a2hpk.i/81221a.b/073f0101.d
Report Date: 23-Dec-1998 10:21

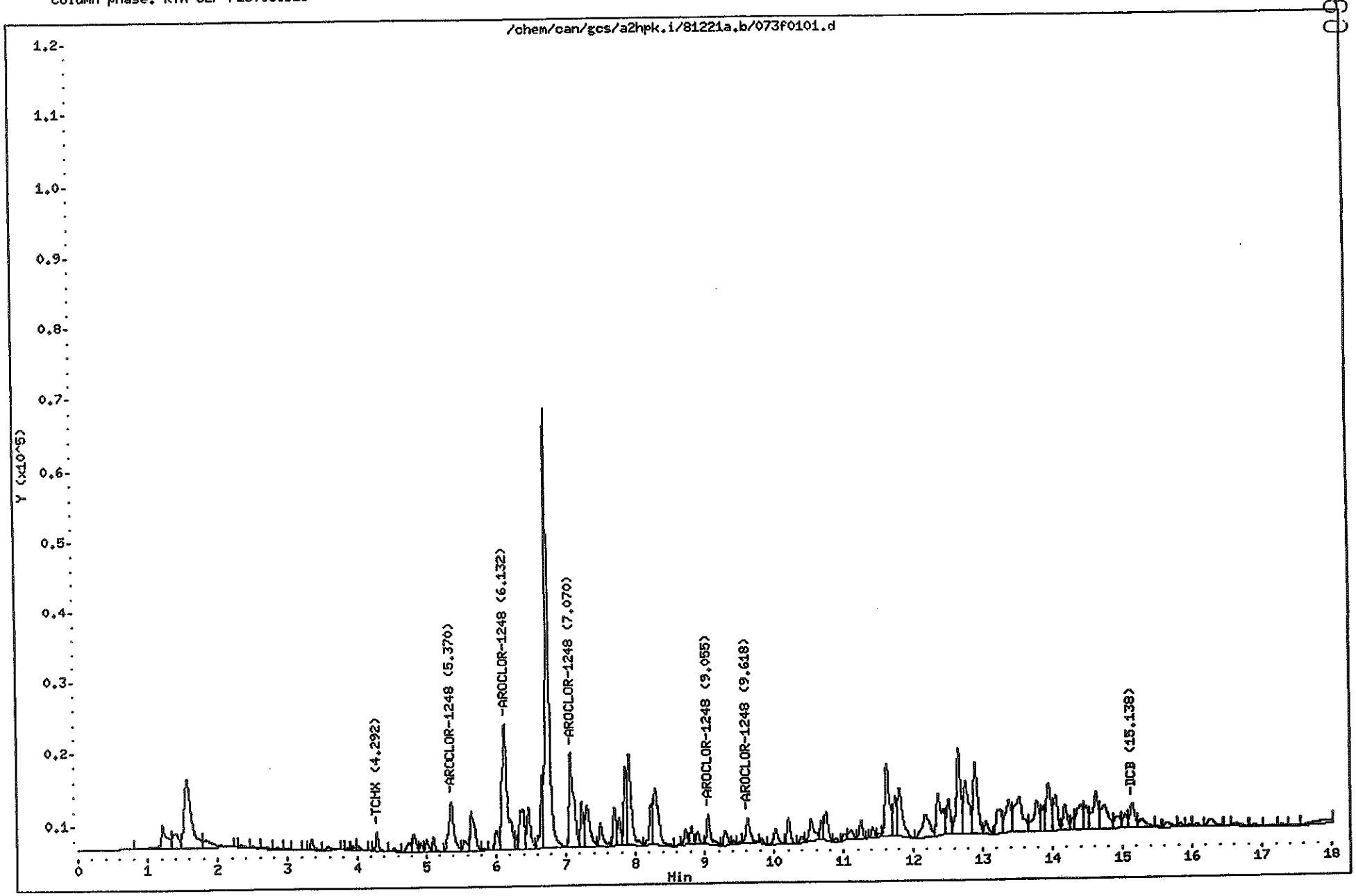
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/073f0101.d
Date : 22-DEC-1998 15:59
Client ID: S-120298-JH-054
Sample Info: CNXCN101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

092



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 020

Sample WT/Vol: 30.14 / g
Work Order: CNXCP101
Dilution factor: 10
Moisture %:11

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-055

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	370	U
11104-28-2	Aroclor 1221	370	U
11141-16-5	Aroclor 1232	370	U
53469-21-9	**Aroclor 1242**	**2000**	
12672-29-6	Aroclor 1248	370	U
11097-69-1	Aroclor 1254	370	U
11096-82-5	Aroclor 1260	370	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/074f0101.d
Report Date: 23-Dec-1998 10:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/074f0101.d
Lab Smp Id: CNXCP101 Client Smp ID: S-120298-JH-055
Inj Date : 22-DEC-1998 16:20
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCP101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.140	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.290	4.295	-0.005	2804	0.00171	5.672	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.825	4.825	0.000	8608	0.27779	921.7	80.00- 120.00	26.94(M)
	5.368	5.370	-0.002	26203	0.48508	1609	127.22- 212.04	82.01
	6.128	6.132	-0.004	45865	0.54708	1815	198.24- 330.40	143.55
	6.467	6.470	-0.003	17581	0.51354	1704	78.59- 130.99	55.03
	6.663	6.668	-0.005	21080	0.59198	1964	80.95- 134.92	65.98
Average of Peak Concentrations =						1603		
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.825	4.833	-0.008	8608	0.32357	1074	80.00- 120.00	26.94(M)
	5.368	5.378	-0.010	26203	0.58495	1941	123.50- 205.84	82.01
	6.128	6.142	-0.014	45865	0.68807	2283	193.39- 322.32	143.55

PCB'S ARE DESIRED

Pattern Dead Resembles 1242

other pks match not Aroclor

094

Data File: /chem/can/gcs/a2hpk.i/81221a.b/074f0101.d
Report Date: 23-Dec-1998 10:21

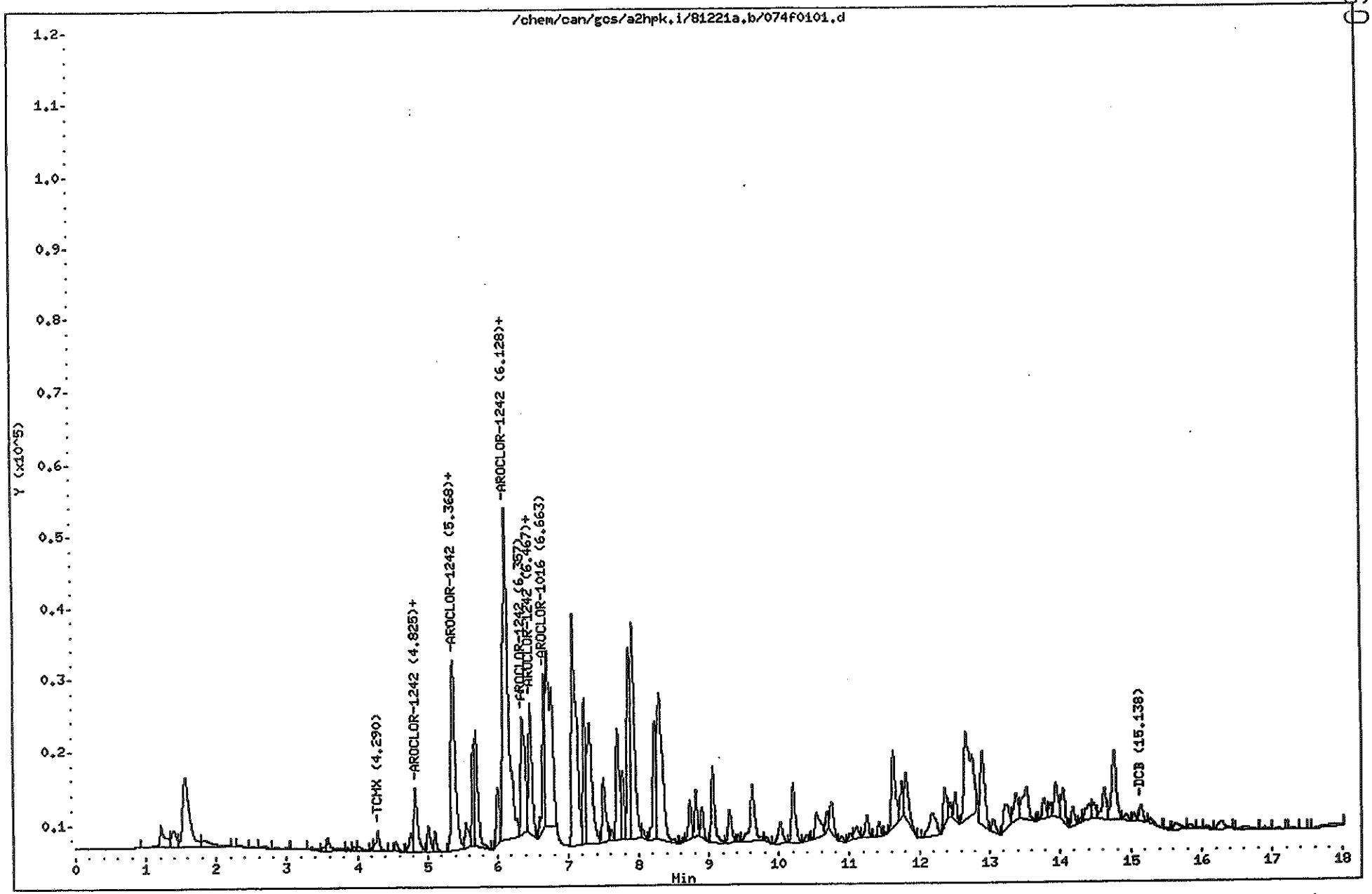
				CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
RT	EXP RT	DLT RT	RESPONSE				
5 AROCLOR-1242 (continued)							
6.357	6.368	-0.011	15898	0.42209	1400	108.65- 181.08	49.76
6.467	6.480	-0.013	17581	0.65617	2177	79.53- 132.55	55.03
		Average of Peak Concentrations =			1775		
$ 9 DCB					CAS #: 2051-24-3		
15.138	15.142	-0.004	2267	0.00172	5.704	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/074f0101.d
Date : 22-DEC-1998 16:20
Client ID: S-120298-JH-055
Sample Info: CNXCP101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 021

Sample WT/Vol: 30.18 / g
Work Order: CNXCQ101
Dilution factor: 100
Moisture %:2.5

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-056

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3400	U
11104-28-2	Aroclor 1221	3400	U
11141-16-5	Aroclor 1232	3400	U
53469-21-9	**Aroclor 1242**	**13000**	
12672-29-6	Aroclor 1248	3400	U
11097-69-1	Aroclor 1254	3400	U
11096-82-5	Aroclor 1260	3400	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/075f0101.d
Report Date: 23-Dec-1998 10:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/075f0101.d
Lab Smp Id: CNXCQ101 Client Smp ID: S-120298-JH-056
Inj Date : 22-DEC-1998 16:41
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCQ101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.180	initial volume

PCB'S ARE DECACHLOR

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.250	4.295	-0.045	1717	0.00105	34.69	80.00- 120.00	100.00(R)
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.823	4.825	-0.002	9915	0.31997	10600	80.00- 120.00	100.00
	5.368	5.370	-0.002	17653	0.32680	10830	127.22- 212.04	178.04
	6.128	6.132	-0.004	26650	0.31789	10530	198.24- 330.40	268.78
	6.465	6.470	-0.005	11684	0.34129	11310	78.59- 130.99	117.84
	6.665	6.668	-0.003	12754	0.35816	11870	80.95- 134.92	128.63
			Average of Peak Concentrations =			11030		
5 AROCLOR-1242						CAS #: 53469-21-9		
	4.823	4.833	-0.010	9915	0.37270	12350	80.00- 120.00	100.00
	5.368	5.378	-0.010	17653	0.39408	13060	123.50- 205.84	178.04
	6.128	6.142	-0.014	26650	0.39980	13250	193.39- 322.32	268.78

Pattern best resembles 1242

Data File: /chem/can/gcs/a2hpk.i/81221a.b/075f0101.d
Report Date: 23-Dec-1998 10:21

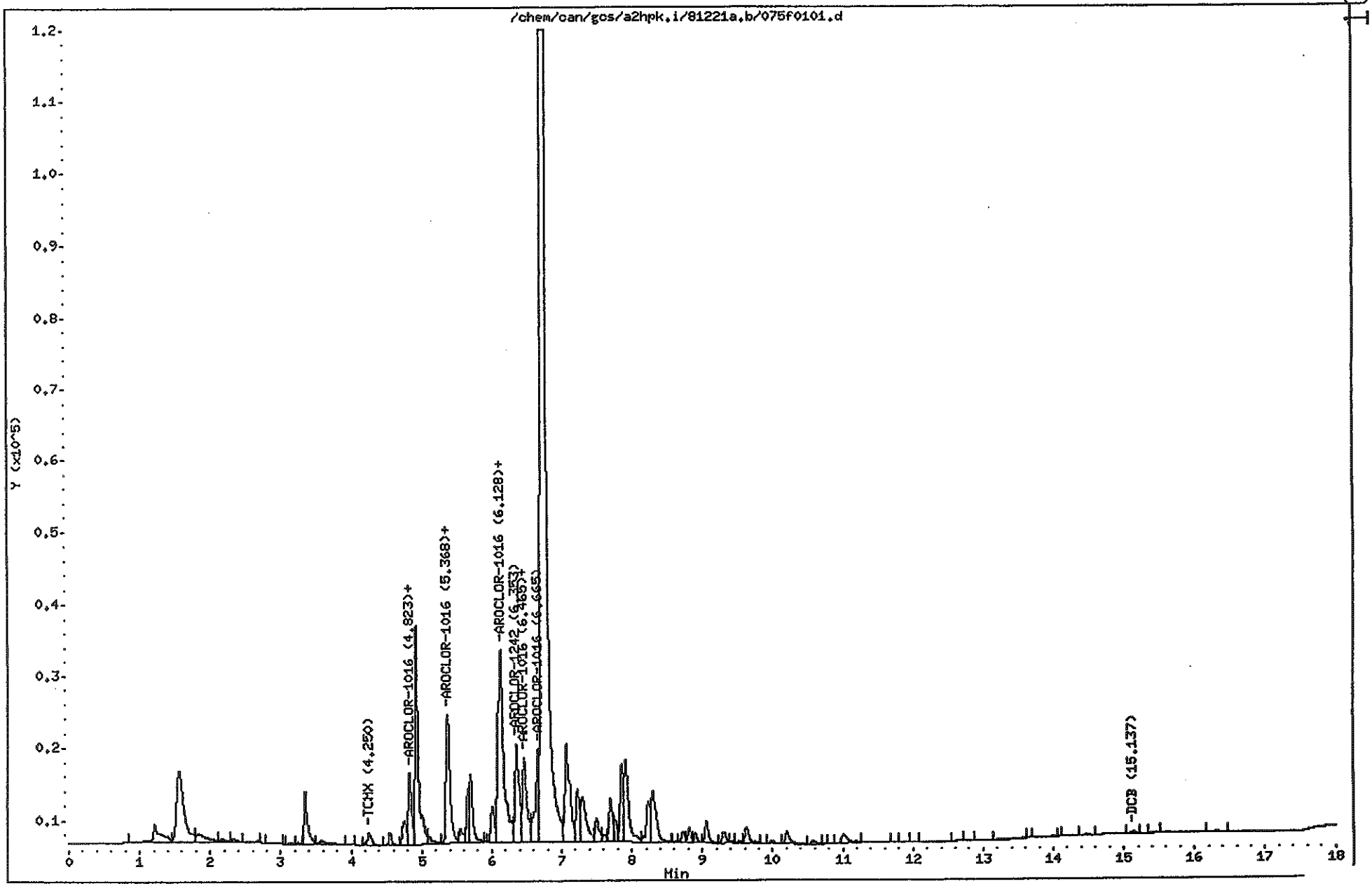
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
5 AROCLOR-1242 (continued)							
6.353	6.368	-0.015	13531	0.35924	11900	108.65- 181.08	136.47
6.465	6.480	-0.015	11684	0.43608	14450	79.53- 132.55	117.84
		Average of Peak Concentrations =			13000		
$ 9 DCB					CAS #: 2051-24-3		
15.137	15.142	-0.005	275	0.000209	6.911	80.00- 120.00	100.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/075f0101.d
Date : 22-DEC-1998 16:41
Client ID: S-120298-JH-056
Sample Info: CNXCQ101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 022

Sample WT/Vol: 30.07 / g
Work Order: CNXCR101
Dilution factor: 500
Moisture %:9.2

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-057

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	18000	U
11104-28-2	Aroclor 1221	18000	U
11141-16-5	Aroclor 1232	18000	U
53469-21-9	**Aroclor 1242**	**110000**	
12672-29-6	Aroclor 1248	18000	U
11097-69-1	Aroclor 1254	18000	U
11096-82-5	Aroclor 1260	18000	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/076f0101.d
Report Date: 23-Dec-1998 10:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/076f0101.d
Lab Smp Id: CNXCR101 Client Smp ID: S-120298-JH-057
Inj Date : 22-DEC-1998 17:01
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXCR101,500
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 500.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	500.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.070	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.250	4.295	-0.045	2209	0.00135	224.0	80.00- 120.00	100.00(R)
3 AROCLOR-1016					CAS #: 12674-11-2		
4.822	4.825	-0.003	17281	0.55768	92730	80.00- 120.00	100.00
5.372	5.370	0.002	28402	0.52579	87430	127.22- 212.04	164.35
6.128	6.132	-0.004	48315	0.57631	95830	198.24- 330.40	279.58
6.467	6.470	-0.003	17343	0.50659	84230	78.59- 130.99	100.36
6.663	6.668	-0.005	16820	0.47235	78540	80.95- 134.92	97.33
Average of Peak Concentrations =					87750		
5 AROCLOR-1242					CAS #: 53469-21-9		
4.822	4.833	-0.011	17281	0.64958	108000	80.00- 120.00	24.92(M)
5.372	5.378	-0.006	28402	0.63404	105400	123.50- 205.84	40.95
6.128	6.142	-0.014	48315	0.72482	120500	193.39- 322.32	69.66

[redacted]

Palter best resembles 1242

Data File: /chem/can/gcs/a2hpk.i/81221a.b/076f0101.d
Report Date: 23-Dec-1998 10:21

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
5 AROCLOR-1242 (continued)							
6.357	6.368	-0.011	12277	0.32595	54200	108.65- 181.08	17.70
6.467	6.480	-0.013	17343	0.64729	107600	79.53- 132.55	25.01
		Average of Peak Concentrations =			99160		
$ 9 DCB					CAS #: 2051-24-3		
15.137	15.142	-0.005	103	<0.0	12.99	80.00- 120.00	100.00(R)

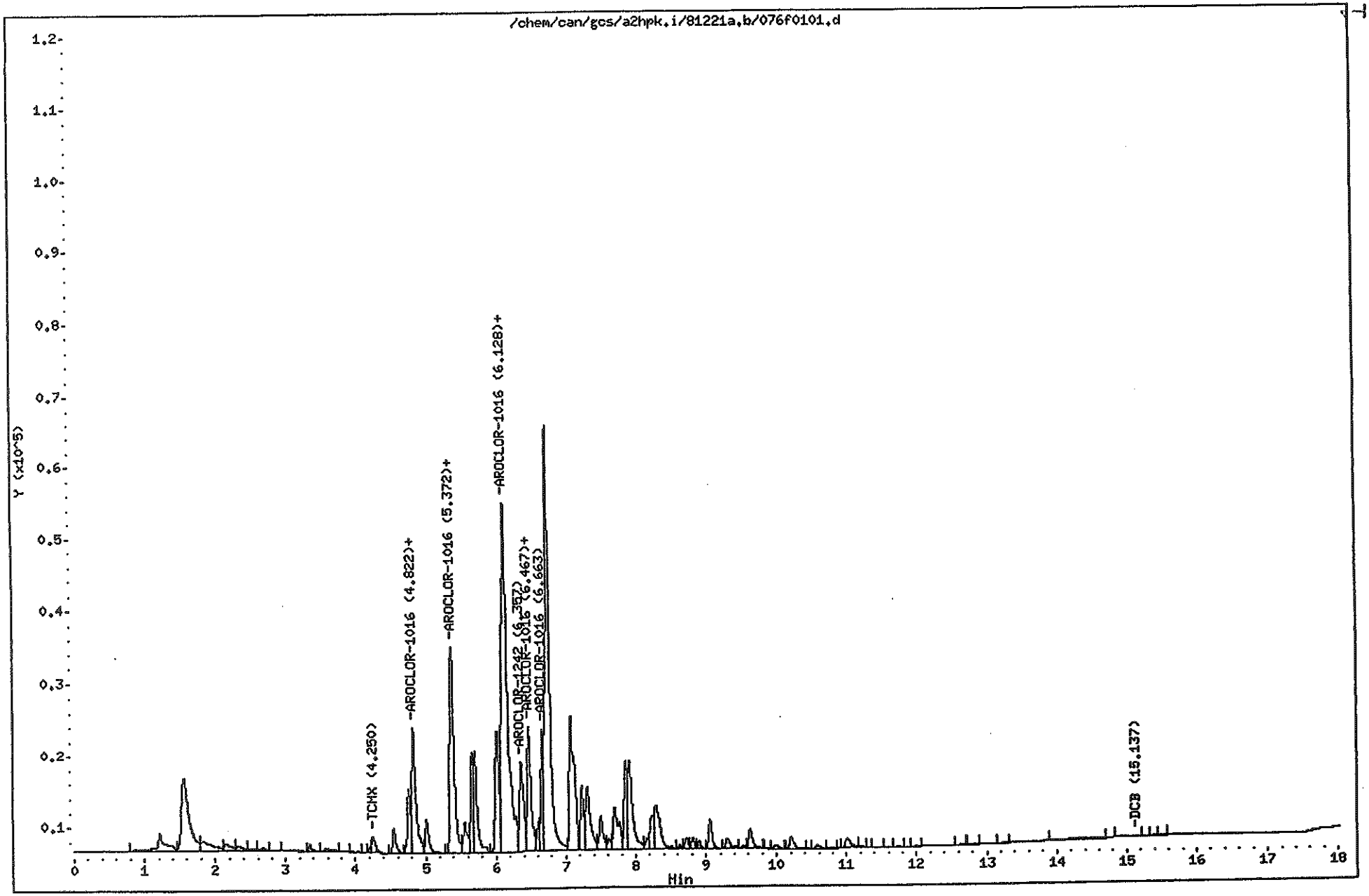
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/076f0101.d
Date : 22-DEC-1998 17:01
Client ID: S-120298-JH-057
Sample Info: CNXCR101,500
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 023

Sample WT/Vol: 30.06 / g
Work Order: CNXD0101
Dilution factor: 1
Moisture %:9.5

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: S-120298-JH-058

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	**Aroclor 1248**	**190**	
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/077f0101.d
Report Date: 23-Dec-1998 10:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/077f0101.d
Lab Smp Id: CNXD0101 Client Smp ID: S-120298-JH-058
Inj Date : 22-DEC-1998 17:22
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXD0101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.060	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.288	4.295	-0.007	27880	0.01700	5.655	80.00- 120.00	100.00
6 AROCLOR-1248						CAS #: 12672-29-6		
	5.367	5.365	0.002	8373	0.34621	115.2	80.00- 120.00	22.46(M)
	6.127	6.132	-0.005	32941	0.80922	269.2	126.36- 210.60	88.37
	7.067	7.072	-0.005	28145	0.49216	163.7	175.17- 291.95	75.50
	9.052	9.060	-0.008	15917	0.48060	159.9	99.08- 165.14	42.70
	9.617	9.628	-0.011	11778	0.52354	174.2	66.11- 110.18	31.60
			Average of Peak Concentrations =			176.4		
$ 9 DCB						CAS #: 2051-24-3		
	15.133	15.142	-0.009	27917	0.02117	7.043	80.00- 120.00	100.00

other pks match no Aroclor

Data File: /chem/can/gcs/a2hpk.i/81221a.b/077f0101.d
Report Date: 23-Dec-1998 10:21

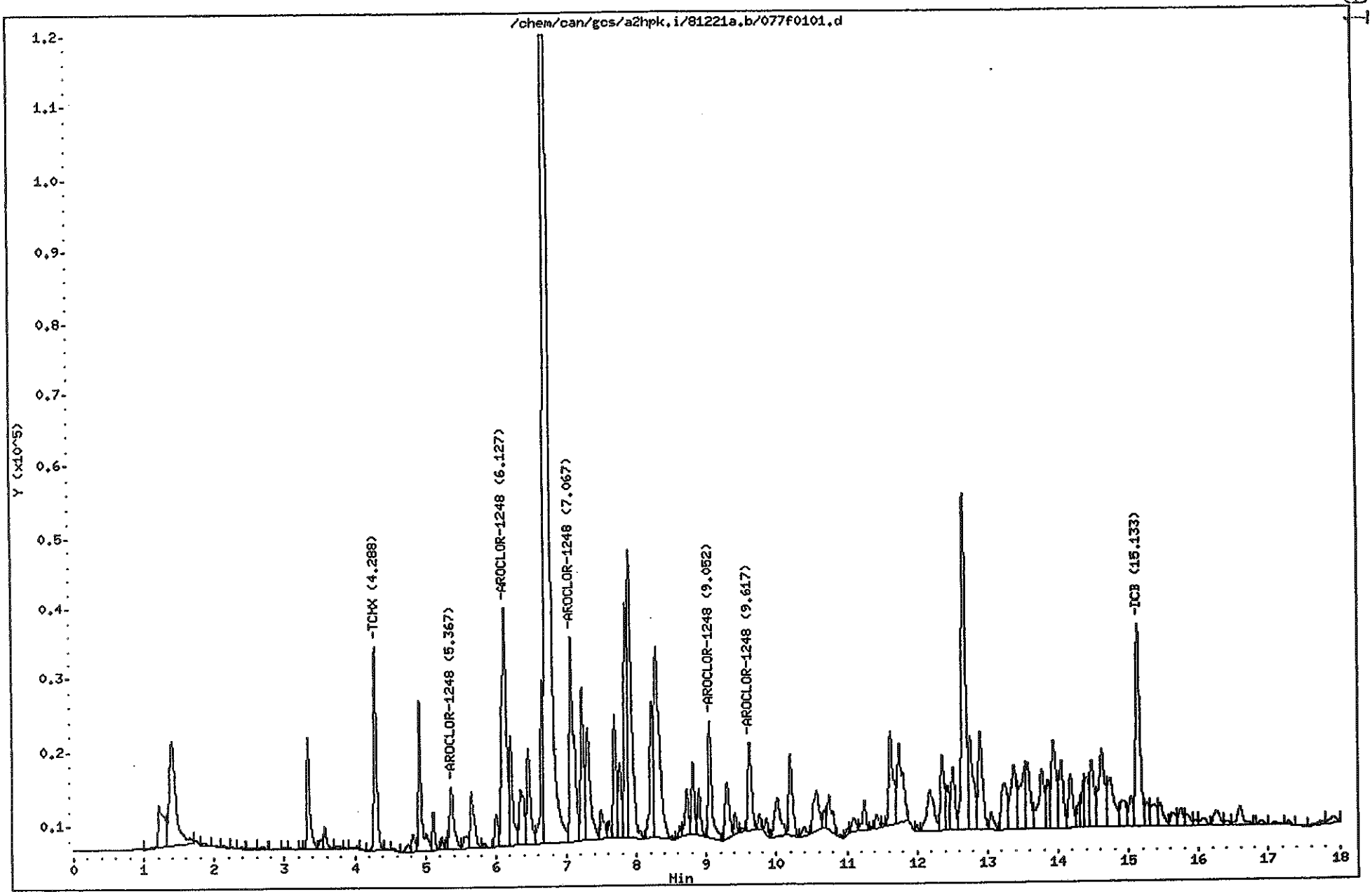
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/077f0101.d
Date : 22-DEC-1998 17:22
Client ID: S-120298-JH-058
Sample Info: CNXD0101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

1808



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 024

Sample WT/Vol: 30.01 / g
Work Order: CNXD1101
Dilution factor: 100
Moisture %:8.6

Date Received: 12/03/98
Date Extracted:12/08/98
Date Analyzed: 12/15/98

QC Batch: 8342110

Client Sample Id: S-120298-JH-059

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	**Aroclor 1016**	**29000**	
11104-28-2	Aroclor 1221	3600	U
11141-16-5	Aroclor 1232	3600	U
53469-21-9	Aroclor 1242	3600	U
12672-29-6	Aroclor 1248	3600	U
11097-69-1	Aroclor 1254	3600	U
11096-82-5	Aroclor 1260	3600	U

Data File: /chem/can/gcs/a2hpk.i/81214a.b/068f0101.d
Report Date: 16-Dec-1998 08:00

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/068f0101.d
Lab Smp Id: CNXD1101 Client Smp ID: S-120298-JH-059
Inj Date : 15-DEC-1998 14:38
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXD1101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.010	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.257	4.298	-0.041	1943	0.00118	39.48	80.00- 120.00	100.00(R)
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.832	4.832	0.000	13336	0.43037	14340	80.00- 120.00	29.70(M)
	5.378	5.377	0.001	46253	0.85626	28530	131.48- 219.13	103.01
	6.100	6.140	-0.040	63608	0.75873	25280	201.19- 335.32	141.66
	6.477	6.480	-0.003	32782	0.95756	31910	80.13- 133.54	73.01
	6.700	6.677	0.023	34783	0.97680	32550	83.41- 139.01	77.46
Average of Peak Concentrations =						26520		
$ 9 DCB						CAS #: 2051-24-3		
	15.182	15.157	0.025	1576	0.00120	39.83	80.00- 120.00	100.00(R)

PCB are degraded

Data File: /chem/can/gcs/a2hpk.i/81214a.b/068f0101.d
Report Date: 16-Dec-1998 08:00

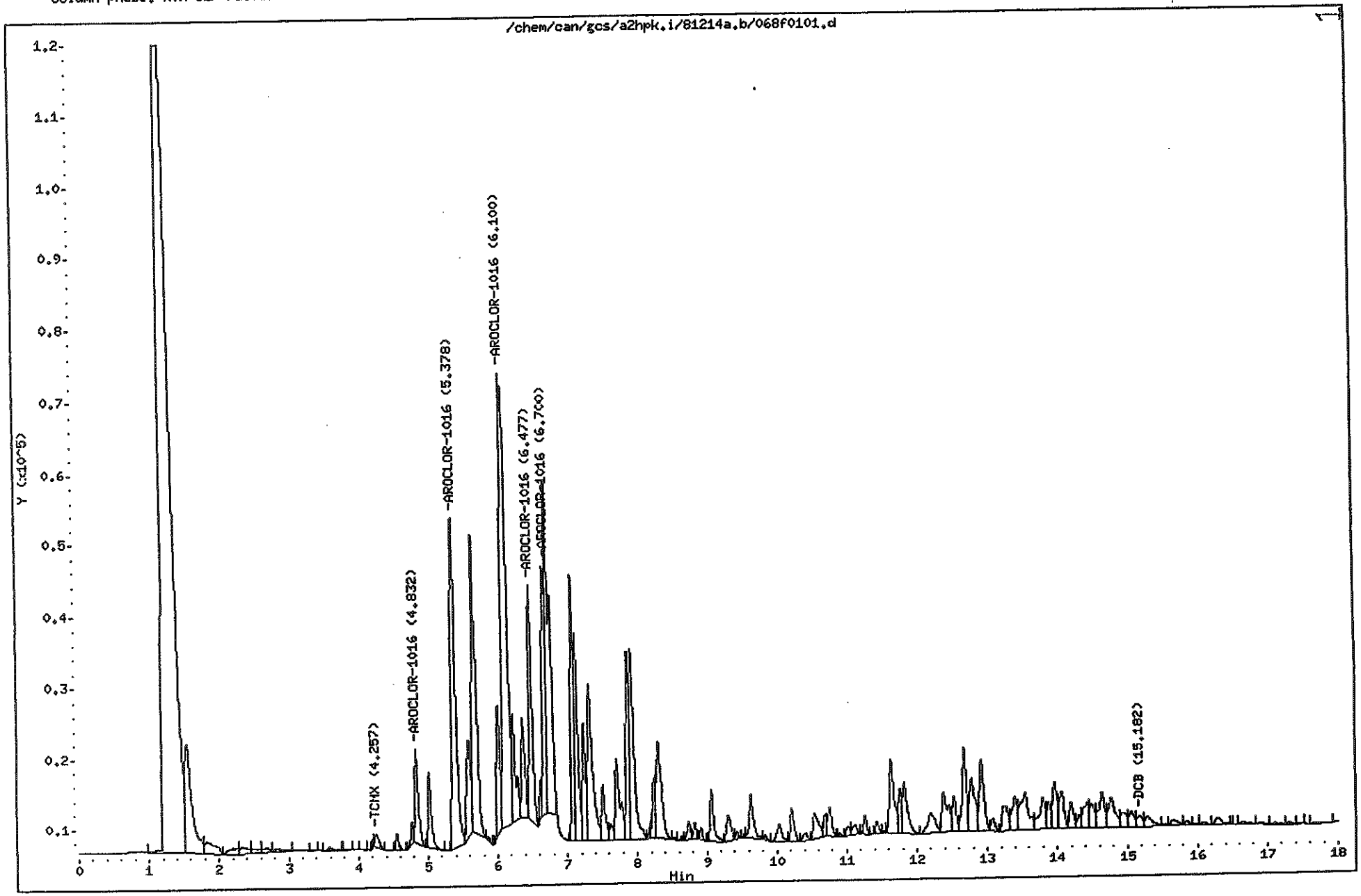
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81214a.b/068f0101.d
Date : 15-DEC-1998 14:38
Client ID: S-120298-JH-059
Sample Info: CNXD1101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 025

Sample WT/Vol: 30 / g
Work Order: CNXD2101
Dilution factor: 500
Moisture %:5.9

Date Received: 12/03/98
Date Extracted:12/08/98
Date Analyzed: 12/15/98

QC Batch: 8342110

Client Sample Id: S-120298-JH-060

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	**Aroclor 1016**	**73000**	
11104-28-2	Aroclor 1221	18000	U
11141-16-5	Aroclor 1232	18000	U
53469-21-9	Aroclor 1242	18000	U
12672-29-6	Aroclor 1248	18000	U
11097-69-1	Aroclor 1254	18000	U
11096-82-5	Aroclor 1260	18000	U

Data File: /chem/can/gcs/a2hpk.i/81214a.b/069f0101.d
Report Date: 16-Dec-1998 08:00

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/069f0101.d
Lab Smp Id: CNXD2101 Client Smp ID: S-120298-JH-060
Inj Date : 15-DEC-1998 14:59
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXD2101,500
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1
Dil Factor: 500.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	500.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.258	4.298	-0.040	1577	0.000962	160.2	80.00- 120.00	100.00(R)
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.832	4.832	0.000	8500	0.27430	45720	80.00- 120.00	26.26(M)
	5.385	5.377	0.008	20126	0.37258	62100	131.48- 219.13	62.17
	6.138	6.140	-0.002	35590	0.42452	70750	201.19- 335.32	109.94
	6.478	6.480	-0.002	16564	0.48383	80640	80.13- 133.54	51.17
	6.700	6.677	0.023	17639	0.49535	82560	83.41- 139.01	54.49
Average of Peak Concentrations =						68350		
$ 9 DCB						CAS #: 2051-24-3		
	15.157	15.157	0.000	117	<0.0	14.79	80.00- 120.00	100.00(R)

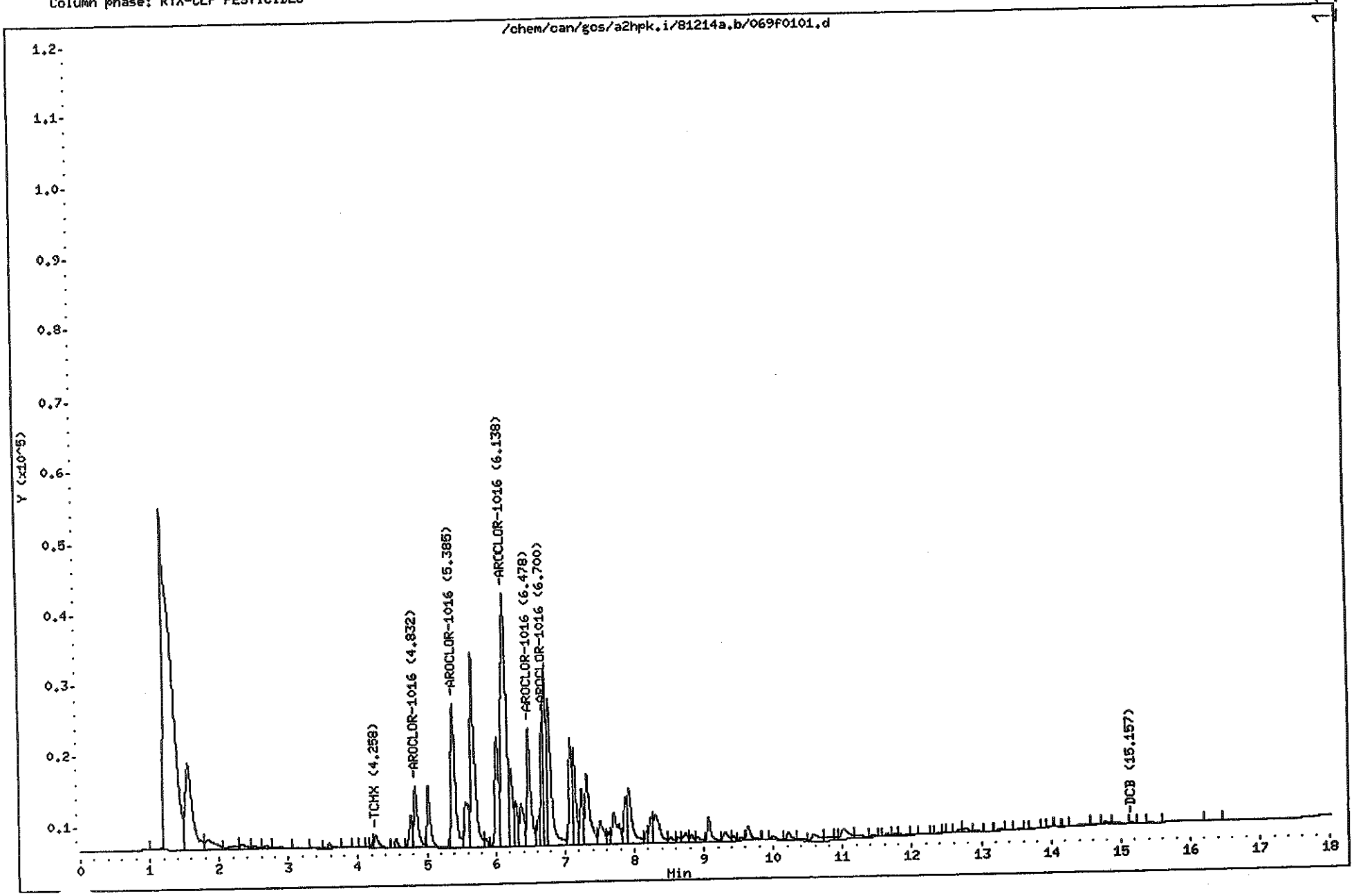
Data File: /chem/can/gcs/a2hpk.i/81214a.b/069f0101.d
Report Date: 16-Dec-1998 08:00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81214a.b/069f0101.d
Date : 15-DEC-1998 14:59
Client ID: S-120298-JH-060
Sample Info: CNXD2101,500
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L030146 026

Sample WT/Vol: 30.17 / g
Work Order: CNXD3101
Dilution factor: 5000
Moisture %:10

Date Received: 12/03/98
Date Extracted:12/08/98
Date Analyzed: 12/17/98

QC Batch: 8342110

Client Sample Id: S-120298-JH-061

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	**Aroclor 1016**	**700000**	
11104-28-2	Aroclor 1221	180000	U
11141-16-5	Aroclor 1232	180000	U
53469-21-9	Aroclor 1242	180000	U
12672-29-6	Aroclor 1248	180000	U
11097-69-1	Aroclor 1254	180000	U
11096-82-5	Aroclor 1260	180000	U

Data File: /chem/can/gcs/a2hpk.i/81217a.b/017f0101.d
Report Date: 18-Dec-1998 08:34

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/017f0101.d
Lab Smp Id: CNXD3101 Client Smp ID: S-120298-JH-061
Inj Date : 17-DEC-1998 20:54
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CNXD3101,5000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 18-Dec-1998 08:19 a Quant Type: ESTD
Cal Date : 17-DEC-1998 19:30 Cal File: 013f0101.d
Als bottle: 1
Dil Factor: 5000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	5000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.170	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.232	4.272	-0.040	4276	0.00261	4321	80.00- 120.00	100.00(R)
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.802	4.802	0.000	22810	0.73610	1220000	80.00- 120.00	27.84(M)
	5.357	5.347	0.010	19675	0.36423	603600	125.72- 209.53	24.01
	6.108	6.105	0.003	38049	0.45385	752200	205.40- 342.34	46.44
	6.445	6.443	0.002	5463	0.15957	264400	83.54- 139.23	6.67
	6.642	6.642	0.000	6398	0.17967	297800	82.06- 136.76	7.81
Average of Peak Concentrations =						627600		

PCBs are degraded

Data File: /chem/can/gcs/a2hpk.i/81217a.b/017f0101.d
Report Date: 18-Dec-1998 08:34

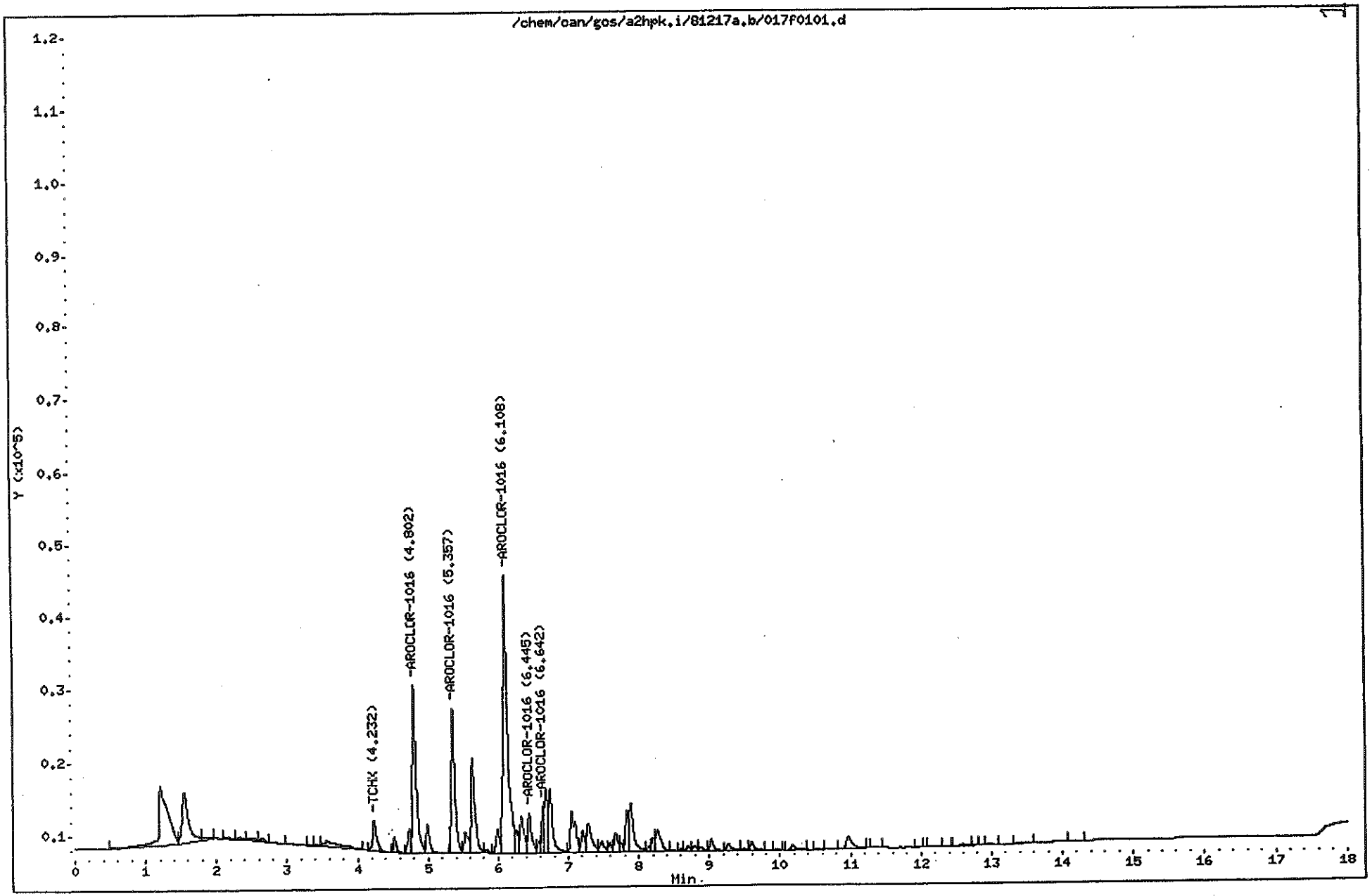
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/017f0101.d
Date : 17-DEC-1998 20:54
Client ID: S-120298-JH-061
Sample Info: CNXD3101,5000
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

120



POLYCHLORINATED BIPHENYLS
STANDARD DATA

Report Date : 03-Nov-1998 07:26

QUANTERRA-NORTH CANTON

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-1998 19:12
End Cal Date : 03-NOV-1998 03:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.40
Integrator : Falcon
Method file : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Cal Date : 03-Nov-1998 07:23 a
Curve Type : Average

Calibration File Names:
Level 1: /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Level 2: /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Level 3: /chem/can/gcs/a2hpk.i/81102ic.b/033f0101.d
Level 4: /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Level 5: /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d

Compound	0.10000 Level 1	0.20000 Level 2	0.50000 Level 3	1.000 Level 4	2.000 Level 5	RRF	% RSD	
2 AROCLOR-1221 (1)	21460	20730	20190	17924	16131	19287	11.430	
(2)	16100	15495	14828	12623	11417	14093	14.128	
(3)	54310	50655	46518	39154	34580	45044	18.025	
3 AROCLOR-1016 (1)	36790	34585	30874	27590	25098	30988	15.548	
(2)	68020	62015	53172	46229	40652	54018	20.698	<-
(3)	95450	91205	84420	77017	71084	83835	11.908	<-
(4)	37260	36240	34612	32368	30694	34235	7.910	<-
(5)	44370	40335	35072	30878	27392	35609	19.318	<-
4 AROCLOR-1232 (1)	14570	13965	13636	12490	11190	13170	10.180	
(2)	44780	41635	38238	33204	28606	37292	17.378	
(3)	31460	29150	26666	23094	19667	26007	18.109	
(4)	40820	39330	39264	35707	32122	37448	9.404	
(5)	24030	22405	22566	20457	18176	21527	10.513	
5 AROCLOR-1242 (1)	31840	30125	27060	23943	20048	26603	17.838	
(2)	56560	52325	45014	38604	31472	44795	22.628	<-
(3)	75200	73520	68926	62323	53320	66658	13.457	<-
(4)	42720	41435	39098	35261	29812	37665	13.876	<-
(5)	27900	27675	28504	26690	23198	26793	7.888	<-
6 AROCLOR-1248 (1)	29320	27330	25062	20952	18260	24185	18.788	
(2)	44030	42975	43582	38093	34856	40707	9.942	
(3)	67850	63805	60072	50051	44158	57187	17.189	
(4)	37480	34790	34958	30333	28032	33119	11.579	
(5)	24310	23460	24076	20988	19650	22497	9.199	
7 AROCLOR-1254 (1)	50240	45555	41024	34541	29584	40189	20.627	<-
(2)	112520	106390	100994	87149	78194	97050	14.533	<-
(3)	79920	75180	73302	63530	57108	69808	13.285	<-
(4)	65830	60935	56698	48419	42828	54942	16.948	<-
(5)	91290	84715	81994	71097	64358	78691	13.761	<-

Report Date : 03-Nov-1998 07:26

QUANTERRA-NORTH CANTON

INITIAL CALIBRATION DATA

Start Cal Date : 02-NOV-1998 19:12
End Cal Date : 03-NOV-1998 03:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.40
Integrator : Falcon
Method file : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Cal Date : 03-Nov-1998 07:23 a
Curve Type : Average

Compound	0.10000 Level 1	0.20000 Level 2	0.50000 Level 3	1.000 Level 4	2.000 Level 5	RRF	% RSD	
8 AROCLOR-1260 (1)	41870	38700	34348	30809	28066	34759	16.190	
(2)	99700	91190	76716	67402	60600	79122	20.529	<-
(3)	114350	105660	90302	79608	72222	92428	18.994	<-
(4)	105850	99095	89990	82641	76873	90890	12.977	<-
(5)	146110	136360	125742	116497	111328	127207	11.187	<-
10 AROCLOR-1262 (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
11 AROCLOR-1268 (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
$ 1 TCMX	1809400	1745600	1665280	1571180	1408790	1640050	9.577	
$ 9 DCB	1493200	1454700	1321880	1224460	1098450	1318538	12.366	

Report Date: 05-Nov-1998 17:03

Calibration History

Method : /chem/can/gcs/a2hpk.i/81102a.b/kfpcbIII.m
Start Cal Date: 21-SEP-1998 13:45
End Cal Date : 13-OCT-1998 18:00

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.1000		
13-OCT-1998 16:15	AR1262	012f0101.d
23-SEP-1998 11:27	AR1232	013f0101.d
23-SEP-1998 09:42	AR1242	008f0101.d
21-SEP-1998 17:15	AR1248	013f0101.d
21-SEP-1998 15:30	AR2154	008f0101.d
21-SEP-1998 13:45	AR1660td	003f0101.d
Cal Level: 2 , Cal Amount: 0.2000		
13-OCT-1998 16:36	AR1262	013f0101.d
23-SEP-1998 11:48	AR1232	014f0101.d
23-SEP-1998 10:03	AR1242	009f0101.d
21-SEP-1998 17:36	AR1248	014f0101.d
21-SEP-1998 15:51	AR2154	009f0101.d
21-SEP-1998 14:06	AR1660td	004f0101.d
Cal Level: 3 , Cal Amount: 0.5000		
13-OCT-1998 16:57	AR1262	014f0101.d
13-OCT-1998 18:00	AR1268	017f0101.d
23-SEP-1998 12:09	AR1232	015f0101.d
23-SEP-1998 10:24	AR1242	010f0101.d
21-SEP-1998 17:57	AR1248	015f0101.d
21-SEP-1998 16:12	AR2154	010f0101.d
21-SEP-1998 14:27	AR1660td	005f0101.d
Cal Level: 4 , Cal Amount: 1.000		
13-OCT-1998 17:18	AR1262	015f0101.d
23-SEP-1998 12:30	AR1232	016f0101.d
23-SEP-1998 10:45	AR1242	011f0101.d
21-SEP-1998 18:18	AR1248	016f0101.d
21-SEP-1998 16:33	AR2154	011f0101.d
21-SEP-1998 14:48	AR1660td	006f0101.d
Cal Level: 5 , Cal Amount: 2.000		
13-OCT-1998 17:39	AR1262	016f0101.d
23-SEP-1998 12:51	AR1232	017f0101.d
23-SEP-1998 11:06	AR1242	012f0101.d
21-SEP-1998 18:39	AR1248	017f0101.d

21-SEP-1998 15:09	AR1660td	007f0101.d

Continuing Calibration

02-NOV-1998 14:10	AR1660td	017f0101.d
02-NOV-1998 10:09	AR1232	007f0101.d
02-NOV-1998 09:48	AR1242	006f0101.d
02-NOV-1998 09:27	AR1248	005f0101.d
02-NOV-1998 09:06	AR2154	004f0101.d
02-NOV-1998 13:18	AR1660td	016f0101.d
02-NOV-1998 08:45	AR1660td	003f0101.d

Data File: /chem/can/gcs/a2hpk.i/81102ic.b/011f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

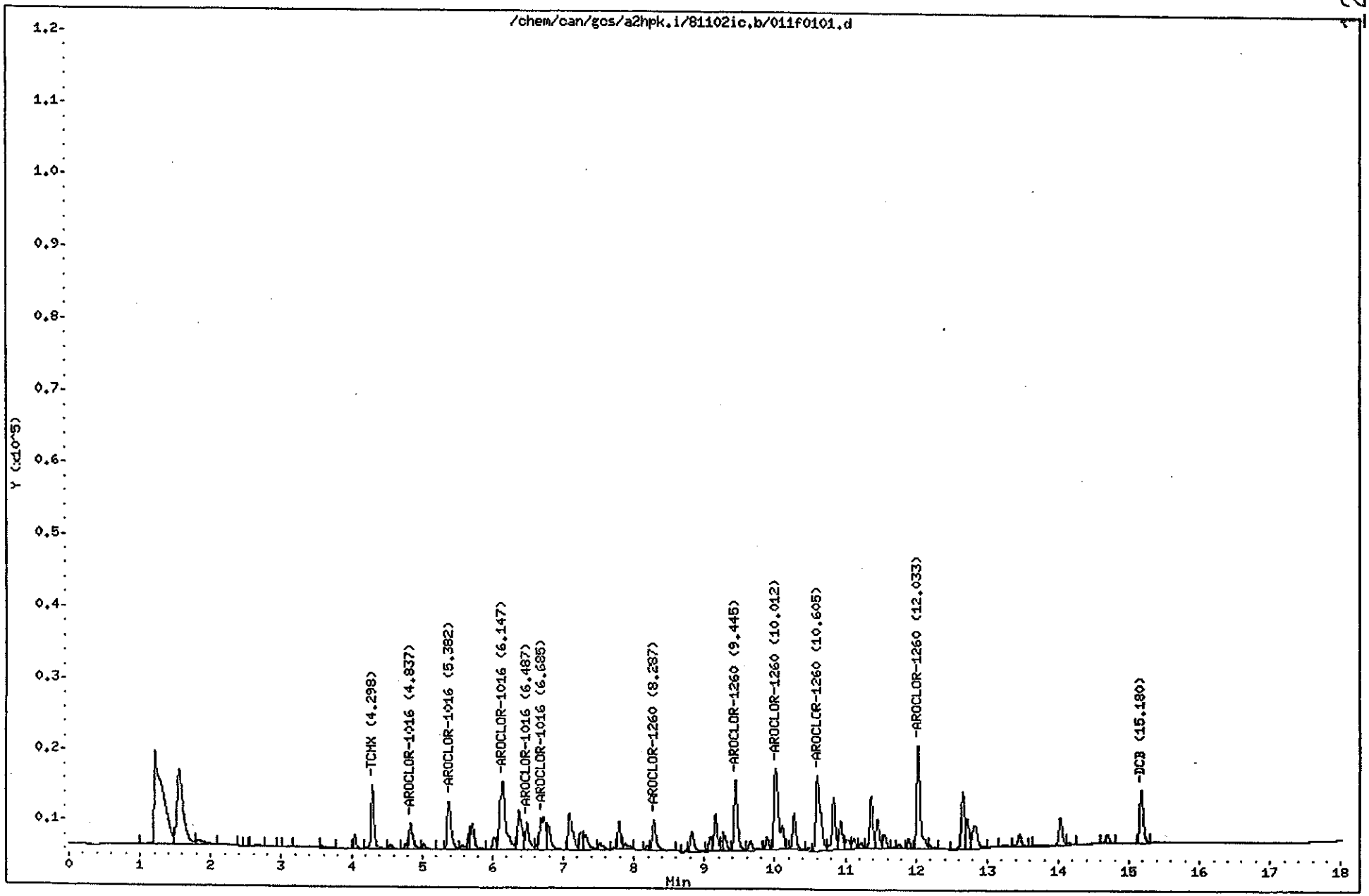
Data file : /chem/can/gcs/a2hpk.i/81102ic.b/011f0101.d
Lab Smp Id: 1660 C064
Inj Date : 02-NOV-1998 19:12 Inst ID: a2hpk.i
Operator : 001803
Smp Info : 1660 C064,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 19:12 Cal File: 011f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.298	4.297	0.001	9047	0.00500	0.005000	75.00- 125.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.837	4.828	0.009	3679	0.10000	0.1000	75.00- 125.00	100.00
	5.382	5.380	0.002	6802	0.10000	0.1000	129.17- 215.28	184.89
	6.147	6.138	0.009	9545	0.10000	0.1000	205.08- 341.79	259.45
	6.487	6.480	0.007	3726	0.10000	0.1000	84.08- 140.13	101.28
	6.685	6.680	0.005	4437	0.10000	0.1000	85.20- 142.00	120.60
Average of Peak Amounts =						0.1		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.287	8.282	0.005	4187	0.10000	0.1000	75.00- 125.00	100.00
	9.445	9.440	0.005	9970	0.10000	0.1000	167.51- 279.19	238.12
	10.012	10.007	0.005	11435	0.10000	0.1000	197.18- 328.63	273.11
	10.605	10.600	0.005	10585	0.10000	0.1000	196.50- 327.49	252.81
	12.033	12.030	0.003	14611	0.10000	0.1000	274.56- 457.60	348.96
Average of Peak Amounts =						0.1		
$ 9 DCB						CAS #: 2051-24-3		
	15.180	15.177	0.003	7466	0.00500	0.005000	75.00- 125.00	100.00

File: /chem/can/gcs/a2hpk.i/81102ic.b/011f0101.d
Date: 02-NOV-1998 19:12
Client ID:
Sample Info: 1660 C064,,1,1

Instrument: a2hpk.i
Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/012f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/012f0101.d
Lab Smp Id: 1660 C065
Inj Date : 02-NOV-1998 19:33
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C065,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 19:33 Cal File: 012f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

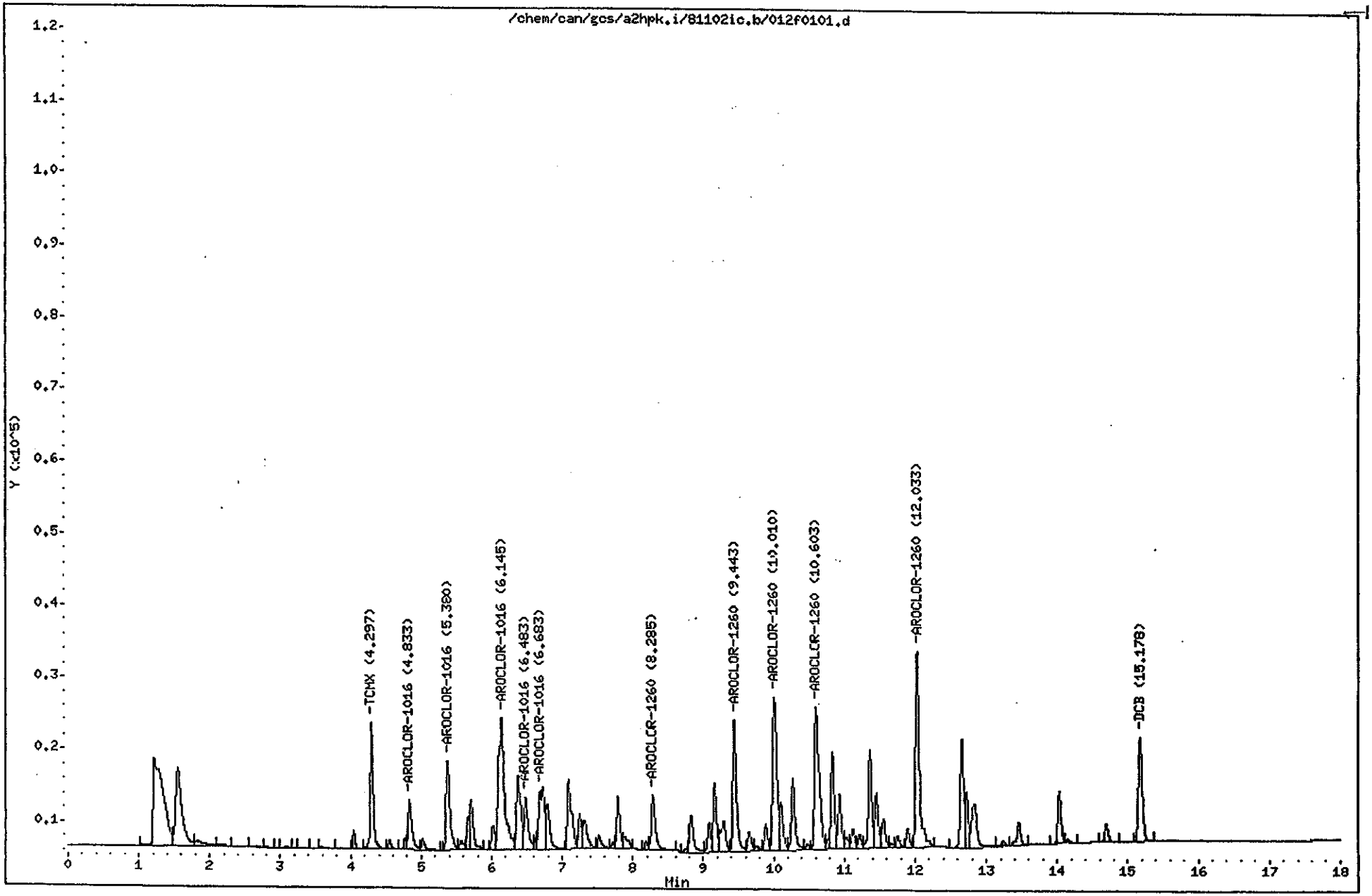
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.297	4.297	0.000	17456	0.01000	0.009820	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.833	4.828	0.005	6917	0.20000	0.1938	75.00- 125.00	100.00
5.380	5.380	0.000	12403	0.20000	0.1908	129.17- 215.28	179.31
6.145	6.138	0.007	18241	0.20000	0.1954	205.08- 341.79	263.71
6.483	6.480	0.003	7248	0.20000	0.1972	84.08- 140.13	104.79
6.683	6.680	0.003	8067	0.20000	0.1905	85.20- 142.00	116.63
Average of Peak Amounts =					0.194		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.285	8.282	0.003	7740	0.20000	0.1921	75.00- 125.00	100.00
9.443	9.440	0.003	18238	0.20000	0.1911	167.51- 279.19	235.63
10.010	10.007	0.003	21132	0.20000	0.1921	197.18- 328.63	273.02
10.603	10.600	0.003	19819	0.20000	0.1934	196.50- 327.49	256.06
12.033	12.030	0.003	27272	0.20000	0.1931	274.56- 457.60	352.35
Average of Peak Amounts =					0.192		
$ 9 DCB					CAS #: 2051-24-3		
15.178	15.177	0.001	14547	0.01000	0.009869	75.00- 125.00	100.00

File: /chem/can/gcs/a2hpk.i/81102ic.b/012f0101.d
Date : 02-NOV-1998 19:33
Client ID:
Sample Info: 1660 C065,,1,2

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/013f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/013f0101.d
Lab Smp Id: 1660 C066
Inj Date : 02-NOV-1998 19:54 Inst ID: a2hpk.i
Operator : 001803
Smp Info : 1660 C066,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 19:54 Cal File: 013f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

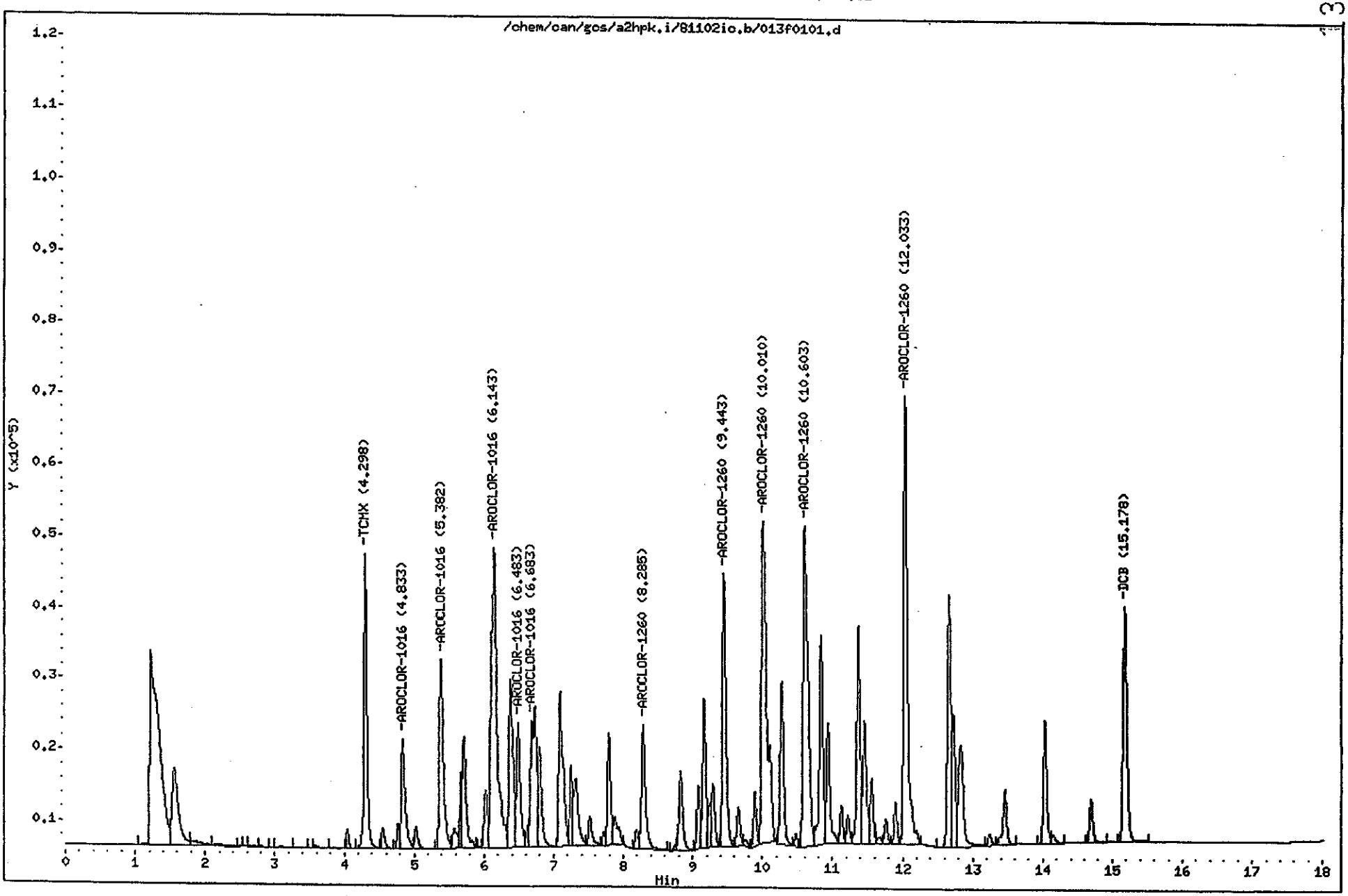
	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$	1 TCMX					CAS #: 877-09-8		
	4.298	4.297	0.001	41632	0.02500	0.02392	75.00- 125.00	100.00
	3 AROCLOR-1016					CAS #: 12674-11-2		
	4.833	4.828	0.005	15437	0.50000	0.4529	75.00- 125.00	100.00
	5.382	5.380	0.002	26586	0.50000	0.4353	129.17- 215.28	172.22
	6.143	6.138	0.005	42210	0.50000	0.4671	205.08- 341.79	273.43
	6.483	6.480	0.003	17306	0.50000	0.4802	84.08- 140.13	112.11
	6.683	6.680	0.003	17536	0.50000	0.4392	85.20- 142.00	113.60
	Average of Peak Amounts =					0.455		
	8 AROCLOR-1260					CAS #: 11096-82-5		
	8.285	8.282	0.003	17174	0.50000	0.4483	75.00- 125.00	100.00
	9.443	9.440	0.003	38358	0.50000	0.4300	167.51- 279.19	223.35
	10.010	10.007	0.003	45151	0.50000	0.4365	197.18- 328.63	262.90
	10.603	10.600	0.003	44995	0.50000	0.4577	196.50- 327.49	261.99
	12.033	12.030	0.003	62871	0.50000	0.4620	274.56- 457.60	366.08
	Average of Peak Amounts =					0.447		
$	9 DCB					CAS #: 2051-24-3		
	15.178	15.177	0.001	33047	0.02500	0.02322	75.00- 125.00	100.00

1 File: /chem/can/gcs/a2hpk.i/81102ic.b/013f0101.d
Date : 02-NOV-1998 19:54
Client ID:
Sample Info: 1660 C066,,1,3

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/014f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/014f0101.d
Lab Smp Id: 1660 C067
Inj Date : 02-NOV-1998 20:15
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C067,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 20:15 Cal File: 014f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

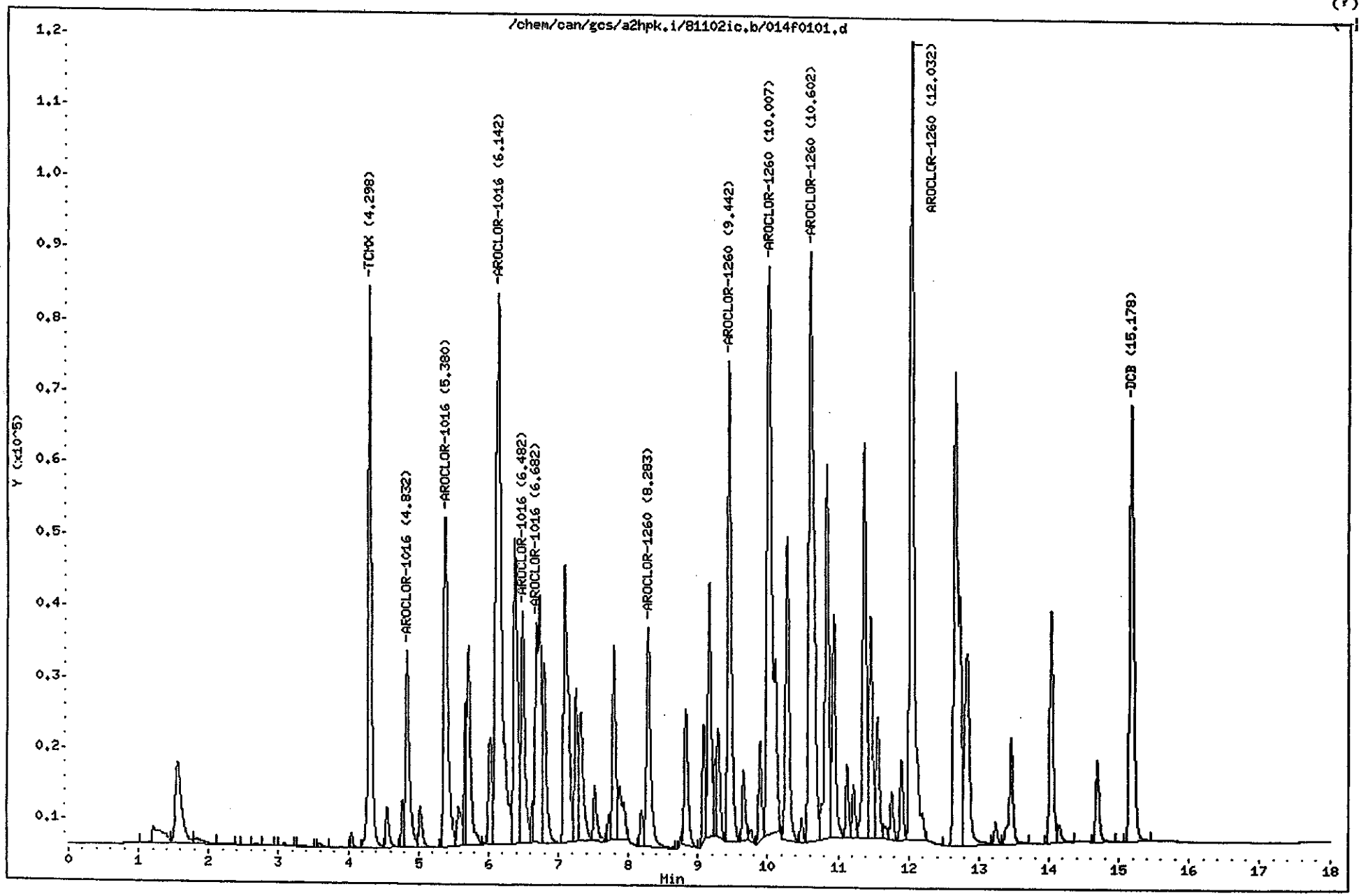
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.298	4.297	0.001	78559	0.05000	0.04627	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.832	4.828	0.004	27590	1.00000	0.8500	75.00- 125.00	100.00
5.380	5.380	0.000	46229	1.00000	0.8060	129.17- 215.28	167.56
6.142	6.138	0.004	77017	1.00000	0.8850	205.08- 341.79	279.15
6.482	6.480	0.002	32368	1.00000	0.9216	84.08- 140.13	117.32
6.682	6.680	0.002	30878	1.00000	0.8198	85.20- 142.00	111.92
Average of Peak Amounts =					0.856		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.283	8.282	0.001	30809	1.00000	0.8457	75.00- 125.00	100.00
9.442	9.440	0.002	67402	1.00000	0.8048	167.51- 279.19	218.77
10.007	10.007	0.000	79608	1.00000	0.8166	197.18- 328.63	258.39
10.602	10.600	0.002	82641	1.00000	0.8755	196.50- 327.49	268.24
12.032	12.030	0.002	116497	1.00000	0.8881	274.56- 457.60	378.13
Average of Peak Amounts =					0.846		
$ 9 DCB					CAS #: 2051-24-3		
15.178	15.177	0.001	61223	0.05000	0.04457	75.00- 125.00	100.00

D ile: /chem/can/gcs/a2hpk.i/81102ic.b/014f0101.d
Dat : 02-NOV-1998 20:15
Client ID:
Sample Info: 1660 C067,,1,4

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/015f0101.d
Report Date: 03-Nov-1998 07:39

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/015f0101.d
Lab Smp Id: 1660 C068
Inj Date : 02-NOV-1998 20:36
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1660 C068,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 20:36 Cal File: 015f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
$ 1 TCMX						CAS #: 877-09-8		
4.297	4.297	0.000	140879	0.10000	0.08590	75.00- 125.00		100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
4.828	4.828	0.000	50197	2.00000	1.620	75.00- 125.00		100.00
5.380	5.380	0.000	81304	2.00000	1.505	129.17- 215.28		161.97
6.138	6.138	0.000	142169	2.00000	1.696	205.08- 341.79		283.22
6.480	6.480	0.000	61389	2.00000	1.793	84.08- 140.13		122.30
6.680	6.680	0.000	54783	2.00000	1.538	85.20- 142.00		109.14
Average of Peak Amounts =					1.63			
8 AROCLOR-1260						CAS #: 11096-82-5		
8.282	8.282	0.000	56132	2.00000	1.615	75.00- 125.00		100.00
9.440	9.440	0.000	121200	2.00000	1.532	167.51- 279.19		215.92
10.007	10.007	0.000	144445	2.00000	1.563	197.18- 328.63		257.33
10.600	10.600	0.000	153746	2.00000	1.692	196.50- 327.49		273.90
12.030	12.030	0.000	222656	2.00000	1.750	274.56- 457.60		396.67
Average of Peak Amounts =					1.63			
$ 9 DCB						CAS #: 2051-24-3		
15.177	15.177	0.000	109845	0.10000	0.08331	75.00- 125.00		100.00

D. ile: /chem/can/gcs/a2hpk.i/81102ic.b/015f0101.d
Date : 02-NOV-1998 20:36
Client ID:
Sample Info: 1660 C068,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

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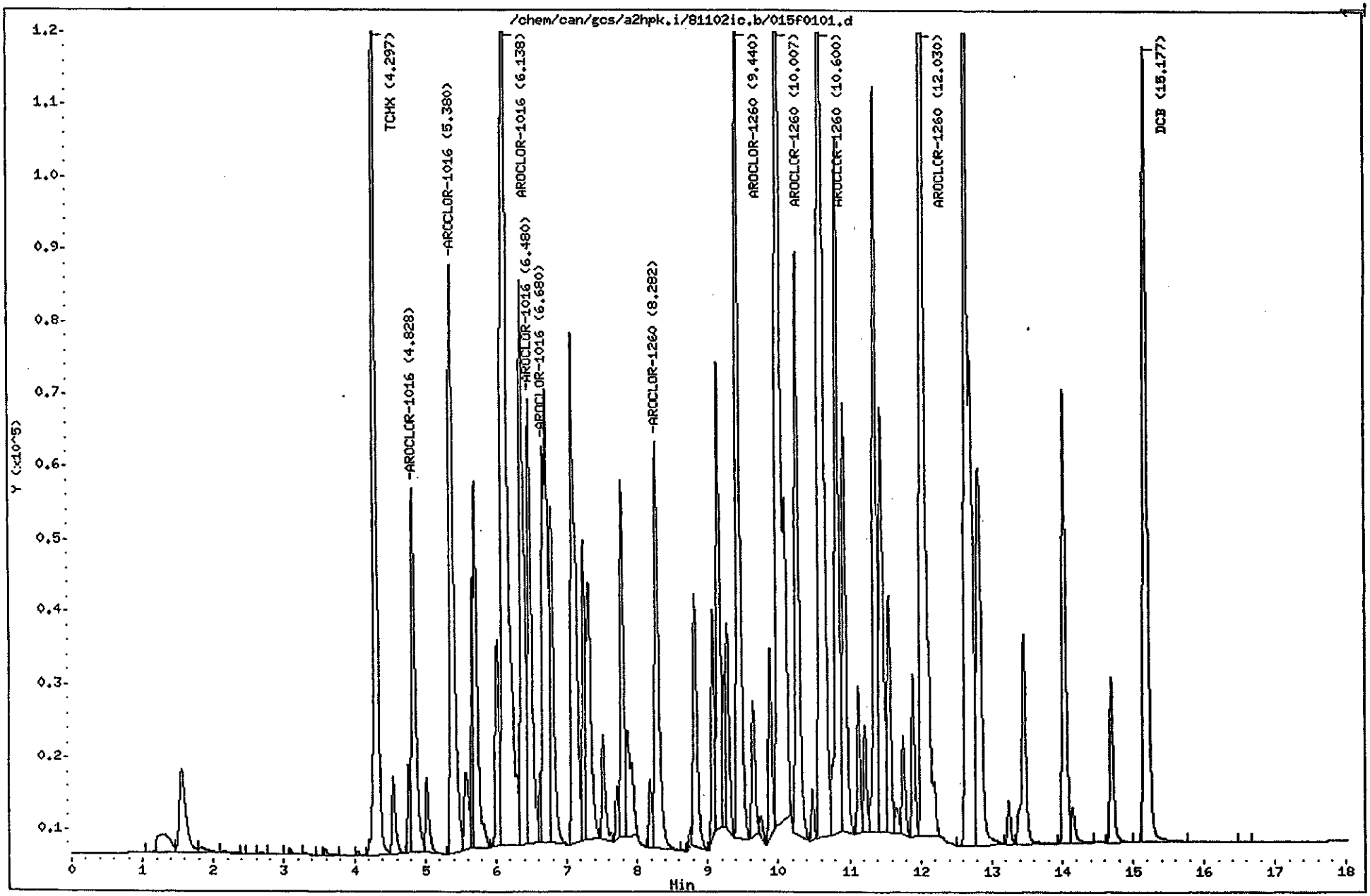


Data File: /chem/can/gcs/a2hpk.i/81102ic.b/016f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/016f0101.d
Lab Smp Id: 2154 C059
Inj Date : 02-NOV-1998 20:57
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C059,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 20:57 Cal File: 016f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

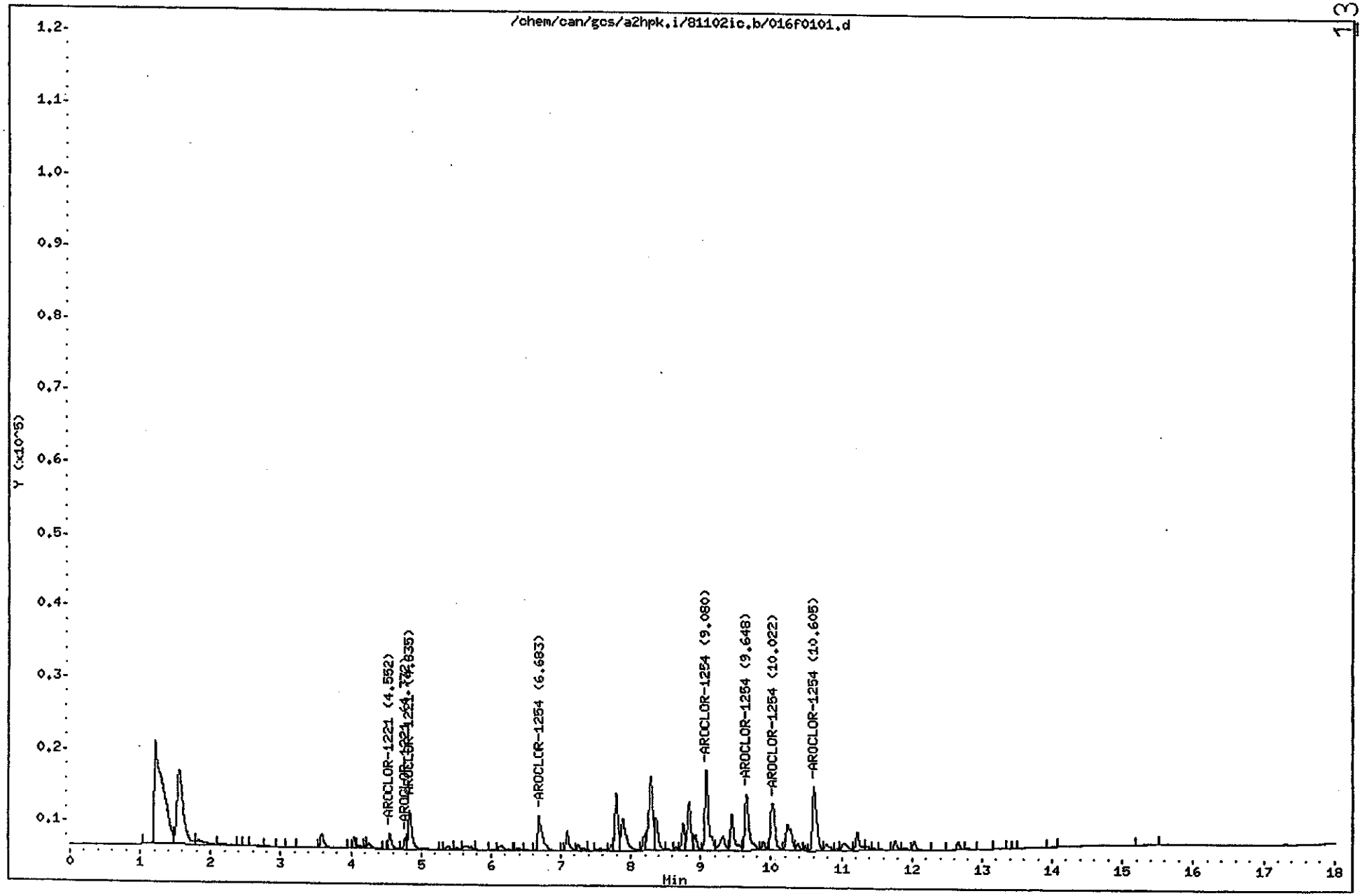
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.683	6.680	0.003	5024	0.10000	0.1000	75.00- 125.00	100.00
9.080	9.077	0.003	11252	0.10000	0.1000	184.64- 307.73	223.96
9.648	9.640	0.008	7992	0.10000	0.1000	134.01- 223.35	159.08
10.022	10.022	0.000	6583	0.10000	0.1000	103.66- 172.76	131.03
10.605	10.602	0.003	9129	0.10000	0.1000	149.90- 249.84	181.71
Average of Peak Amounts =					0.1		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.552	4.547	0.005	2146	0.10000	0.1000	75.00- 125.00	100.00
4.772	4.765	0.007	1610	0.10000	0.1000	55.08- 91.80	75.02
4.835	4.828	0.007	5431	0.10000	0.1000	172.80- 288.00	253.08
Average of Peak Amounts =					0.1		

D: ile: /chem/can/gcs/a2hpk.i/81102ic.b/016f0101.d
D: 02-NOV-1998 20:57
Client ID:
Sample Info: 2154 C059,,1,1

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/017f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/017f0101.d
Lab Smp Id: 2154 C060
Inj Date : 02-NOV-1998 21:18
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C060,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 21:18 Cal File: 017f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.683	6.680	0.003	9111	0.20000	0.1902	75.00- 125.00	100.00
9.080	9.077	0.003	21278	0.20000	0.1944	184.64- 307.73	233.54
9.648	9.640	0.008	15036	0.20000	0.1939	134.01- 223.35	165.03
10.022	10.022	0.000	12187	0.20000	0.1923	103.66- 172.76	133.76
10.603	10.602	0.001	16943	0.20000	0.1925	149.90- 249.84	185.96
Average of Peak Amounts =					0.193		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.550	4.547	0.003	4146	0.20000	0.1965	75.00- 125.00	100.00
4.770	4.765	0.005	3099	0.20000	0.1962	55.08- 91.80	74.75
4.833	4.828	0.005	10131	0.20000	0.1930	172.80- 288.00	244.36
Average of Peak Amounts =					0.195		

Da e: /chem/can/gcs/a2hpk.i/81102ic.b/017f0101.d
Date : 02-NOV-1998 21:18
Client ID:
Sample Info: 2154 C060,,1,2

Instrument: a2hpk.i
Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

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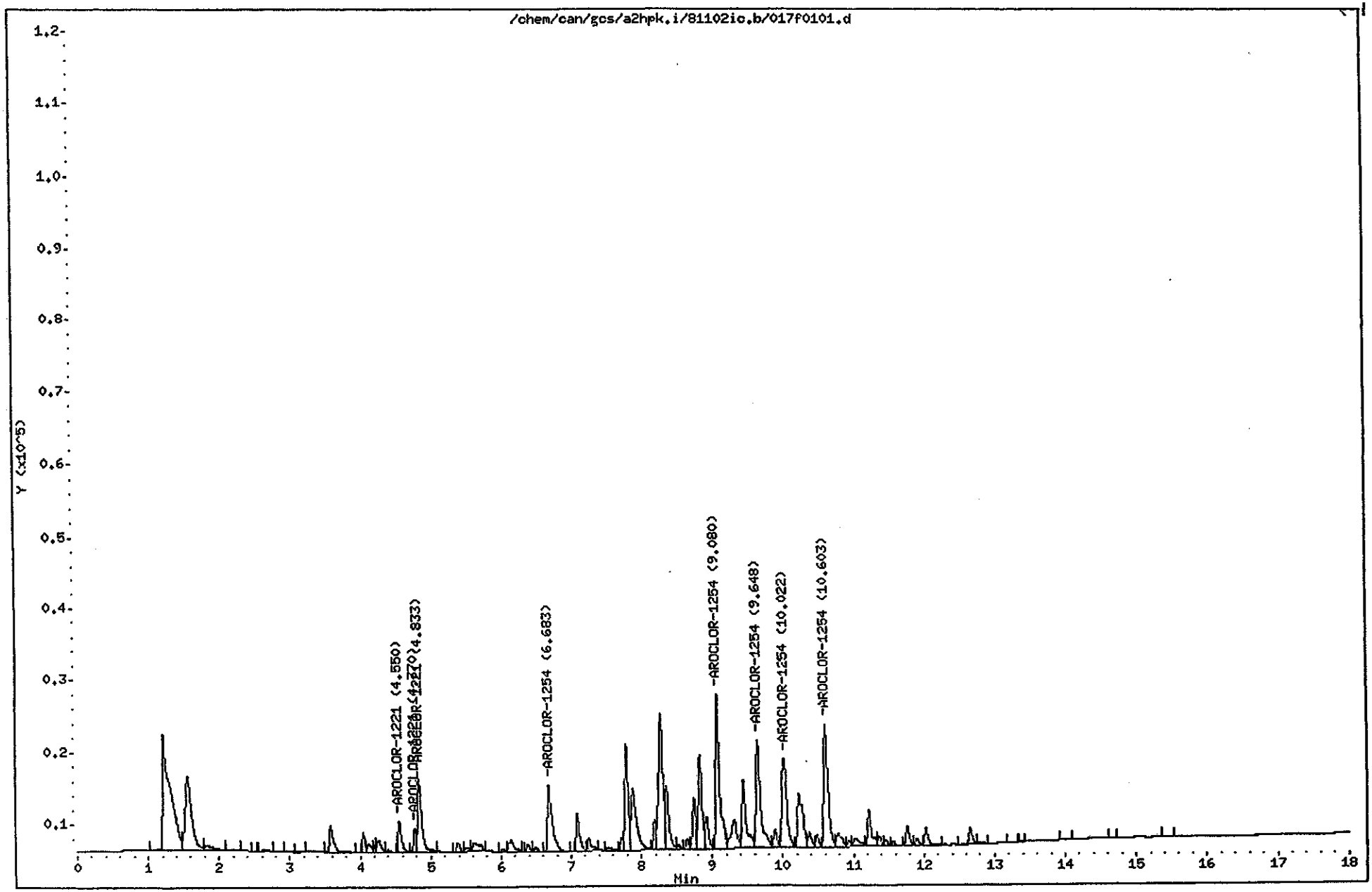


Data File: /chem/can/gcs/a2hpk.i/81102ic.b/018f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/018f0101.d
Lab Smp Id: 2154 C061
Inj Date : 02-NOV-1998 21:39
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C061,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 21:39 Cal File: 018f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

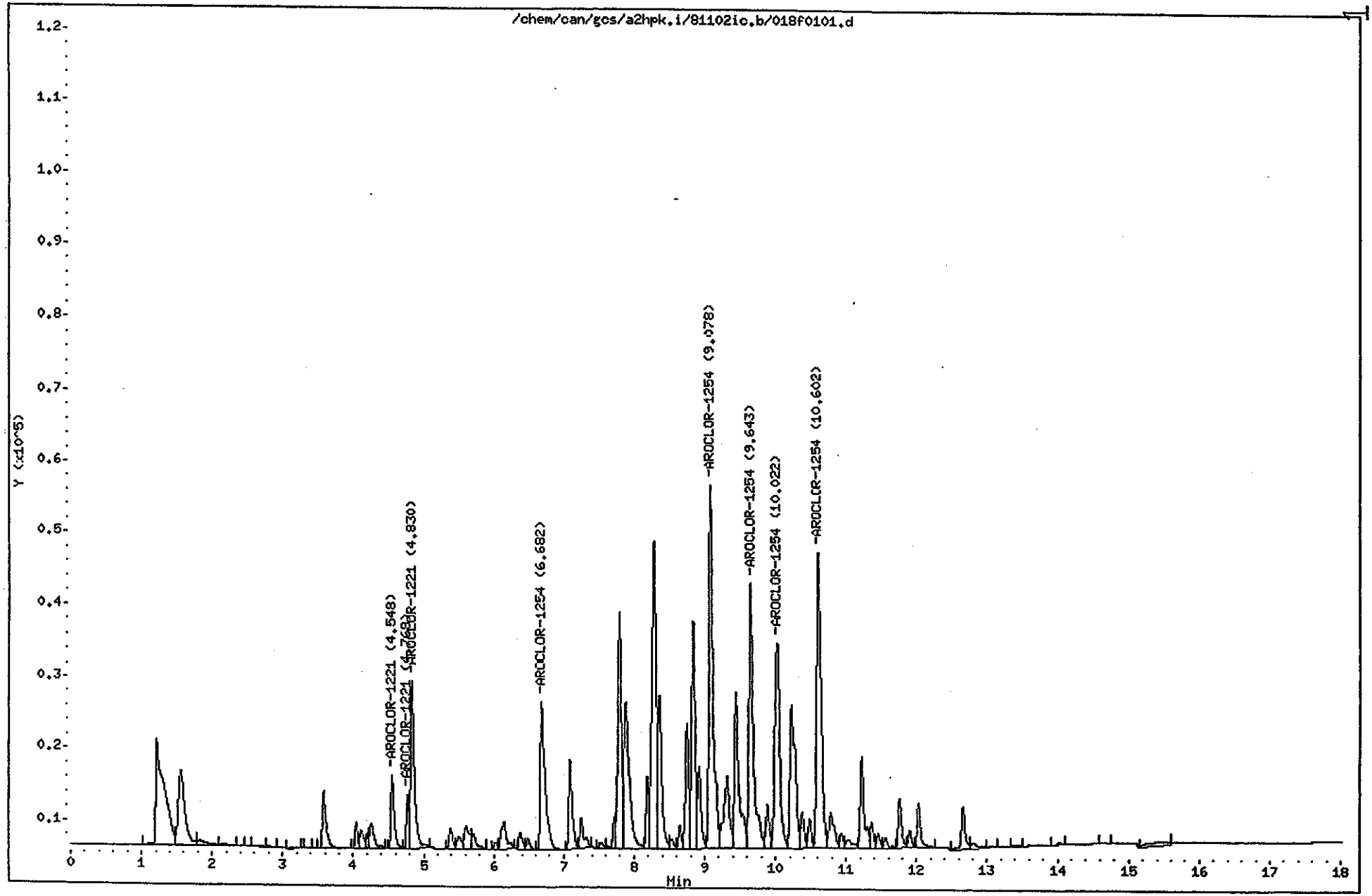
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.682	6.680	0.002	20512	0.50000	0.4498	75.00- 125.00	100.00
9.078	9.077	0.001	50497	0.50000	0.4736	184.64- 307.73	246.18
9.643	9.640	0.003	36651	0.50000	0.4814	134.01- 223.35	178.68
10.022	10.022	0.000	28349	0.50000	0.4636	103.66- 172.76	138.21
10.602	10.602	0.000	40997	0.50000	0.4767	149.90- 249.84	199.87
Average of Peak Amounts =					0.469		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.548	4.547	0.001	10095	0.50000	0.4855	75.00- 125.00	100.00
4.768	4.765	0.003	7414	0.50000	0.4791	55.08- 91.80	73.44
4.830	4.828	0.002	23259	0.50000	0.4606	172.80- 288.00	230.40
Average of Peak Amounts =					0.475		

D: .le: /chem/can/gcs/a2hpk.i/81102ic.b/018f0101.d
Date : 02-NOV-1998 21:39
Client ID:
Sample Info: 2154 C061,,1,3

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



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Report Date: 03-Nov-1998 07:40

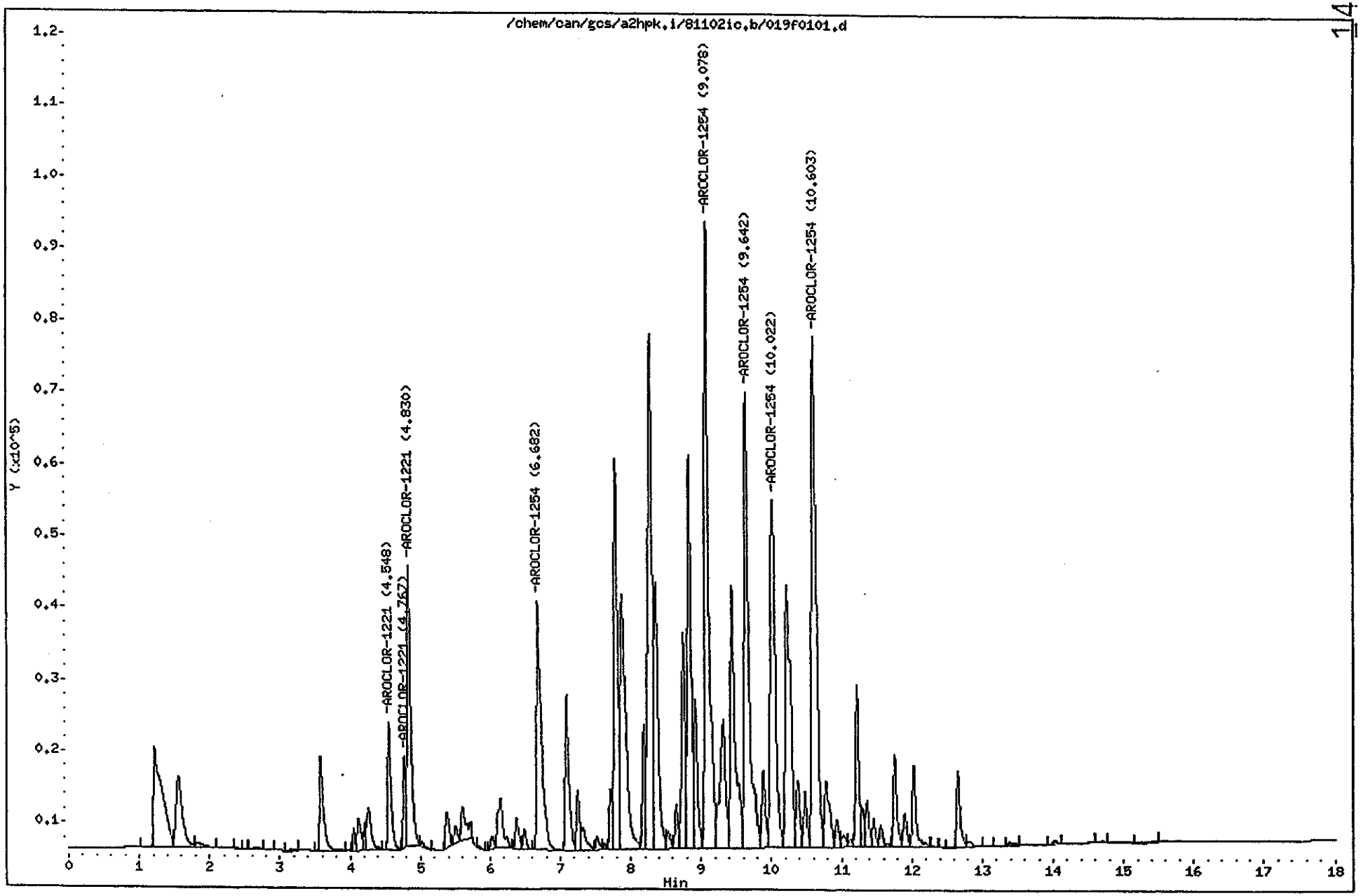
QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/019f0101.d
Lab Smp Id: 2154 C062
Inj Date : 02-NOV-1998 22:00 Inst ID: a2hpk.i
Operator : 001803
Smp Info : 2154 C062,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 22:00 Cal File: 019f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.682	6.680	0.002	34541	1.00000	0.8063	75.00- 125.00	100.00
9.078	9.077	0.001	87149	1.00000	0.8564	184.64- 307.73	252.31
9.642	9.640	0.002	63530	1.00000	0.8705	134.01- 223.35	183.93
10.022	10.022	0.000	48419	1.00000	0.8352	103.66- 172.76	140.18
10.603	10.602	0.001	71097	1.00000	0.8641	149.90- 249.84	205.83
Average of Peak Amounts =					0.847		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.548	4.547	0.001	17924	1.00000	0.8928	75.00- 125.00	100.00
4.767	4.765	0.002	12623	1.00000	0.8551	55.08- 91.80	70.43
4.830	4.828	0.002	39154	1.00000	0.8215	172.80- 288.00	218.44
Average of Peak Amounts =					0.856		

File: /chem/can/gcs/a2hpk.i/81102ic.b/019f0101.d
Date : 02-NOV-1998 22:00
Client ID:
Sample Info: 2154 C062,,1,4

Instrument: a2hpk.i
Operator: 001803
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



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Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/020f0101.d
Lab Smp Id: 2154 C063
Inj Date : 02-NOV-1998 22:21
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 2154 C063,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 22:21 Cal File: 020f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

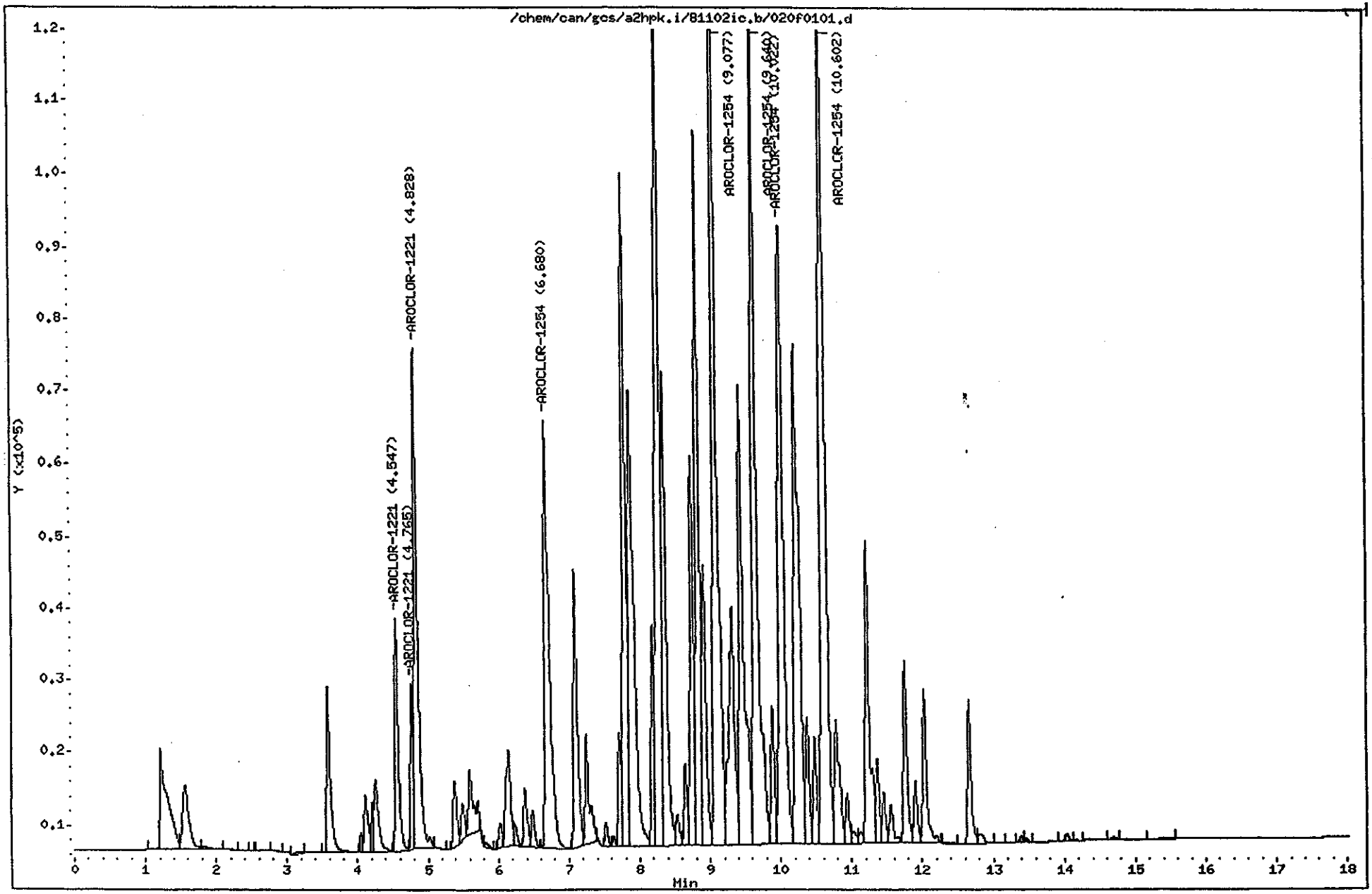
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.680	6.680	0.000	59167	2.00000	1.472	75.00- 125.00	100.00
9.077	9.077	0.000	156389	2.00000	1.611	184.64- 307.73	264.32
9.640	9.640	0.000	114215	2.00000	1.636	134.01- 223.35	193.04
10.022	10.022	0.000	85657	2.00000	1.559	103.66- 172.76	144.77
10.602	10.602	0.000	128716	2.00000	1.636	149.90- 249.84	217.55
Average of Peak Amounts =					1.58		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.547	4.547	0.000	32262	2.00000	1.673	75.00- 125.00	100.00
4.765	4.765	0.000	22834	2.00000	1.620	55.08- 91.80	70.78
4.828	4.828	0.000	69161	2.00000	1.535	172.80- 288.00	214.37
Average of Peak Amounts =					1.61		

Da le: /chem/can/gcs/a2hpk.i/81102ic.b/020f0101.d
Date : 02-NOV-1998 22:21
Client ID:
Sample Info: 2154 C063,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/021f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/021f0101.d
Lab Smp Id: 1248 C054
Inj Date : 02-NOV-1998 22:42 Inst ID: a2hpk.i
Operator : 001803
Smp Info : 1248 C054,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 22:42 Cal File: 021f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.377	5.375	0.002	2932	0.10000	0.1000	75.00- 125.00	100.00
6.147	6.140	0.007	4403	0.10000	0.1000	130.42- 217.37	150.17
7.090	7.087	0.003	6785	0.10000	0.1000	179.77- 299.62	231.41
9.082	9.078	0.004	3748	0.10000	0.1000	104.61- 174.36	127.83
9.650	9.643	0.007	2431	0.10000	0.1000	72.05- 120.08	82.91
Average of Peak Amounts =					0.1		

D: le: /chem/can/gcs/a2hpk.i/81102ic.b/021f0101.d
Date : 02-NOV-1998 22:42
Client ID:
Sample Info: 1248 C054,,1,1

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

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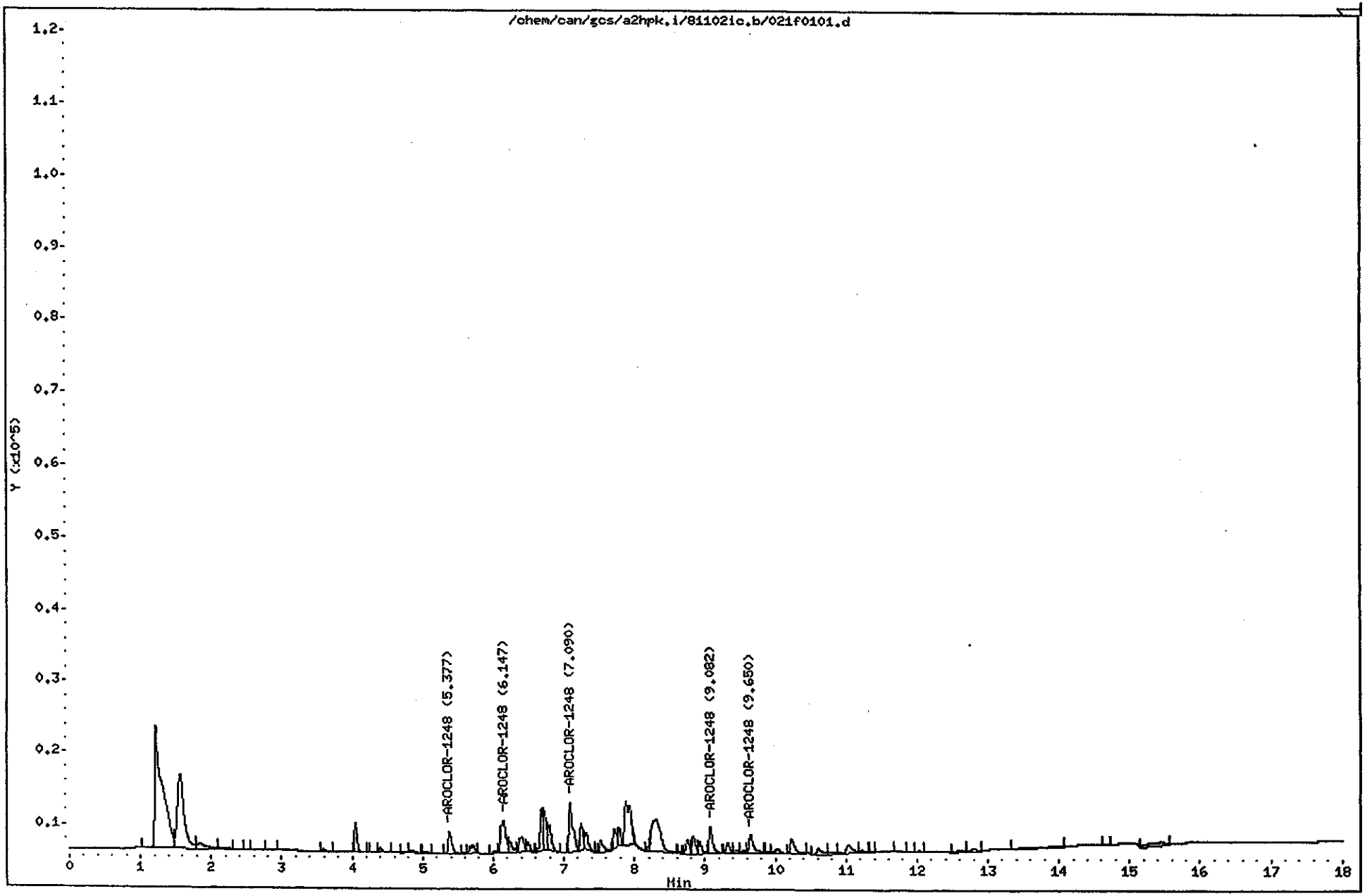


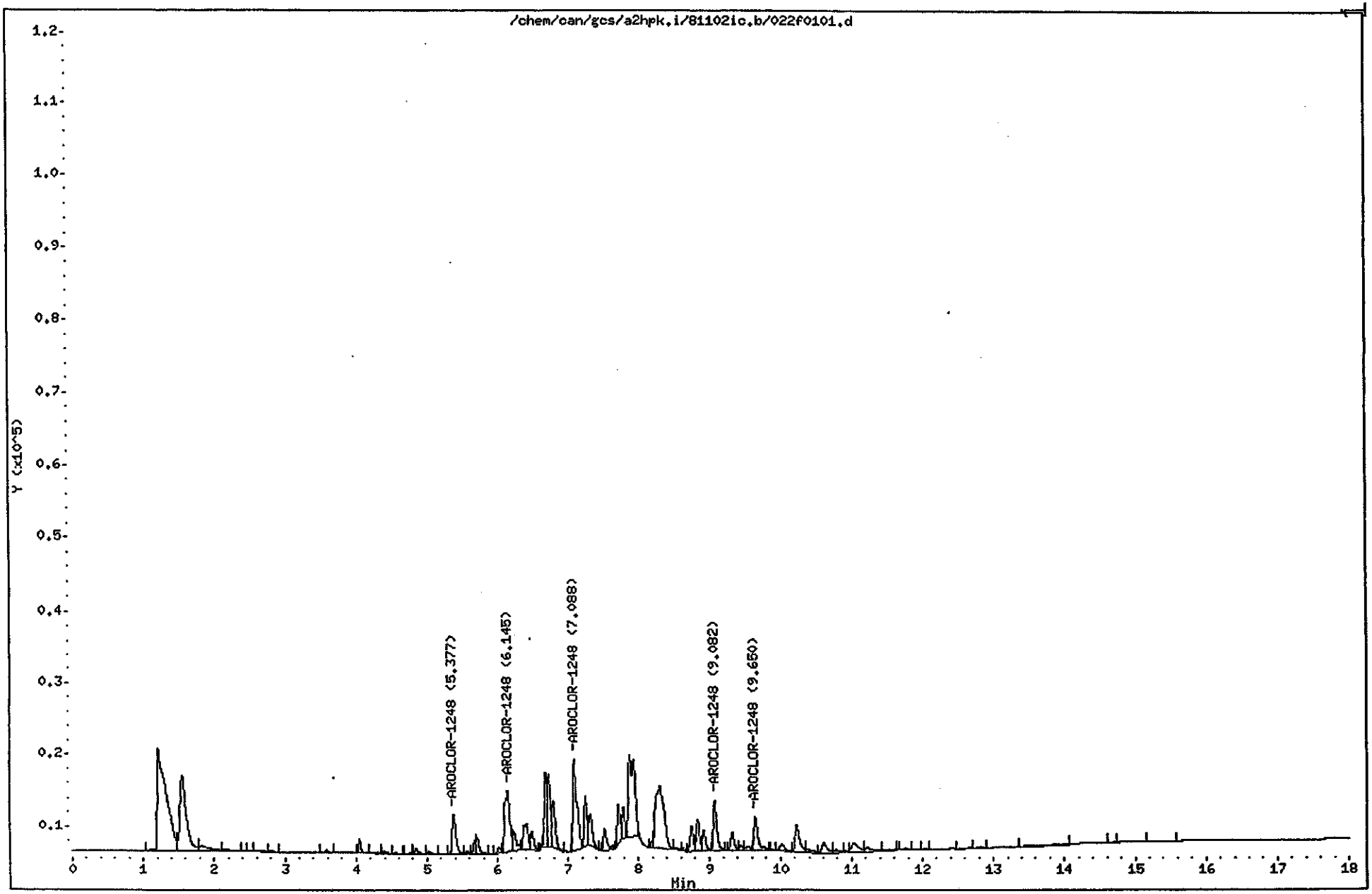
Data File: /chem/can/gcs/a2hpk.i/81102ic.b/022f0101.d
Report Date: 03-Nov-1998 07:40

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/022f0101.d
Lab Smp Id: 1248 C055
Inj Date : 02-NOV-1998 23:03
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C055,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 23:03 Cal File: 022f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.377	5.375	0.002	5466	0.20000	0.1930	75.00- 125.00	100.00
6.145	6.140	0.005	8595	0.20000	0.1976	130.42- 217.37	157.24
7.088	7.087	0.001	12761	0.20000	0.1938	179.77- 299.62	233.46
9.082	9.078	0.004	6958	0.20000	0.1926	104.61- 174.36	127.30
9.650	9.643	0.007	4692	0.20000	0.1964	72.05- 120.08	85.84
		Average of Peak Amounts =			0.195		

File: /chem/can/gcs/a2hpk.i/81102ic.b/022f0101.d
Date : 02-NOV-1998 23:03
Client ID:
Instrument: a2hpk.i
Sample Info: 1248 C055,,1,2
Operator: 001803
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/023f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/023f0101.d
Lab Smp Id: 1248 C056
Inj Date : 02-NOV-1998 23:24
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C056,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 23:24 Cal File: 023f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

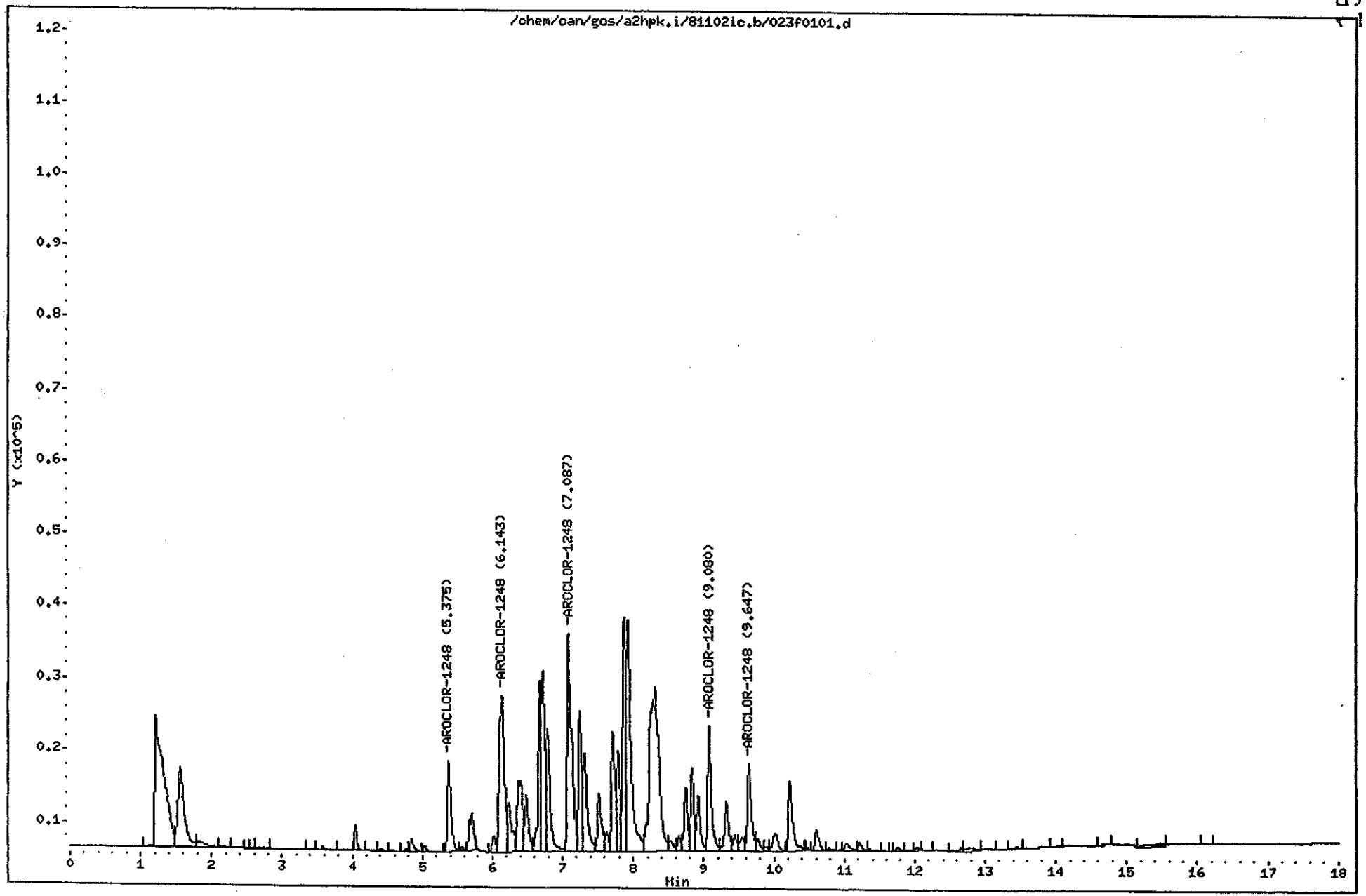
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.375	5.375	0.000	12531	0.50000	0.4601	75.00- 125.00	100.00
6.143	6.140	0.003	21791	0.50000	0.5006	130.42- 217.37	173.90
7.087	7.087	0.000	30036	0.50000	0.4700	179.77- 299.62	239.69
9.080	9.078	0.002	17479	0.50000	0.4890	104.61- 174.36	139.49
9.647	9.643	0.004	12038	0.50000	0.5026	72.05- 120.08	96.07
		Average of Peak Amounts =			0.484		

D. le: /chem/can/gcs/a2hpk.i/81102ic.b/023f0101.d
Date : 02-NOV-1998 23:24
Client ID:
Sample Info: 1248 C056,,1,3

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/024f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/024f0101.d
Lab Smp Id: 1248 C057
Inj Date : 02-NOV-1998 23:45
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1248 C057,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 02-NOV-1998 23:45 Cal File: 024f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

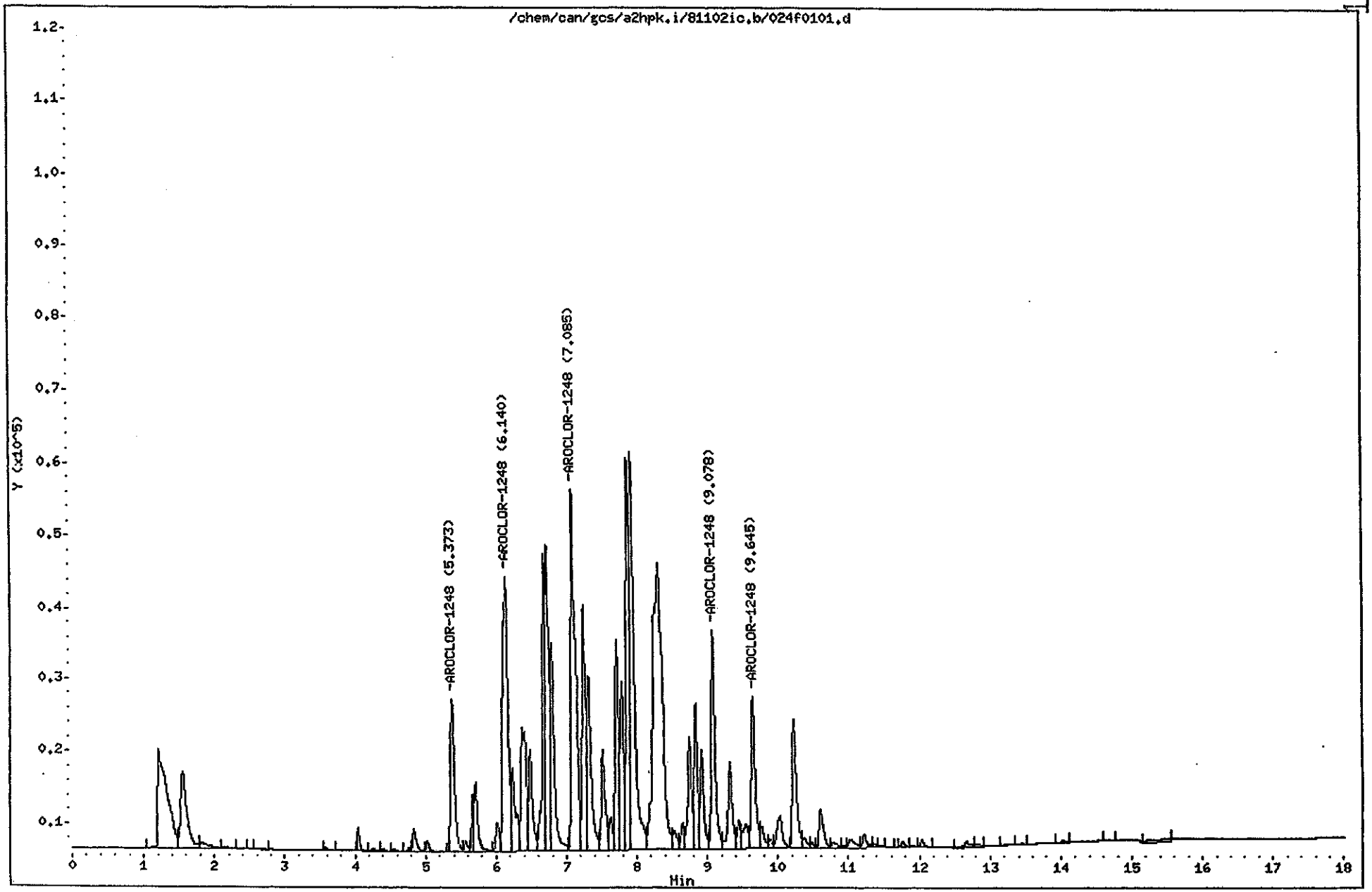
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.373	5.375	-0.002	20952	1.00000	0.8163	75.00- 125.00	100.00
6.140	6.140	0.000	38093	1.00000	0.9033	130.42- 217.37	181.81
7.085	7.087	-0.002	50051	1.00000	0.8280	179.77- 299.62	238.88
9.078	9.078	0.000	30333	1.00000	0.8820	104.61- 174.36	144.77
9.645	9.643	0.002	20988	1.00000	0.9043	72.05- 120.08	100.17
Average of Peak Amounts =					0.867		

Dat e: /chem/can/gcs/a2hpk.i/81102ic.b/024f0101.d
Date : 02-NOV-1998 23:45
Client ID:
Sample Info: 1248 C057,,1,4

Instrument: a2hpk.i

Operator: 001803
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32

153



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/025f0101.d
Report Date: 03-Nov-1998 07:41

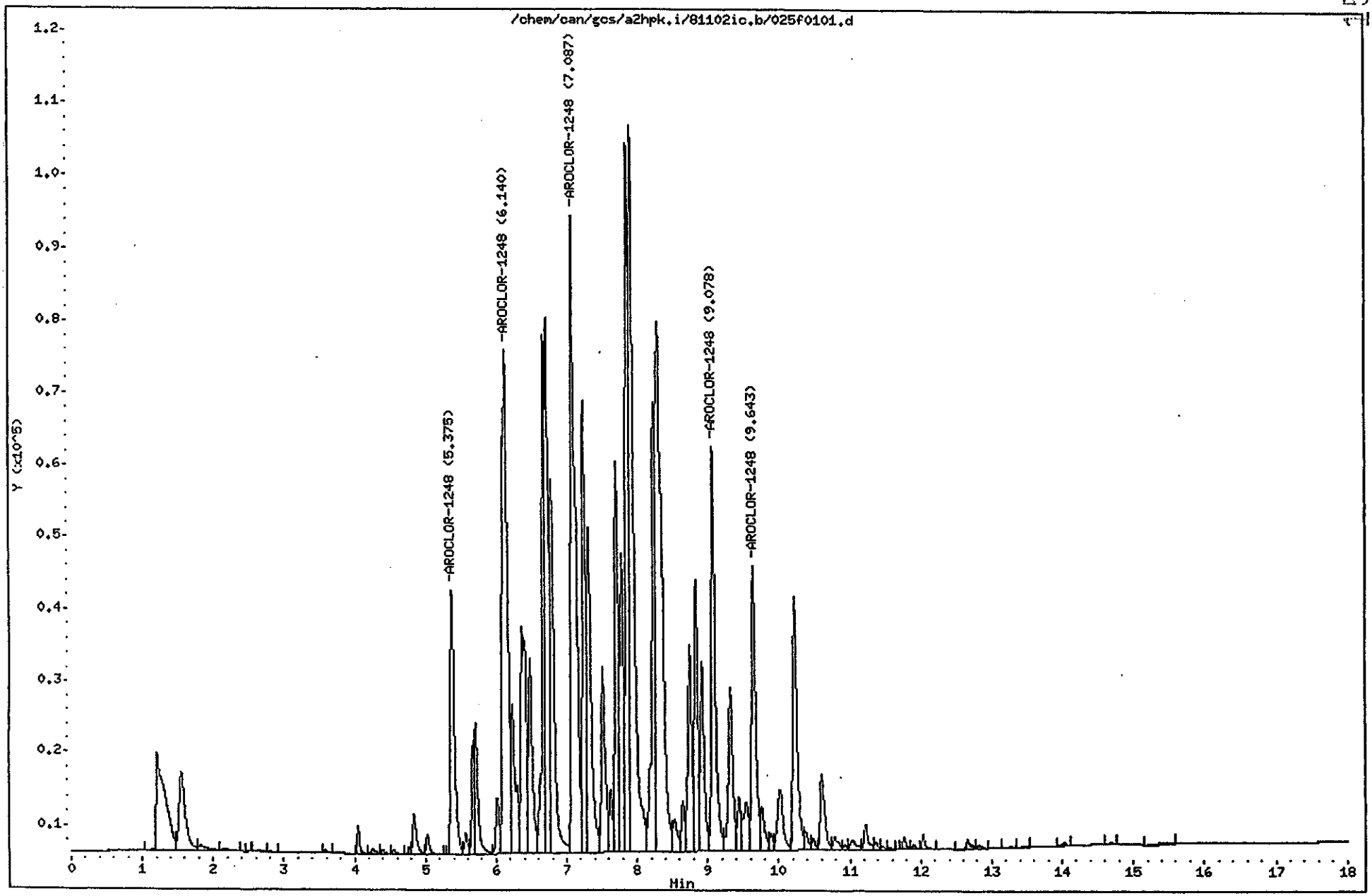
QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/025f0101.d
Lab Smp Id: 1248 C058
Inj Date : 03-NOV-1998 00:06 Inst ID: a2hpk.i
Operator : 001803
Smp Info : 1248 C058,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 00:06 Cal File: 025f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.375	5.375	0.000	36520	2.00000	1.510	75.00- 125.00	100.00
6.140	6.140	0.000	69713	2.00000	1.712	130.42- 217.37	190.89
7.087	7.087	0.000	88316	2.00000	1.544	179.77- 299.62	241.83
9.078	9.078	0.000	56065	2.00000	1.693	104.61- 174.36	153.52
9.643	9.643	0.000	39299	2.00000	1.747	72.05- 120.08	107.61
		Average of Peak Amounts =			1.64		

Da le: /chem/can/gcs/a2hpk.i/81102ic.b/025f0101.d
Dat 03-NOV-1998 00:06
Client ID:
Sample Info: 1248 C058,,1,5

Instrument: a2hpk.i
Operator: 001803
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/026f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/026f0101.d
Lab Smp Id: 1242 C049
Inj Date : 03-NOV-1998 00:27
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C049,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 00:27 Cal File: 026f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

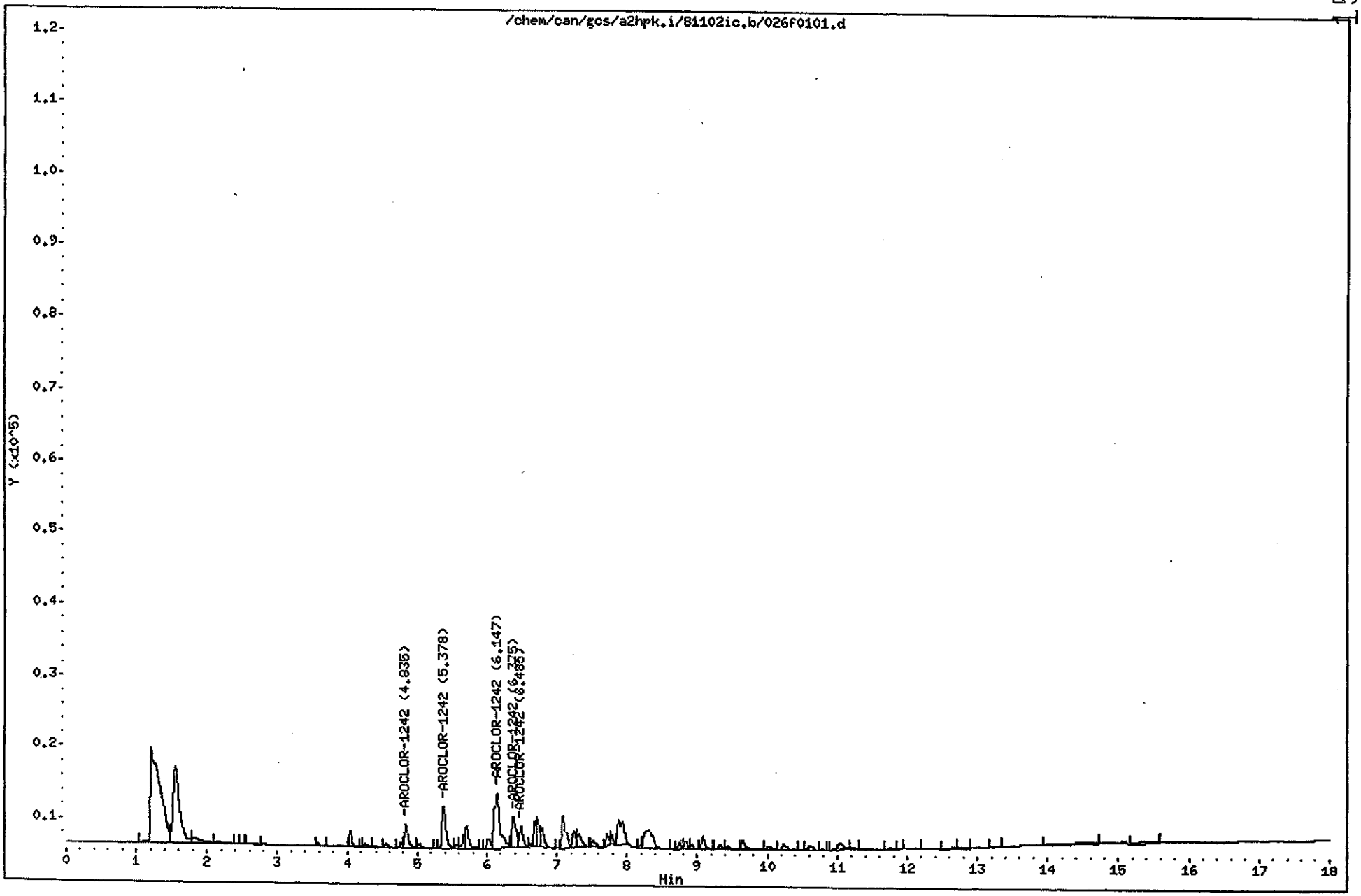
			AMOUNTS				
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.835	4.828	0.007	3184	0.10000	0.1000	75.00- 125.00	100.00
5.378	5.378	0.000	5656	0.10000	0.1000	124.76- 207.94	177.64
6.147	6.138	0.009	7520	0.10000	0.1000	191.04- 318.39	236.18
6.375	6.367	0.008	4272	0.10000	0.1000	108.36- 180.61	134.17
6.485	6.480	0.005	2790	0.10000	0.1000	79.00- 131.67	87.63
Average of Peak Amounts =					0.1		

Da le: /chem/can/gcs/a2hpk.i/81102ic.b/026f0101.d
Dat . 03-NOV-1998 00:27
Client ID:
Sample Info: 1242 C049,,1,1

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/027f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

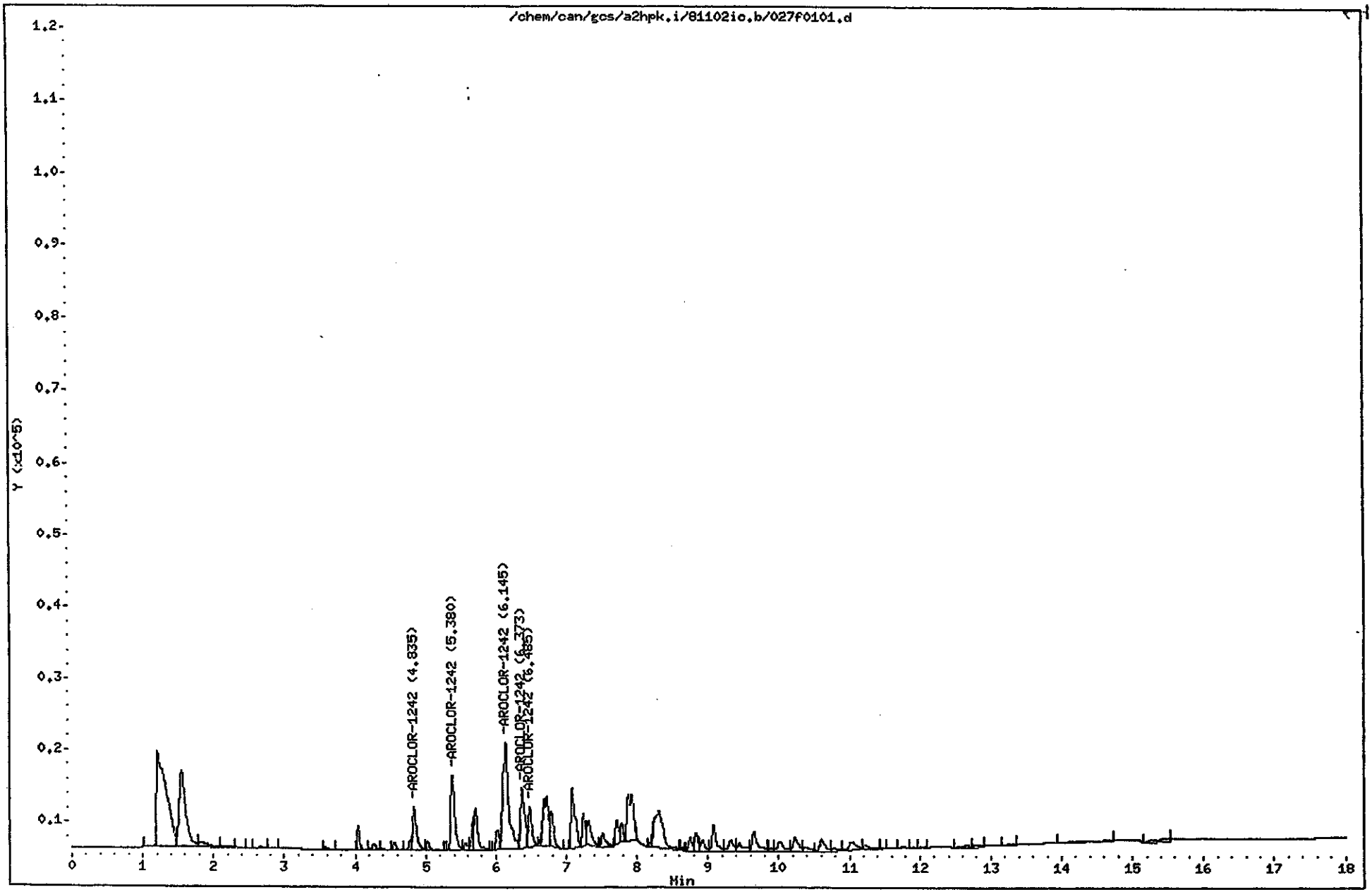
Data file : /chem/can/gcs/a2hpk.i/81102ic.b/027f0101.d
Lab Smp Id: 1242 C050
Inj Date : 03-NOV-1998 00:48
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C050,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 00:48 Cal File: 027f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.835	4.828	0.007	6025	0.20000	0.1945	75.00- 125.00	100.00
5.380	5.378	0.002	10465	0.20000	0.1922	124.76- 207.94	173.69
6.145	6.138	0.007	14704	0.20000	0.1977	191.04- 318.39	244.05
6.373	6.367	0.006	8287	0.20000	0.1969	108.36- 180.61	137.54
6.485	6.480	0.005	5535	0.20000	0.1992	79.00- 131.67	91.87
Average of Peak Amounts =					0.196		

Dat e: /chem/can/gcs/a2hpk.i/81102ic.b/027f0101.d
Date . 03-NOV-1998 00:48
Client ID:
Sample Info: 1242 C050,,1,2

Instrument: a2hpk.i
Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/028f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/028f0101.d
Lab Smp Id: 1242 C051
Inj Date : 03-NOV-1998 01:09
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C051,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 01:09 Cal File: 028f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

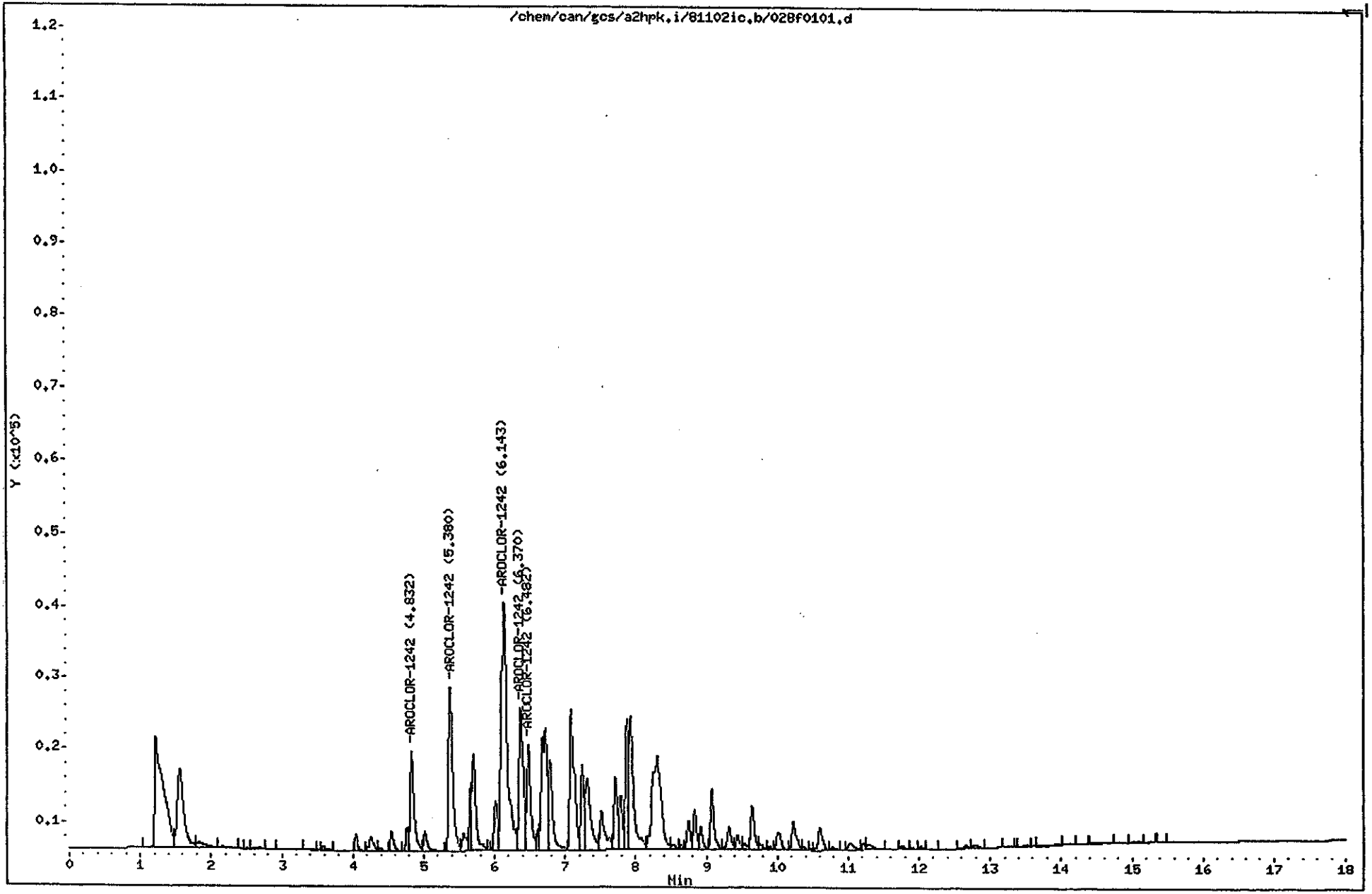
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
**	======	========	========	=======	=======	==========		=====
5 AROCLOR-1242					CAS #: 53469-21-9			
4.832	4.828	0.004	13530	0.50000	0.4559	75.00-	125.00	100.00
5.380	5.378	0.002	22507	0.50000	0.4387	124.76-	207.94	166.35
6.143	6.138	0.005	34463	0.50000	0.4750	191.04-	318.39	254.72
6.370	6.367	0.003	19549	0.50000	0.4758	108.36-	180.61	144.49
6.482	6.480	0.002	14252	0.50000	0.5085	79.00-	131.67	105.34
Average of Peak Amounts =					0.471			

Da: le: /chem/can/gcs/a2hpk.i/81102ic.b/028f0101.d
Date : 03-NOV-1998 01:09
Client ID:
Sample Info: 1242 C051,,1,3

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/029f0101.d
Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

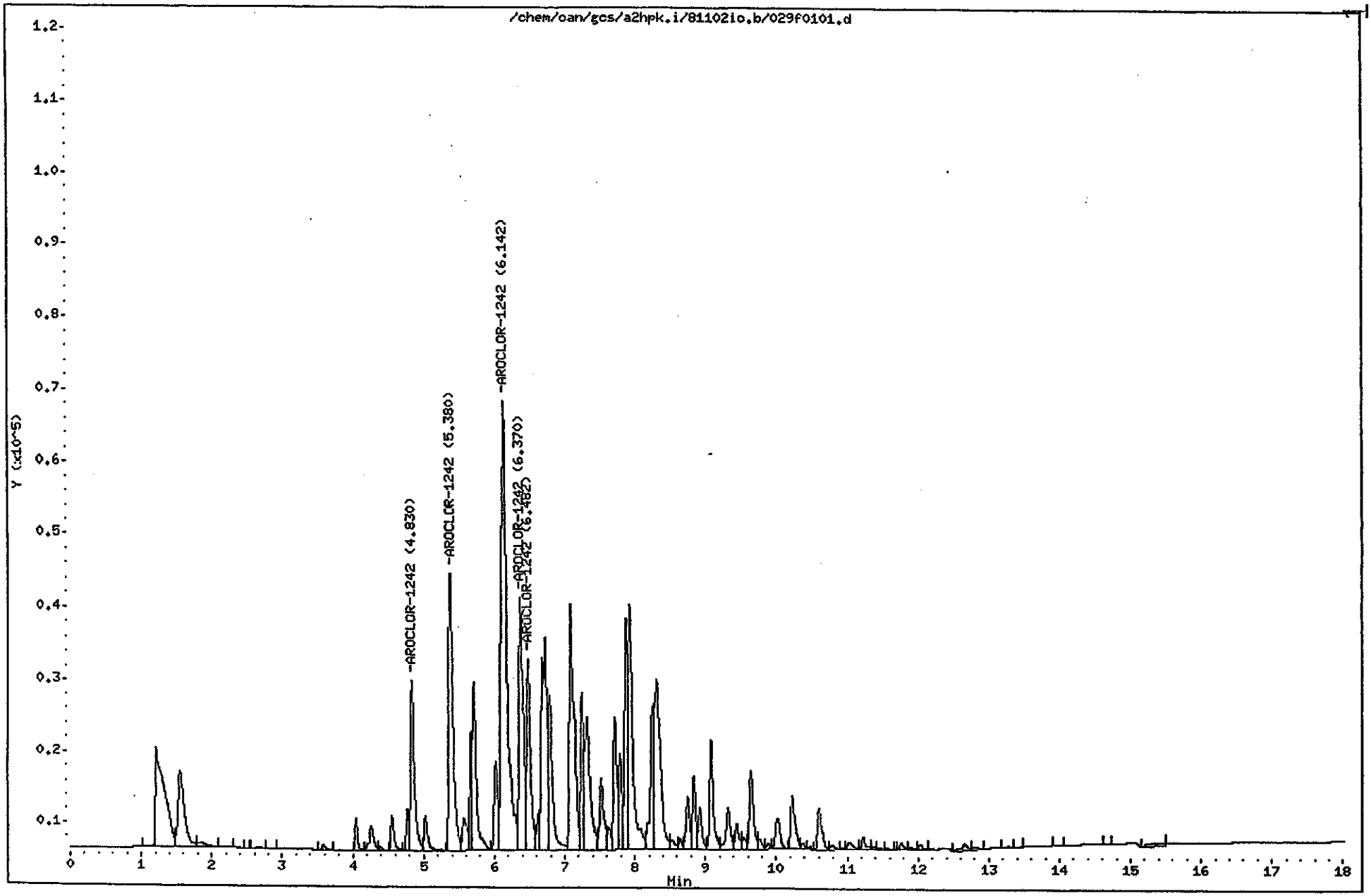
Data file : /chem/can/gcs/a2hpk.i/81102ic.b/029f0101.d
Lab Smp Id: 1242 C052
Inj Date : 03-NOV-1998 01:29
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C052,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 01:29 Cal File: 029f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
5 AROCLOR-1242						CAS #: 53469-21-9		
4.830	4.828	0.002	23943	1.00000	0.8478	75.00-	125.00	100.00
5.380	5.378	0.002	38604	1.00000	0.8021	124.76-	207.94	161.23
6.142	6.138	0.004	62323	1.00000	0.8904	191.04-	318.39	260.30
6.370	6.367	0.003	35261	1.00000	0.8898	108.36-	180.61	147.27
6.482	6.480	0.002	26690	1.00000	0.9638	79.00-	131.67	111.47
Average of Peak Amounts =					0.879			

Da le: /chem/can/gcs/a2hpk.i/81102ic.b/029f0101.d
Date : 03-NOV-1998 01:29
Client ID:
Sample Info: 1242 C052,,1,4

Instrument: a2hpk.i
Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



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Report Date: 03-Nov-1998 07:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/030f0101.d
Lab Smp Id: 1242 C053
Inj Date : 03-NOV-1998 01:50
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1242 C053,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 01:50 Cal File: 030f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

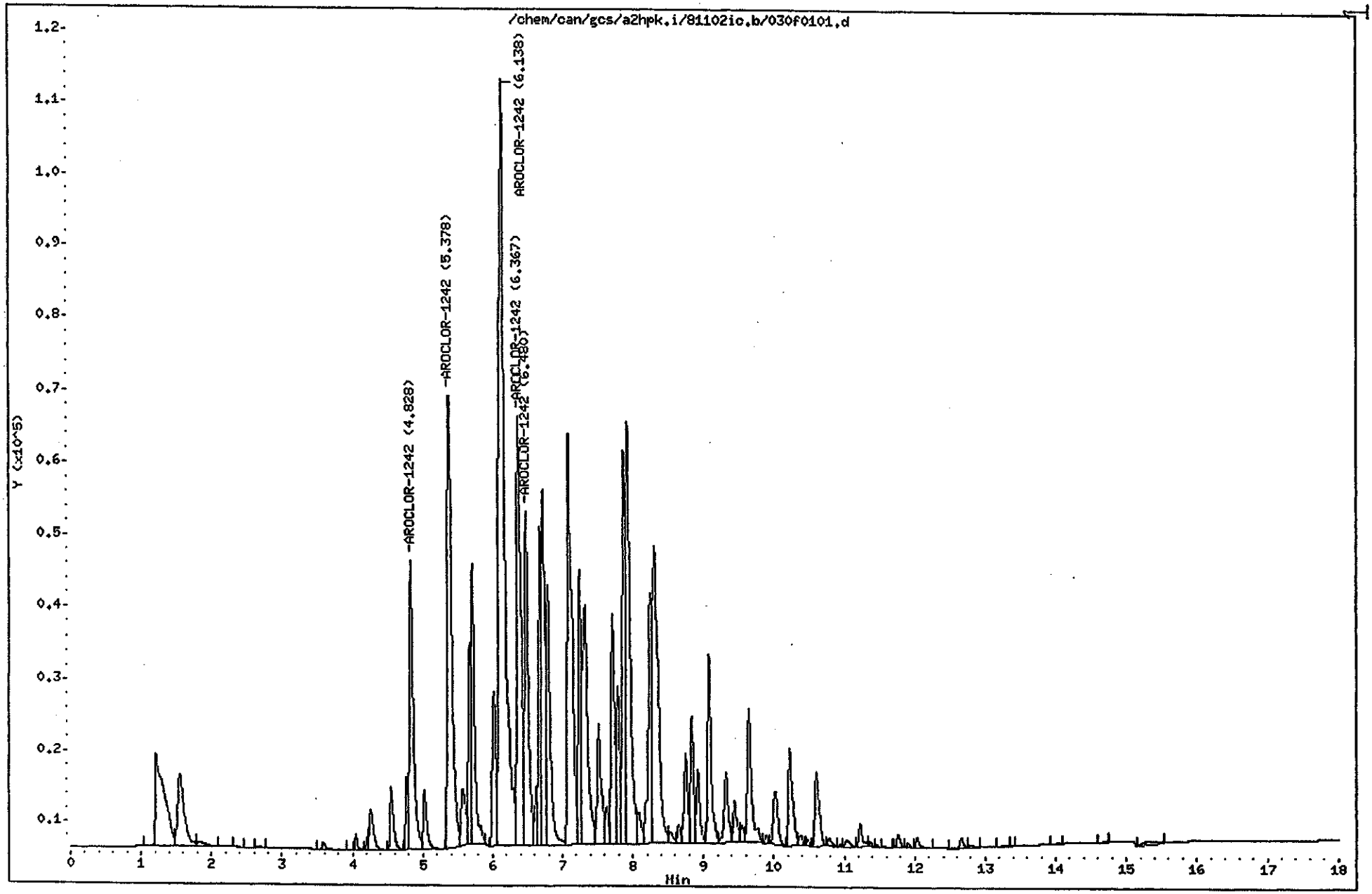
			AMOUNTS				
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.828	4.828	0.000	40097	2.00000	1.507	75.00- 125.00	100.00
5.378	5.378	0.000	62945	2.00000	1.405	124.76- 207.94	156.98
6.138	6.138	0.000	106641	2.00000	1.600	191.04- 318.39	265.96
6.367	6.367	0.000	59625	2.00000	1.583	108.36- 180.61	148.70
6.480	6.480	0.000	46396	2.00000	1.732	79.00- 131.67	115.71
		Average of Peak Amounts =			1.57		

Da le: /chem/can/gcs/a2hpk.i/81102ic.b/030f0101.d
Date : 03-NOV-1998 01:50
Client ID:
Sample Info: 1242 C053,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

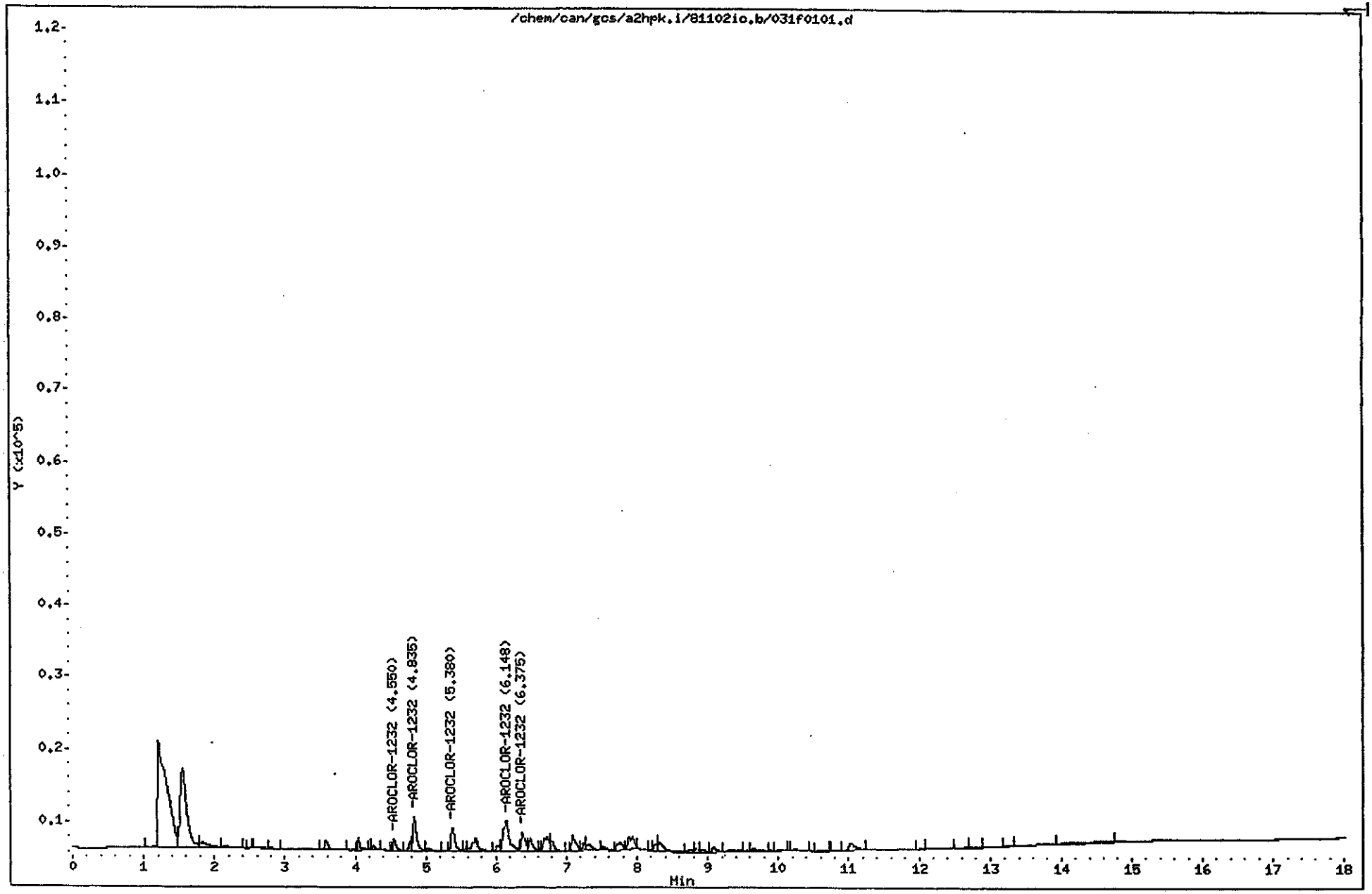
Data file : /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Lab Smp Id: 1232 C044
Inj Date : 03-NOV-1998 02:11 Inst ID: a2hpk.i
Operator : 001803
Smp Info : 1232 C044,,1,1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 02:11 Cal File: 031f0101.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.550	4.547	0.003	1457	0.10000	0.1000	75.00- 125.00	100.00
4.835	4.827	0.008	4478	0.10000	0.1000	210.31- 350.52	307.34
5.380	5.378	0.002	3146	0.10000	0.1000	146.67- 244.44	215.92
6.148	6.140	0.008	4082	0.10000	0.1000	215.96- 359.93	280.16
6.375	6.368	0.007	2403	0.10000	0.1000	124.12- 206.86	164.93
Average of Peak Amounts =					0.1		

Da le: /chem/can/gcs/a2hpk.i/81102ic.b/031f0101.d
Date : 03-NOV-1998 02:11
Client ID:
Sample Info: 1232 C044,,1,1

Instrument: a2hpk.i
Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

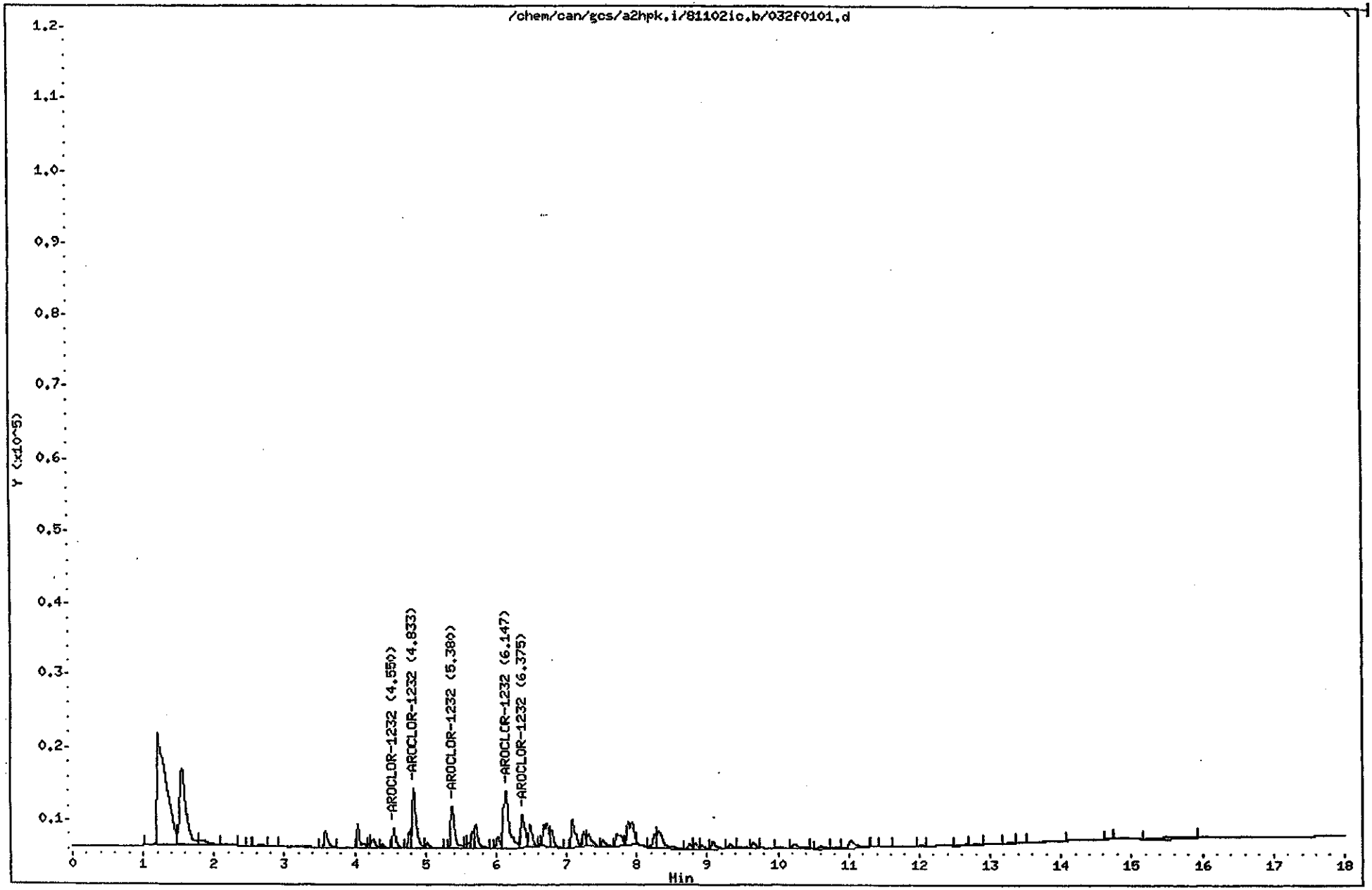
Data file : /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Lab Smp Id: 1232 C045
Inj Date : 03-NOV-1998 02:33
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C045,,1,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 02:33 Cal File: 032f0101.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

			AMOUNTS				
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.550	4.547	0.003	2793	0.20000	0.1958	75.00- 125.00	100.00
4.833	4.827	0.006	8327	0.20000	0.1927	210.31- 350.52	298.14
5.380	5.378	0.002	5830	0.20000	0.1924	146.67- 244.44	208.74
6.147	6.140	0.007	7866	0.20000	0.1963	215.96- 359.93	281.63
6.375	6.368	0.007	4481	0.20000	0.1930	124.12- 206.86	160.44
		Average of Peak Amounts =			0.194		

Dat .e: /chem/can/gcs/a2hpk.i/81102ic.b/032f0101.d
Date : 03-NOV-1998 02:33
Client ID:
Sample Info: 1232 C045,,1,2

Instrument: a2hpk.i
Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/033f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/033f0101.d
Lab Smp Id: 1232 C046
Inj Date : 03-NOV-1998 02:53
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C046,,1,3
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 02:53 Cal File: 033f0101.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.548	4.547	0.001	6818	0.50000	0.4850	75.00- 125.00	100.00
4.830	4.827	0.003	19119	0.50000	0.4601	210.31- 350.52	280.42
5.380	5.378	0.002	13333	0.50000	0.4583	146.67- 244.44	195.56
6.145	6.140	0.005	19632	0.50000	0.4932	215.96- 359.93	287.94
6.372	6.368	0.004	11283	0.50000	0.4906	124.12- 206.86	165.49
Average of Peak Amounts =					0.477		

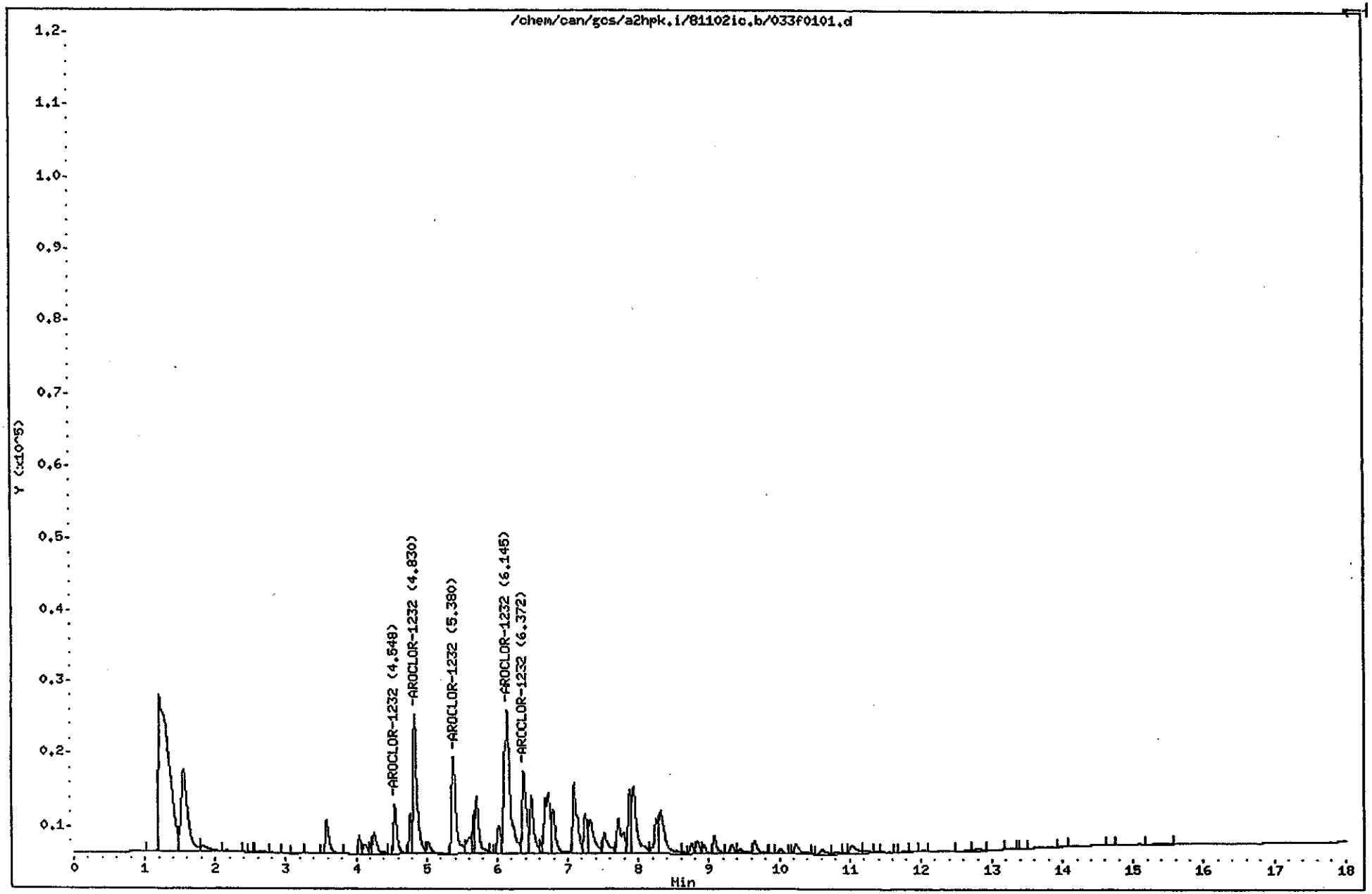
Da\ .le: /chem/can/gcs/a2hpk.i/81102ic.b/033f0101.d
Date : 03-NOV-1998 02:53
Client ID:
Sample Info: 1232 C046,,1,3

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

171



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Lab Smp Id: 1232 C047
Inj Date : 03-NOV-1998 03:14
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C047,,1,4
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 03:14 Cal File: 034f0101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

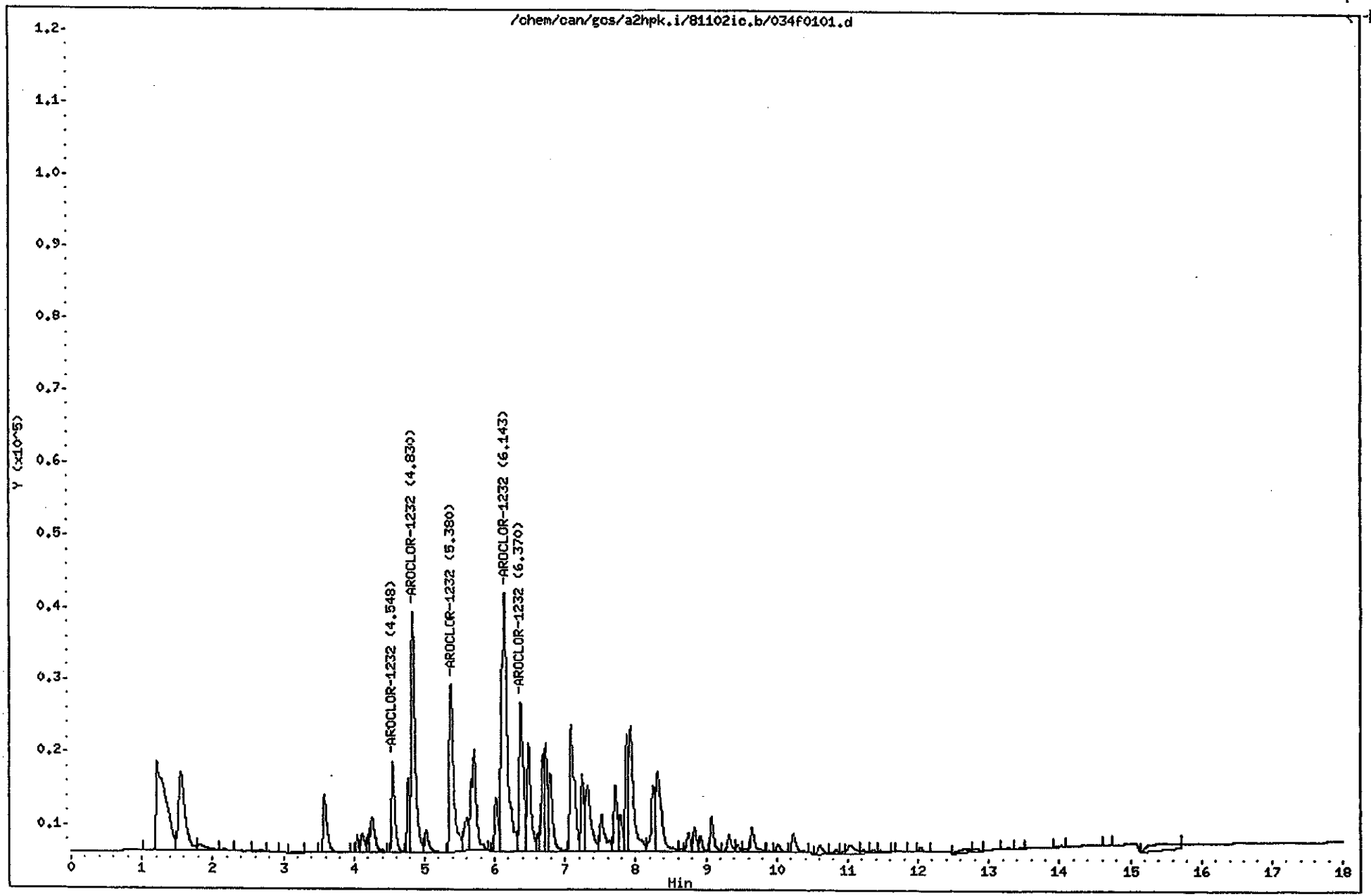
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.548	4.547	0.001	12490	1.00000	0.9140	75.00- 125.00	100.00
4.830	4.827	0.003	33204	1.00000	0.8414	210.31- 350.52	265.84
5.380	5.378	0.002	23094	1.00000	0.8370	146.67- 244.44	184.90
6.143	6.140	0.003	35707	1.00000	0.9208	215.96- 359.93	285.88
6.370	6.368	0.002	20457	1.00000	0.9147	124.12- 206.86	163.79
		Average of Peak Amounts =			0.886		

Da ie: /chem/can/gcs/a2hpk.i/81102ic.b/034f0101.d
Date : 03-NOV-1998 03:14
Client ID:
Sample Info: 1232 C047,,1,4

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d
Report Date: 03-Nov-1998 07:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d
Lab Smp Id: 1232 C048
Inj Date : 03-NOV-1998 03:35
Operator : 001803 Inst ID: a2hpk.i
Smp Info : 1232 C048,,1,5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81102ic.b/kfpcbIII.m
Meth Date : 03-Nov-1998 07:29 risdenr Quant Type: ESTD
Cal Date : 03-NOV-1998 03:35 Cal File: 035f0101.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

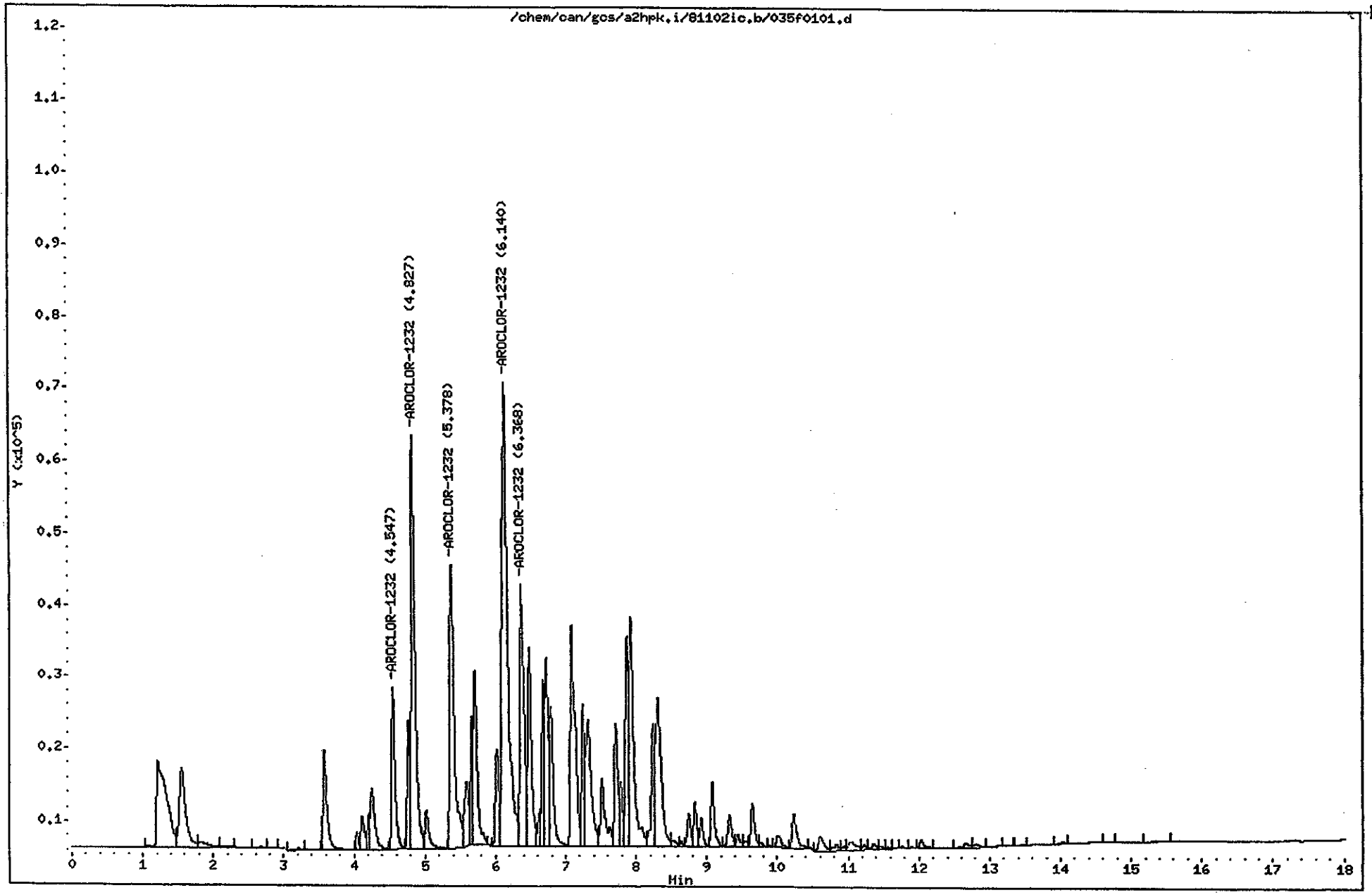
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.547	4.547	0.000	22381	2.00000	1.699	75.00- 125.00	100.00
4.827	4.827	0.000	57211	2.00000	1.534	210.31- 350.52	255.62
5.378	5.378	0.000	39334	2.00000	1.512	146.67- 244.44	175.75
6.140	6.140	0.000	64243	2.00000	1.716	215.96- 359.93	287.04
6.368	6.368	0.000	36353	2.00000	1.689	124.12- 206.86	162.43
Average of Peak Amounts =					1.63		

Da le: /chem/can/gcs/a2hpk.i/81102ic.b/035f0101.d
Date . 03-NOV-1998 03:35
Client ID:
Sample Info: 1232 C048,,1,5

Instrument: a2hpk.i

Operator: 001803
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L030146

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.30 S2 : 15.16

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		1660 C110	12/15/98	1129	4.30	15.16
02		2154 C061	12/15/98	1150		
03		1248 C056	12/15/98	1211		
04		1242 C051	12/15/98	1232		
05		1232 C046	12/15/98	1253		
06	CP35ABLK	CP35A101	12/15/98	1356	4.30	15.16
07	CP35ACHK	CP35A102	12/15/98	1417	4.30	15.16
08	S-120298-JH-	CNXD1101	12/15/98	1438	4.26	15.18
09	S-120298-JH-	CNXD2101	12/15/98	1459	4.26	15.16
10		1660 C110	12/15/98	1705	4.30	15.16
11						
12						
13						
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32						

QC LIMITS

S1 = TCMX (+/- 0.10 MINUTES)
S2 = DCB (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Data File: /chem/can/gcs/a2hpk.i/81214a.b/059f0101.d
Report Date: 12/15/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 059f0101.d
Analysis Type: NONE

Injection Date: 15-DEC-1998 11:29
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81214a.b/kfpcbII

COMPOUND	%D
TCMX	5.1
AROCLOR-1016	3.6
AROCLOR-1260	4.0
DCB	0.7

The average of %D's in the continuing calibration is 3.4

Data File: /chem/can/gcs/a2hpk.i/81214a.b/059f0101.d
Report Date: 16-Dec-1998 07:59

QUANTERRA-NORTH CANTON

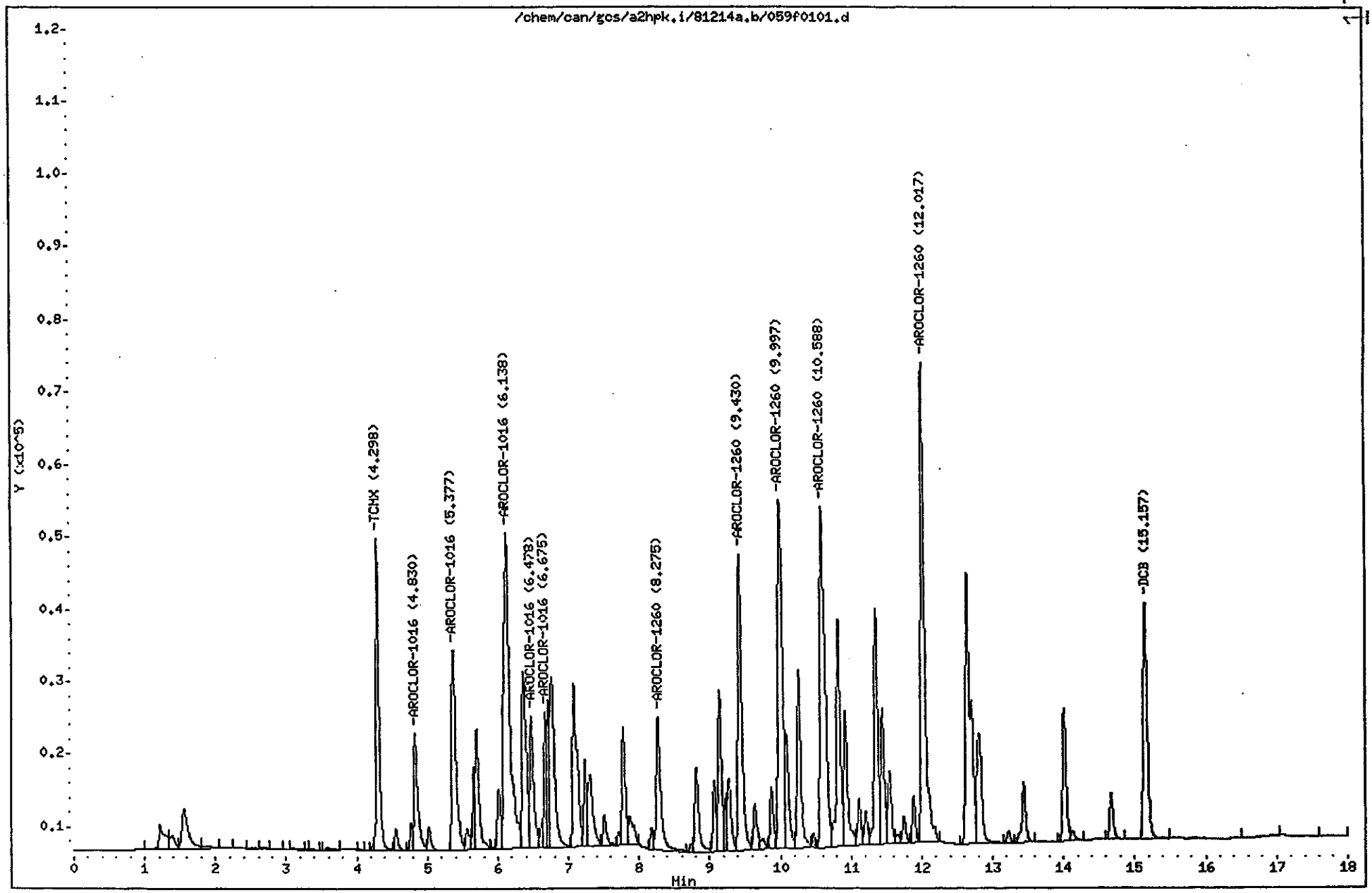
Data file : /chem/can/gcs/a2hpk.i/81214a.b/059f0101.d
Lab Smp Id: 1660 C110
Inj Date : 15-DEC-1998 11:29 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.298	4.298	0.000	43108	0.02500	0.02628	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.830	4.832	-0.002	16071	0.50000	0.5186	80.00- 120.00	100.00
	5.377	5.377	0.000	27705	0.50000	0.5129	131.48- 219.13	172.39
	6.138	6.140	-0.002	43499	0.50000	0.5189	201.19- 335.32	270.67
	6.478	6.480	-0.002	17850	0.50000	0.5214	80.13- 133.54	111.07
	6.675	6.677	-0.002	18420	0.50000	0.5173	83.41- 139.01	114.62
Average of Peak Amounts =						0.518		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.275	8.277	-0.002	18125	0.50000	0.5214	80.00- 120.00	100.00
	9.430	9.432	-0.002	40819	0.50000	0.5159	171.69- 286.15	225.21
	9.997	9.998	-0.001	48155	0.50000	0.5210	202.14- 336.89	265.68
	10.588	10.590	-0.002	47301	0.50000	0.5204	199.32- 332.20	260.97
	12.017	12.018	-0.001	66442	0.50000	0.5223	282.30- 470.51	366.58
Average of Peak Amounts =						0.52		
$ 9 DCB						CAS #: 2051-24-3		
	15.157	15.157	0.000	32721	0.02500	0.02482	80.00- 120.00	100.00

Da le: /chem/can/gcs/a2hpk.i/81214a.b/059f0101.d
Date : 15-DEC-1998 11:29
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81214a.b/060f0101.d
Report Date: 16-Dec-1998 07:59

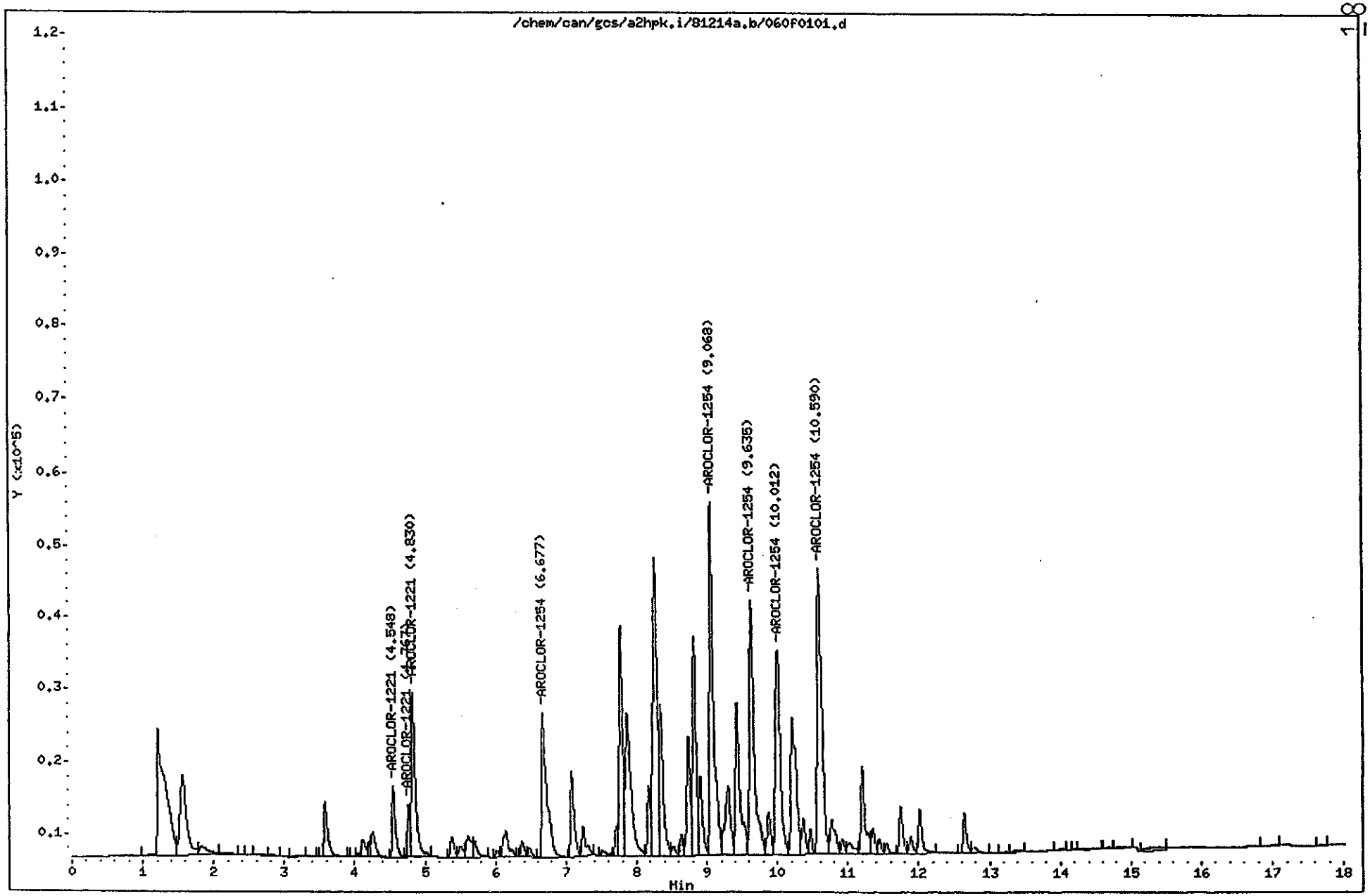
QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/060f0101.d
Lab Smp Id: 2154 C061
Inj Date : 15-DEC-1998 11:50 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.677	6.677	0.000	19889	0.50000	0.4949	80.00- 120.00	100.00
9.068	9.068	0.000	48881	0.50000	0.5037	184.33- 307.21	245.77
9.635	9.635	0.000	35198	0.50000	0.5042	132.73- 221.22	176.97
10.012	10.012	0.000	28137	0.50000	0.5121	106.10- 176.84	141.47
10.590	10.590	0.000	39682	0.50000	0.5043	149.64- 249.40	199.52
Average of Peak Amounts =					0.504		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.548	4.548	0.000	9853	0.50000	0.5109	80.00- 120.00	100.00
4.767	4.767	0.000	7268	0.50000	0.5157	55.32- 92.21	73.76
4.830	4.830	0.000	22619	0.50000	0.5022	172.17- 286.96	229.56
Average of Peak Amounts =					0.51		

D: le: /chem/can/gcs/a2hpk.i/81214a.b/060f0101.d
Dat : 15-DEC-1998 11:50
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81214a.b/061f0101.d
Report Date: 16-Dec-1998 08:00

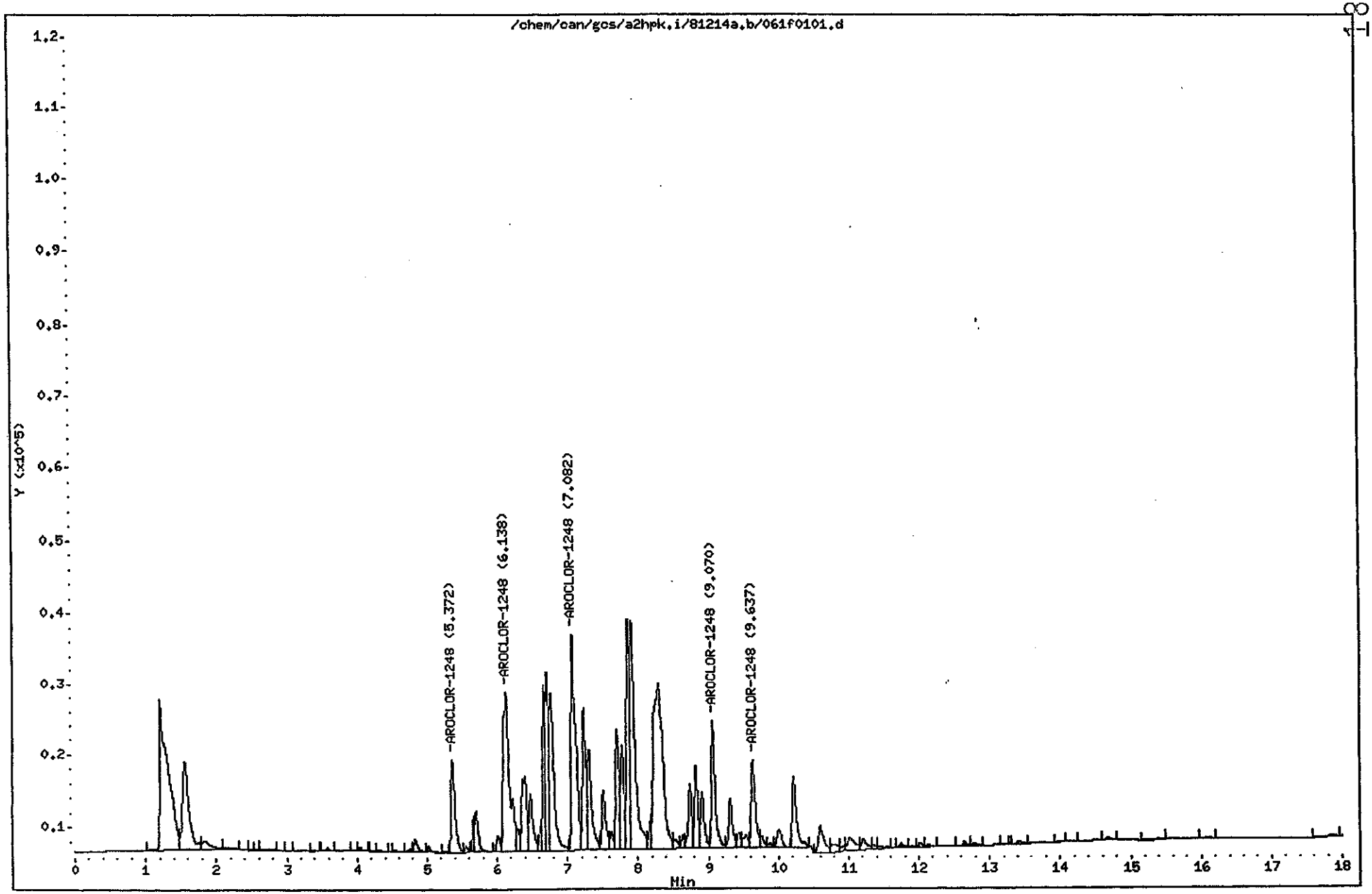
QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/061f0101.d
Lab Smp Id: 1248 C056
Inj Date : 15-DEC-1998 12:11 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000 Compound Sublist: AR1248.sub
Integrator: Falcon Sample Matrix: None
Target Version: 3.40
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.372	5.372	0.000	12756	0.50000	0.5274	80.00- 120.00	100.00
6.138	6.138	0.000	22167	0.50000	0.5445	130.33- 217.22	173.78
7.082	7.082	0.000	30284	0.50000	0.5296	178.06- 296.76	237.41
9.070	9.070	0.000	17532	0.50000	0.5294	103.08- 171.80	137.44
9.637	9.637	0.000	11898	0.50000	0.5289	69.96- 116.59	93.27
Average of Peak Amounts =					0.532		

Dat e: /chem/can/gcs/a2hpk.i/81214a.b/061f0101.d
Date . 15-DEC-1998 12:11
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



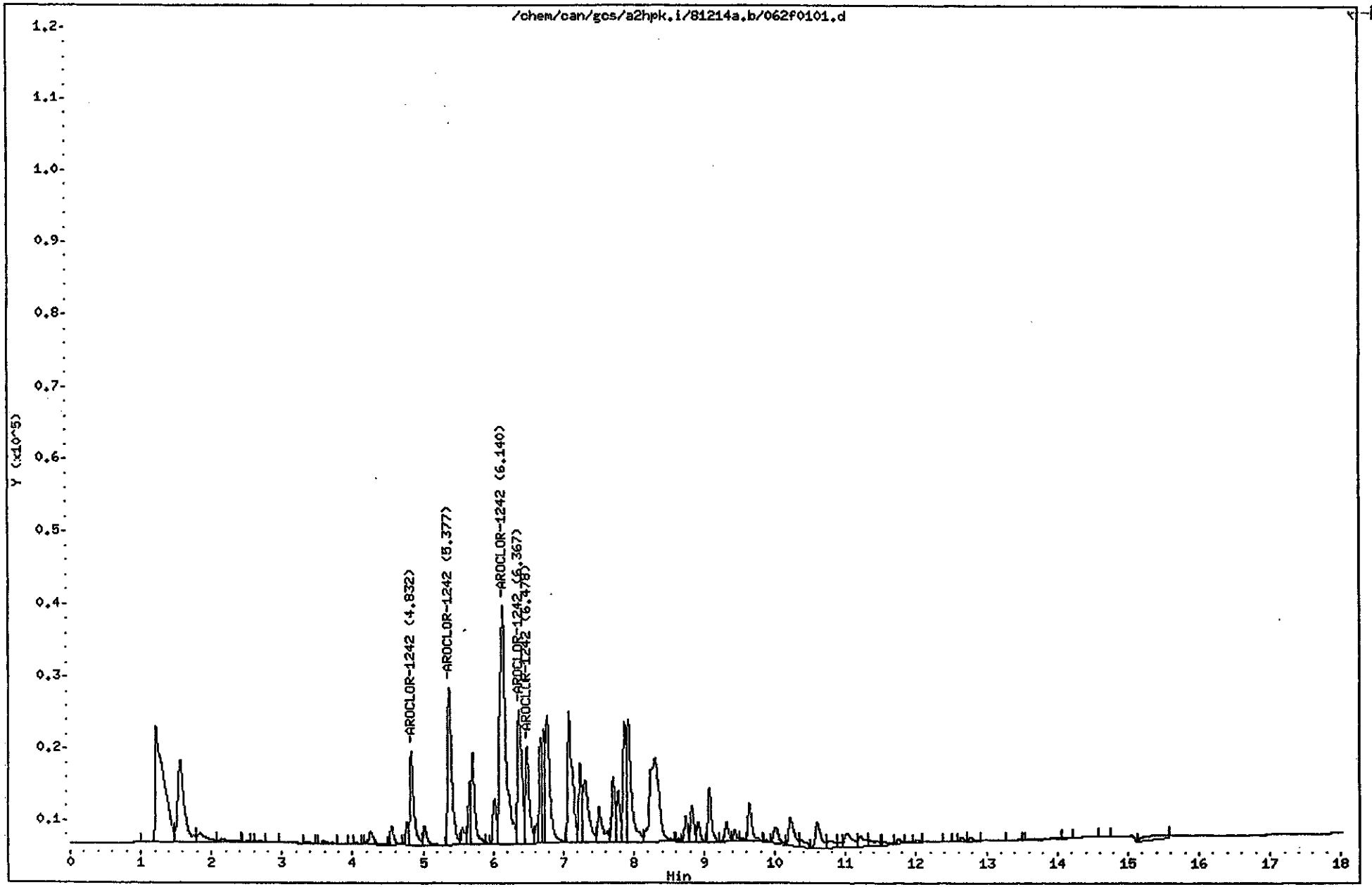
Data File: /chem/can/gcs/a2hpk.i/81214a.b/062f0101.d
Report Date: 16-Dec-1998 08:00

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/062f0101.d
Lab Smp Id: 1242 C051
Inj Date : 15-DEC-1998 12:32 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000 Compound Sublist: AR1242.sub
Integrator: Falcon Sample Matrix: None
Target Version: 3.40
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.832	4.832	0.000	12998	0.50000	0.4886	80.00- 120.00	100.00
5.377	5.377	0.000	21840	0.50000	0.4876	126.02- 210.03	168.03
6.140	6.140	0.000	32985	0.50000	0.4948	190.33- 317.21	253.77
6.367	6.367	0.000	18619	0.50000	0.4943	107.43- 179.06	143.25
6.478	6.478	0.000	13575	0.50000	0.5066	78.33- 130.55	104.44
Average of Peak Amounts =					0.494		

Dat e: /chem/can/gcs/a2hpk.i/81214a.b/062f0101.d
Date . 15-DEC-1998 12:32
Client ID:
Instrument: a2hpk.i
Sample Info: 1242 C051,,2
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



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Report Date: 16-Dec-1998 08:00

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/063f0101.d
Lab Smp Id: 1232 C046
Inj Date : 15-DEC-1998 12:53 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.550	4.550	0.000	6809	0.50000	0.5170	80.00- 120.00	100.00
4.830	4.830	0.000	19088	0.50000	0.5118	210.25- 350.42	280.33
5.378	5.378	0.000	13341	0.50000	0.5130	146.95- 244.91	195.93
6.142	6.142	0.000	19444	0.50000	0.5192	214.17- 356.95	285.56
6.368	6.368	0.000	11168	0.50000	0.5188	123.01- 205.02	164.02
Average of Peak Amounts =					0.516		

Da. ile: /chem/can/gcs/a2hpk.i/81214a.b/063f0101.d
Date : 15-DEC-1998 12:53
Client ID:
Sample Info: 1232 C046,,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

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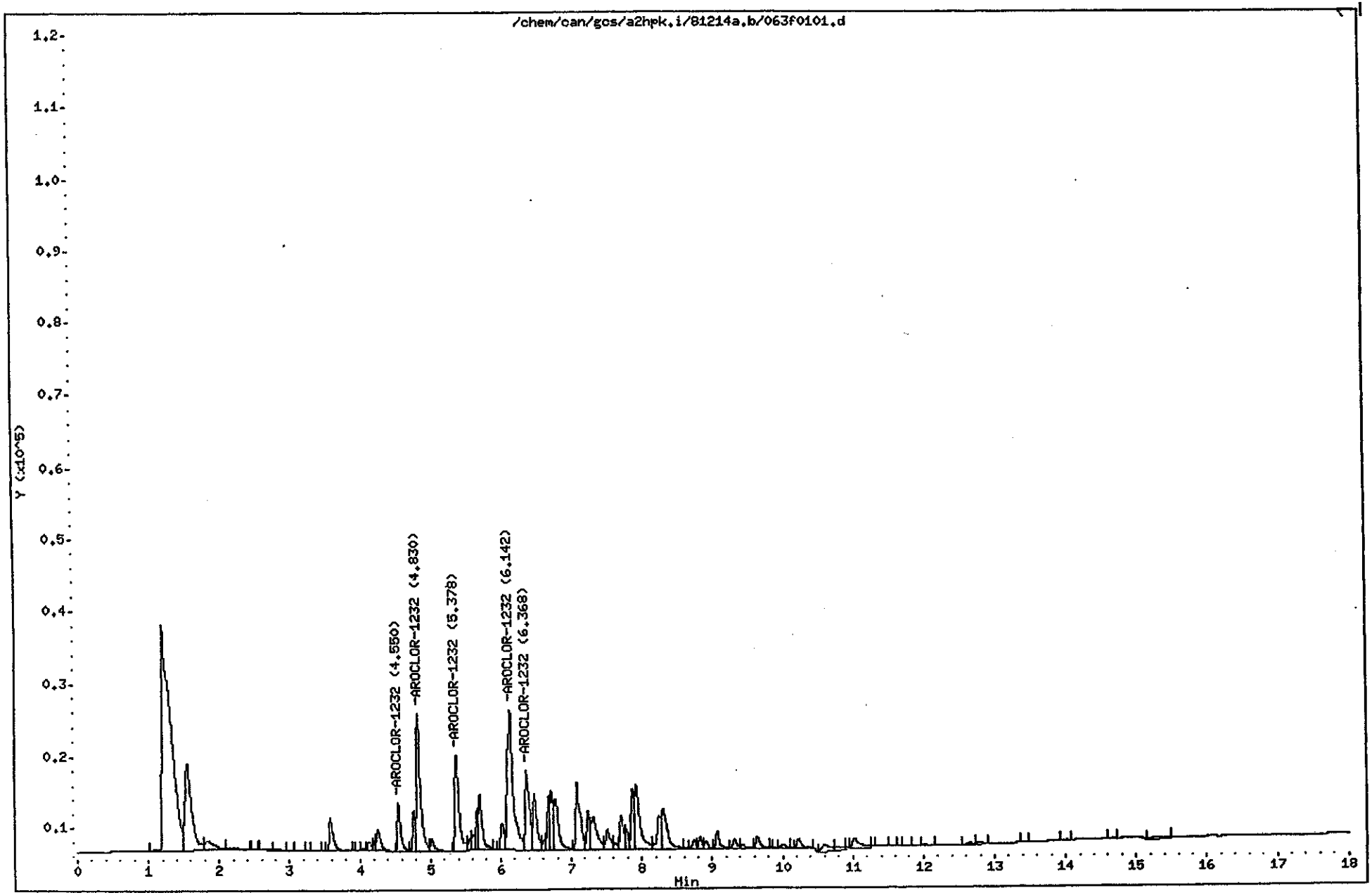


Data File: /chem/can/gcs/a2hpk.i/81214a.b/075f0101.d
Report Date: 12/16/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 075f0101.d
Analysis Type: NONE

Injection Date: 15-DEC-1998 17:05
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.

COMPOUND	%D
TCMX	8.2
AROCLOR-1016	5.5
AROCLOR-1260	6.3
DCB	5.0

The average of %D's in the continuing calibration is 6.3

Data File: /chem/can/gcs/a2hpk.i/81214a.b/075f0101.d
Report Date: 16-Dec-1998 08:01

QUANTERRA-NORTH CANTON

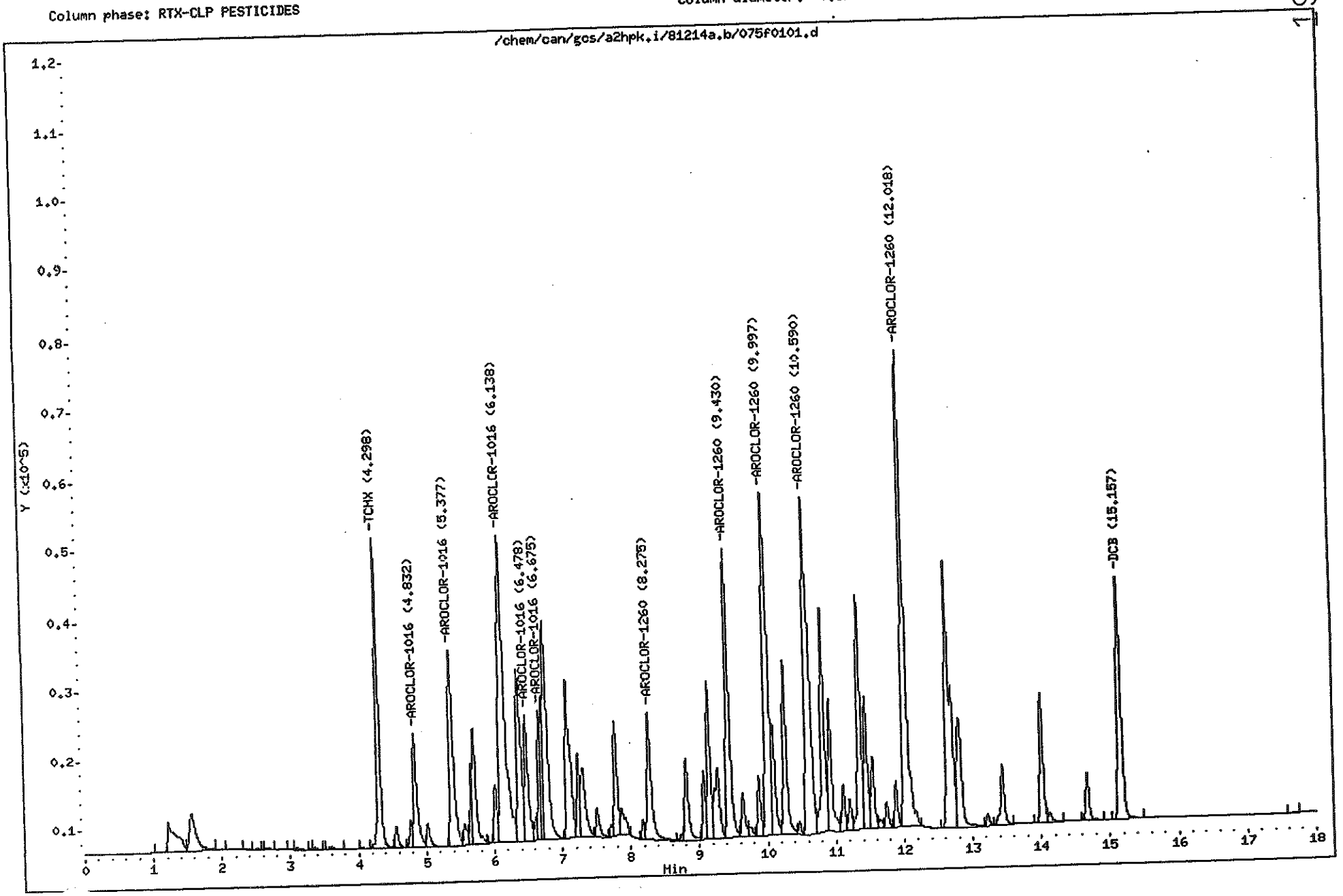
Data file : /chem/can/gcs/a2hpk.i/81214a.b/075f0101.d
Lab Smp Id: 1660 C110
Inj Date : 15-DEC-1998 17:05 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS				
				CAL-AMT	ON-COL			
	RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$	1 TCMX					CAS #: 877-09-8		
	4.298	4.298	0.000	44360	0.02500	0.02705	80.00- 120.00	100.00
	3 AROCLOR-1016					CAS #: 12674-11-2		
	4.832	4.832	0.000	16421	0.50000	0.5299	80.00- 120.00	100.00
	5.377	5.377	0.000	28337	0.50000	0.5246	131.48- 219.13	172.57
	6.138	6.140	-0.002	44094	0.50000	0.5260	201.19- 335.32	268.52
	6.478	6.480	-0.002	18170	0.50000	0.5307	80.13- 133.54	110.65
	6.675	6.677	-0.002	18773	0.50000	0.5272	83.41- 139.01	114.32
			Average of Peak Amounts =			0.528		
	8 AROCLOR-1260					CAS #: 11096-82-5		
	8.275	8.277	-0.002	18404	0.50000	0.5295	80.00- 120.00	100.00
	9.430	9.432	-0.002	41455	0.50000	0.5239	171.69- 286.15	225.25
	9.997	9.998	-0.001	49169	0.50000	0.5320	202.14- 336.89	267.16
	10.590	10.590	0.000	48528	0.50000	0.5339	199.32- 332.20	263.68
	12.018	12.018	0.000	68552	0.50000	0.5389	282.30- 470.51	372.48
			Average of Peak Amounts =			0.532		
$	9 DCB					CAS #: 2051-24-3		
	15.157	15.157	0.000	34599	0.02500	0.02624	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81214a.b/075f0101.d
Date : 15-DEC-1998 17:05
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L030?

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

					MEAN SURROGATE RT FROM INITIAL CALIBRATION			
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT	#	RT	#
01		2154 C061	12/16/98	2127				
02		1248 C056	12/16/98	2148				
03		1242 C051	12/16/98	2209				
04		1232 C046	12/16/98	2230				
05		1660 C110	12/17/98	0428				
06	CP07RBLK	CP07R101	12/17/98	0820				
07		1660 C110	12/17/98	0902				
08	CP07RCHK	CP07R102	12/17/98	0944				
09	CP07RCHKDUP	CP07R103	12/17/98	1005				
10	S-120298-JH-	CNXA5101	12/17/98	1026				
11	S-120298-JH-	CNXA6101	12/17/98	1047				
12	S-120298-JH-	CNX9X101	12/17/98	1108				
13		1660 C110	12/17/98	1150				
14								
15								
16								
17								
18								
19								
20								
21								
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23								
24								
25								
26								
27								
28								
29								
30								
31								
32								

QC LIMITS

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Data File: /chem/can/gcs/a2hpk.i/81216a.b/009f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/009f0101.d
Lab Smp Id: 2154 C061
Inj Date : 16-DEC-1998 21:27 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

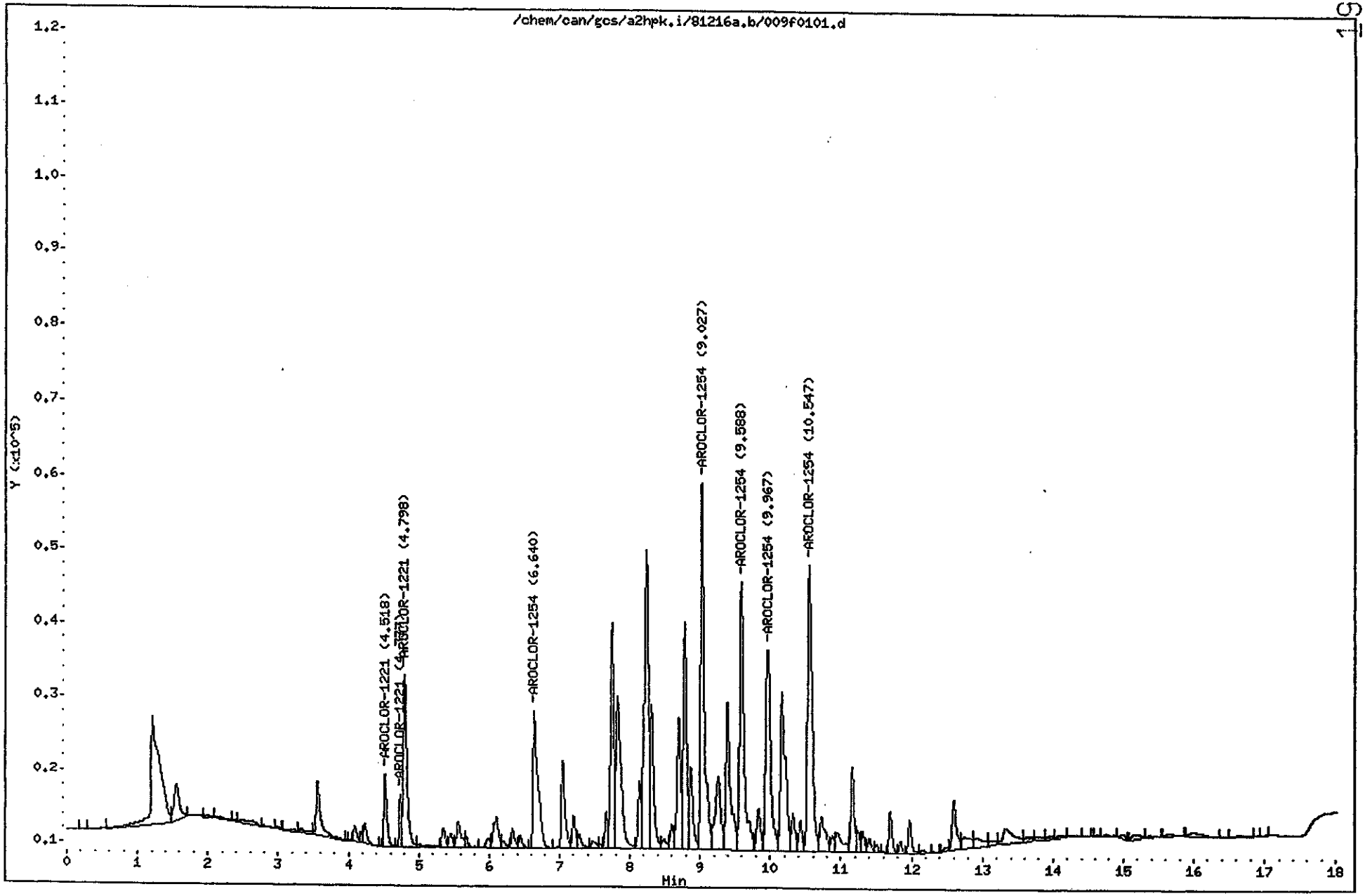
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.640	6.640	0.000	18672	0.50000	0.4646	80.00- 120.00	100.00
9.027	9.027	0.000	49819	0.50000	0.5133	200.11- 333.51	266.81
9.588	9.588	0.000	36366	0.50000	0.5209	146.07- 243.45	194.76
9.967	9.967	0.000	27220	0.50000	0.4954	109.33- 182.22	145.78
10.547	10.547	0.000	38717	0.50000	0.4920	155.51- 259.19	207.35
		Average of Peak Amounts =			0.497		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.518	4.518	0.000	10011	0.50000	0.5190	80.00- 120.00	100.00
4.737	4.737	0.000	7195	0.50000	0.5106	53.90- 89.84	71.87
4.798	4.798	0.000	23635	0.50000	0.5247	177.07- 295.11	236.09
		Average of Peak Amounts =			0.518		

Da le: /chem/can/gcs/a2hpk.i/81216a.b/009f0101.d
Dat . 16-DEC-1998 21:27
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/010f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/010f0101.d
Lab Smp Id: 1248 C056
Inj Date : 16-DEC-1998 21:48
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

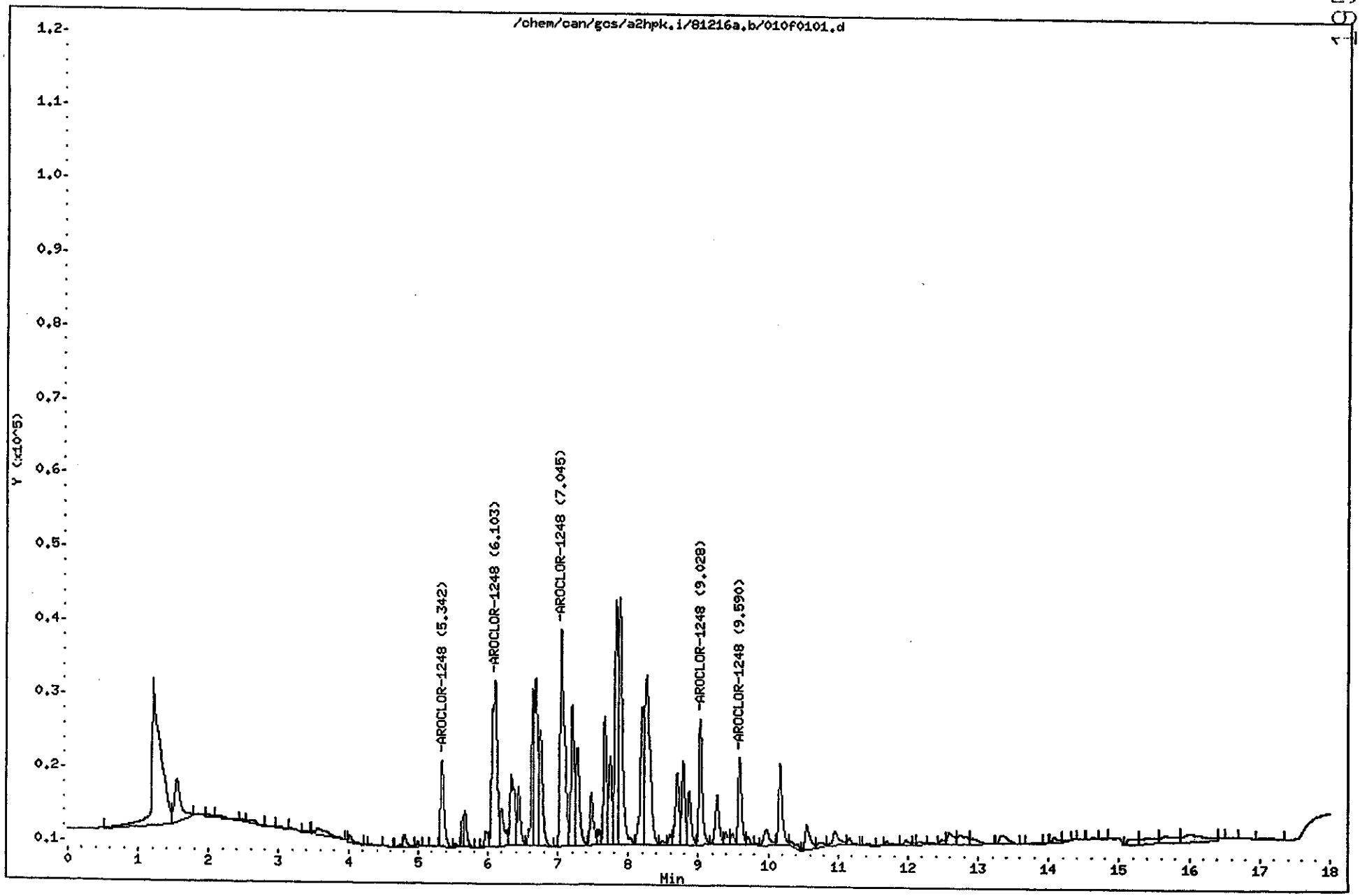
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.342	5.342	0.000	11718	0.50000	0.4845	80.00- 120.00	100.00
6.103	6.103	0.000	22570	0.50000	0.5544	144.46- 240.76	192.61
7.045	7.045	0.000	29502	0.50000	0.5159	188.82- 314.71	251.77
9.028	9.028	0.000	17203	0.50000	0.5194	110.11- 183.51	146.81
9.590	9.590	0.000	11829	0.50000	0.5258	75.71- 126.18	100.95
		Average of Peak Amounts =			0.52		

File: /chem/can/gcs/a2hpk.i/81216a.b/010f0101.d
: 16-DEC-1998 21:48
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/011f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

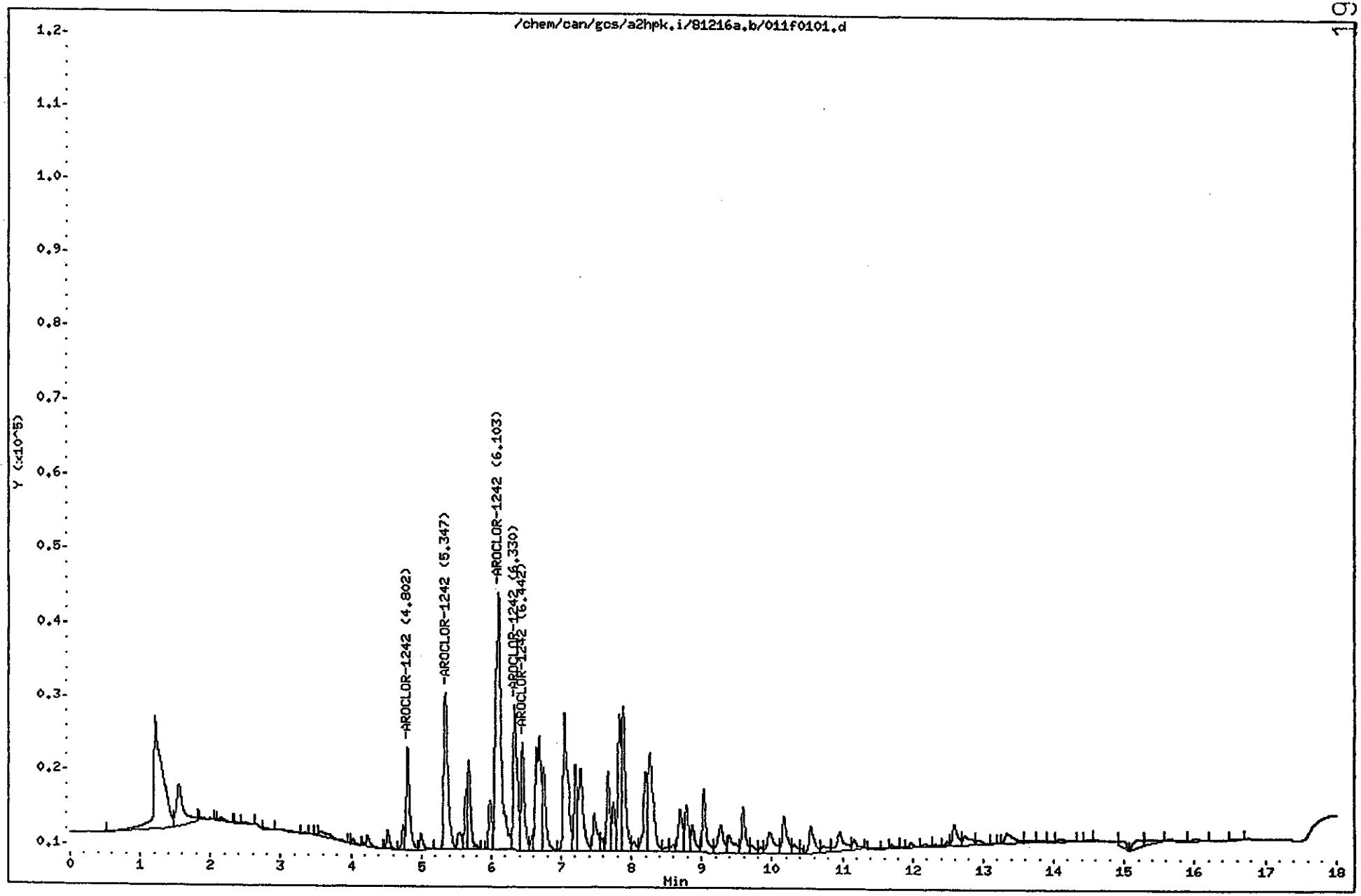
Data file : /chem/can/gcs/a2hpk.i/81216a.b/011f0101.d
Lab Smp Id: 1242 C051
Inj Date : 16-DEC-1998 22:09 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.802	4.802	0.000	13689	0.50000	0.5146	80.00- 120.00	100.00
5.347	5.347	0.000	21213	0.50000	0.4736	116.22- 193.70	154.96
6.103	6.103	0.000	34790	0.50000	0.5219	190.61- 317.68	254.15
6.330	6.330	0.000	19600	0.50000	0.5204	107.39- 178.98	143.18
6.442	6.442	0.000	14502	0.50000	0.5412	79.45- 132.42	105.94
Average of Peak Amounts =					0.514		

D ile: /chem/can/gcs/a2hpk.i/81216a.b/011f0101.d
Da . 16-DEC-1998 22:09
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/012f0101.d
Report Date: 17-Dec-1998 13:20

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/012f0101.d
Lab Smp Id: 1232 C046
Inj Date : 16-DEC-1998 22:30
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 15-DEC-1998 19:11 Cal File: 081f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

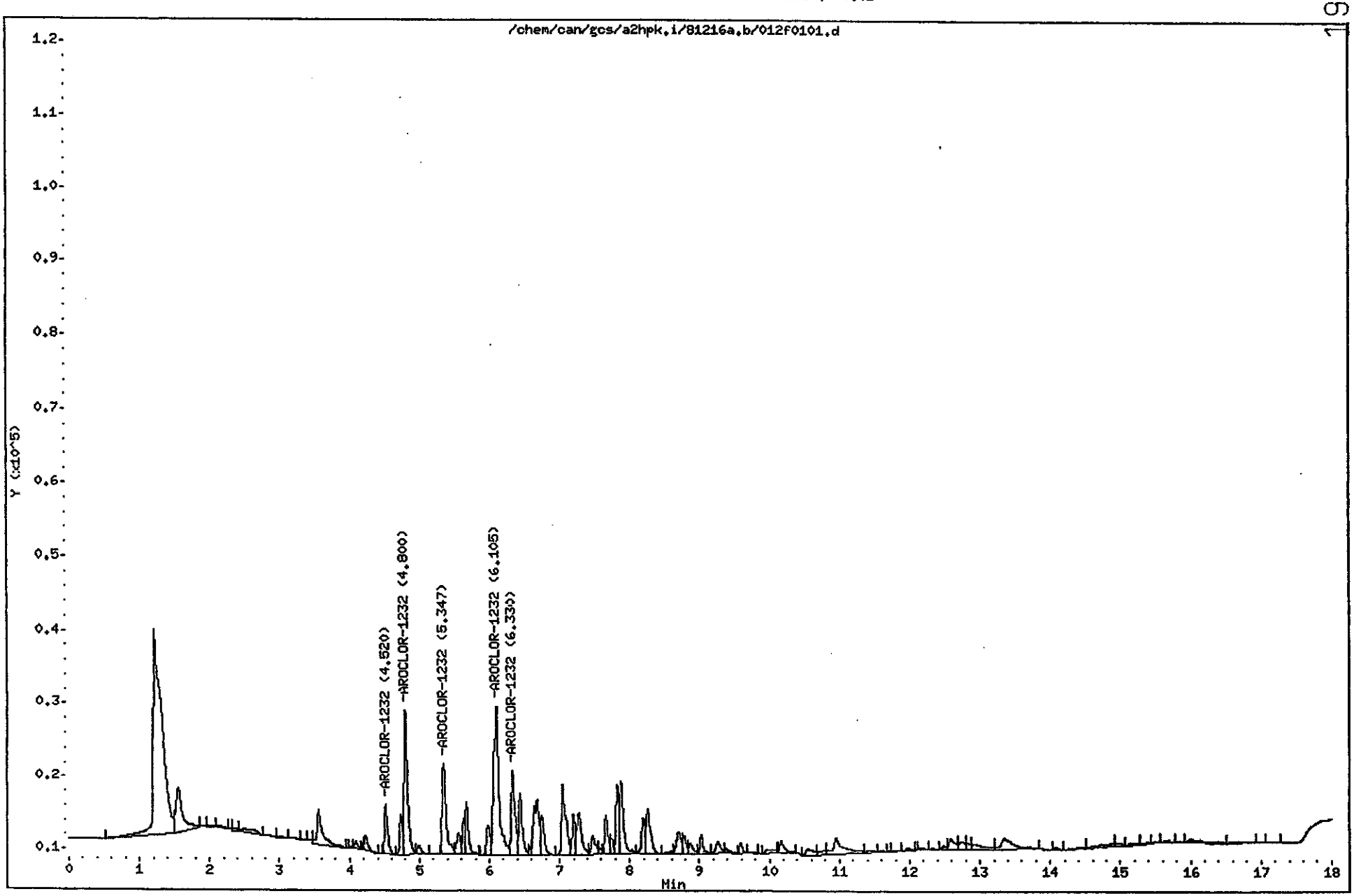
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.520	4.520	0.000	6865	0.50000	0.5212	80.00- 120.00	100.00
4.800	4.800	0.000	19697	0.50000	0.5282	215.19- 358.65	286.92
5.347	5.347	0.000	12523	0.50000	0.4815	136.81- 228.02	182.42
6.105	6.105	0.000	20412	0.50000	0.5451	223.00- 371.67	297.33
6.330	6.330	0.000	11596	0.50000	0.5387	126.69- 211.14	168.91
		Average of Peak Amounts =			0.523		

D ile: /chem/can/gcs/a2hpk.i/81216a.b/012f0101.d
Dat : 16-DEC-1998 22:30
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Report Date: 12/17/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 029f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 04:28
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.

COMPOUND	%D
TCMX	3.8
AROCLOR-1016	6.7
AROCLOR-1260	4.5
DCB	2.0

The average of %D's in the continuing calibration is 4.3

Data File: /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Report Date: 17-Dec-1998 13:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 04:28
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

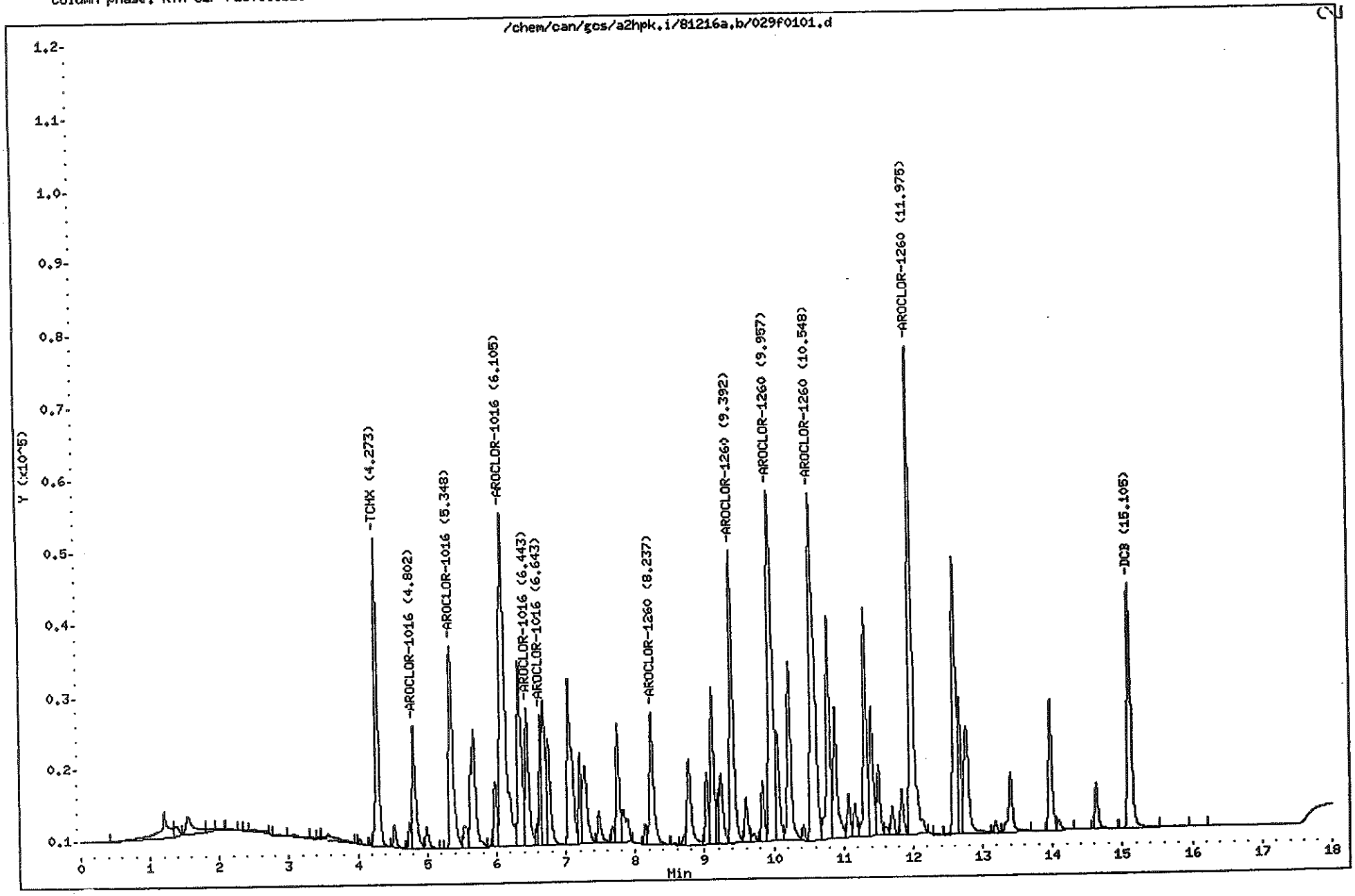
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.273	4.272	0.001	42579	0.02500	0.02596	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.802	0.000	16807	0.50000	0.5424	80.00- 120.00	100.00
5.348	5.347	0.001	27866	0.50000	0.5159	125.29- 208.81	165.80
6.105	6.105	0.000	46100	0.50000	0.5499	207.30- 345.49	274.29
6.443	6.442	0.001	19002	0.50000	0.5550	84.66- 141.09	113.06
6.643	6.642	0.001	17970	0.50000	0.5046	81.88- 136.47	106.92
Average of Peak Amounts =					0.534		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.237	8.237	0.000	18017	0.50000	0.5183	80.00- 120.00	100.00
9.392	9.390	0.002	40407	0.50000	0.5107	166.19- 276.99	224.27
9.957	9.955	0.002	48437	0.50000	0.5240	196.82- 328.04	268.84
10.548	10.547	0.001	48061	0.50000	0.5288	201.36- 335.60	266.75
11.975	11.973	0.002	67403	0.50000	0.5299	281.46- 469.10	374.11
Average of Peak Amounts =					0.522		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	33618	0.02500	0.02550	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/029f0101.d
Date : 17-DEC-1998 04:28
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Report Date: 12/17/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 042f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 09:02
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.

COMPOUND	%D
TCMX	5.8
AROCLOR-1016	9.1
AROCLOR-1260	7.7
DCB	0.6

The average of %D's in the continuing calibration is 5.8

Data File: /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Report Date: 17-Dec-1998 13:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 09:02 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.272	0.000	43375	0.02500	0.02645	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.802	0.000	17122	0.50000	0.5525	80.00- 120.00	100.00
5.347	5.347	0.000	28545	0.50000	0.5284	125.29- 208.81	166.72
6.103	6.105	-0.002	47226	0.50000	0.5633	207.30- 345.49	275.82
6.442	6.442	0.000	19280	0.50000	0.5632	84.66- 141.09	112.60
6.642	6.642	0.000	18552	0.50000	0.5210	81.88- 136.47	108.35
Average of Peak Amounts =					0.546		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.235	8.237	-0.002	18872	0.50000	0.5429	80.00- 120.00	100.00
9.390	9.390	0.000	41327	0.50000	0.5223	166.19- 276.99	218.99
9.955	9.955	0.000	49289	0.50000	0.5333	196.82- 328.04	261.18
10.547	10.547	0.000	49639	0.50000	0.5461	201.36- 335.60	263.03
11.973	11.973	0.000	69561	0.50000	0.5468	281.46- 469.10	368.59
Average of Peak Amounts =					0.538		
$ 9 DCB					CAS #: 2051-24-3		
15.105	15.105	0.000	32756	0.02500	0.02484	80.00- 120.00	100.00

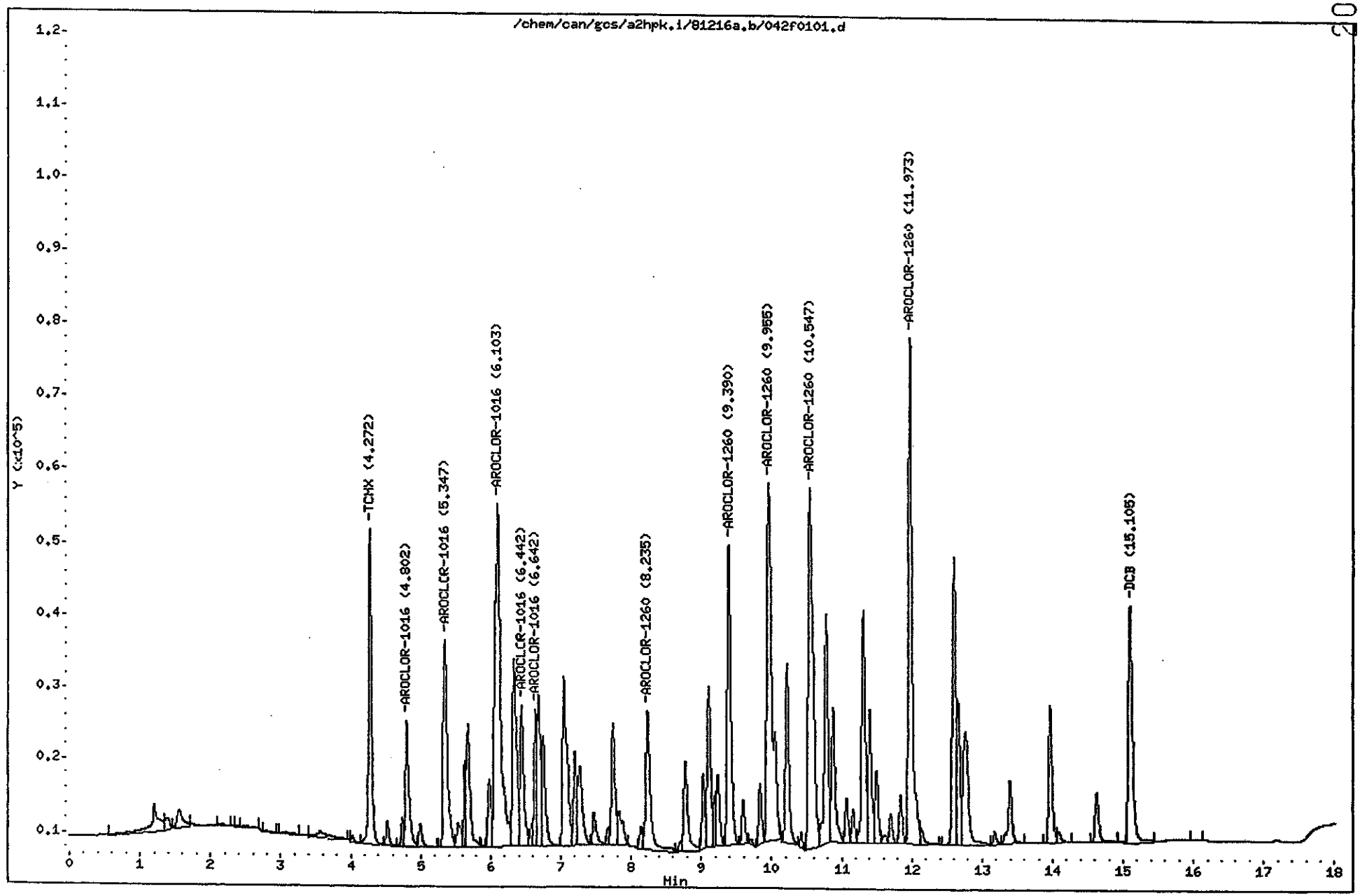
File: /chem/can/gcs/a2hpk.i/81216a.b/042f0101.d
Date : 17-DEC-1998 09:02
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

205



Data File: /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Report Date: 12/17/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 050f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 11:50
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII

COMPOUND	%D
TCMX	1.3
AROCLOR-1016	2.4
AROCLOR-1260	0.7
DCB	5.4

The average of %D's in the continuing calibration is 2.4

Data File: /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Report Date: 31-Dec-1998 10:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 11:50
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

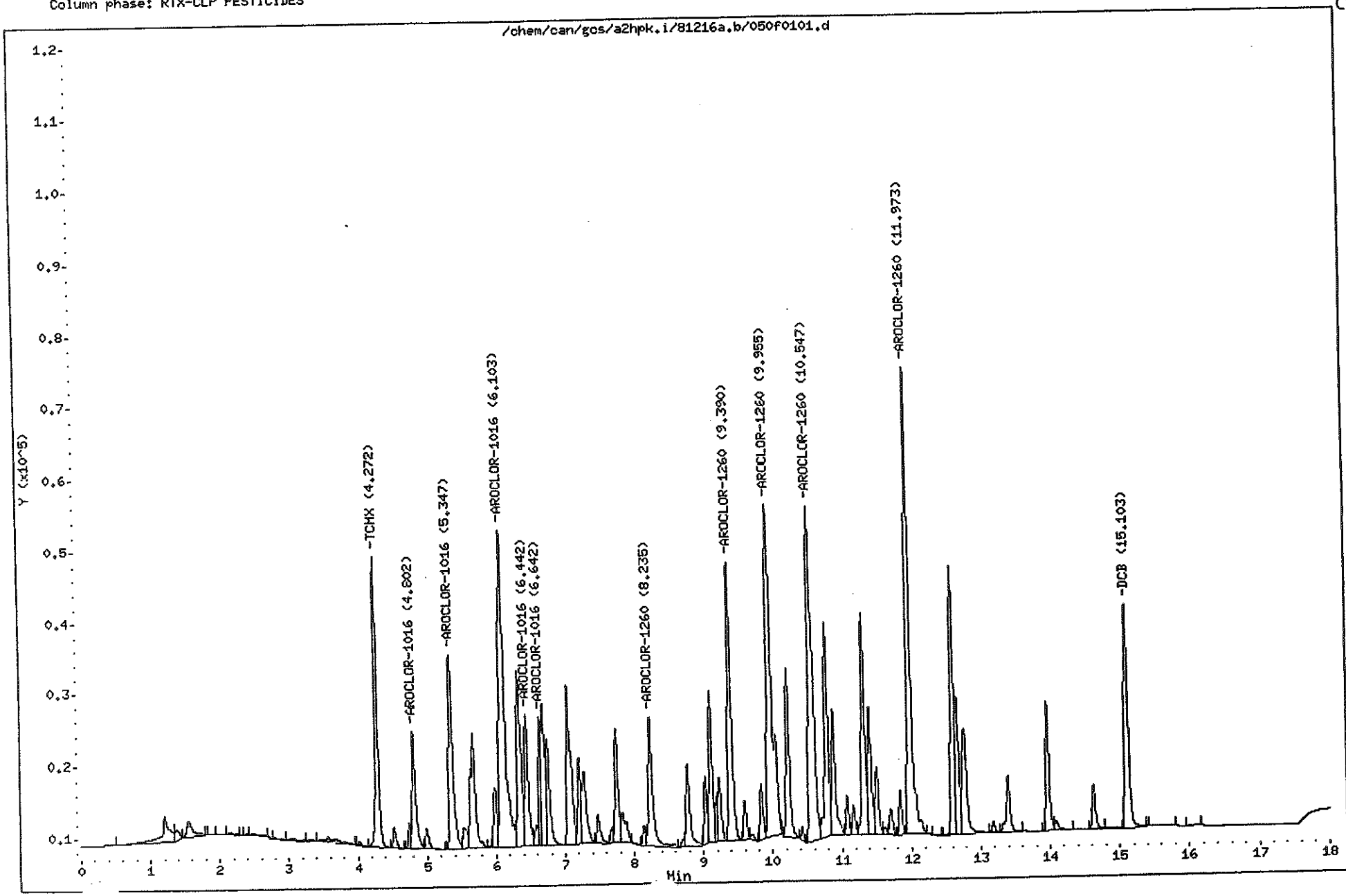
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.272	0.000	40484	0.02500	0.02468	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.802	0.000	15980	0.50000	0.5157	80.00- 120.00	100.00
5.347	5.347	0.000	26981	0.50000	0.4995	125.29- 208.81	168.84
6.103	6.105	-0.002	44175	0.50000	0.5269	207.30- 345.49	276.44
6.442	6.442	0.000	17970	0.50000	0.5249	84.66- 141.09	112.45
6.642	6.642	0.000	17523	0.50000	0.4921	81.88- 136.47	109.66
Average of Peak Amounts =					0.512		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.235	8.237	-0.002	17644	0.50000	0.5076	80.00- 120.00	100.00
9.390	9.390	0.000	38631	0.50000	0.4882	166.19- 276.99	218.95
9.955	9.955	0.000	46095	0.50000	0.4987	196.82- 328.04	261.25
10.547	10.547	0.000	46491	0.50000	0.5115	201.36- 335.60	263.49
11.973	11.973	0.000	64969	0.50000	0.5107	281.46- 469.10	368.22
Average of Peak Amounts =					0.503		
$ 9 DCB					CAS #: 2051-24-3		
15.103	15.105	-0.002	31168	0.02500	0.02364	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/050f0101.d
Date : 17-DEC-1998 11:50
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L03(5

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/9

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.27 S2 : 15.10

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		1660 C110	12/17/98	1620	4.27	15.10
02		2154 C061	12/17/98	1641		
03		1248 C056	12/17/98	1703		
04		1242 C051	12/17/98	1724		
05		1232 C046	12/17/98	1745		
06	S-120298-JH-	CNXD3101	12/17/98	2054	4.23	
07		1660 C110	12/17/98	2342	4.27	15.10
08						
09						
10						
11						
12						
13						
14						
15						
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25						
26						
27						
28						
29						
30						
31						
32						

QC LIMITS

S1 = TCMX (+/- 0.10 MINUTES)
S2 = DCB (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Data File: /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Report Date: 12/18/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 004f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 16:20
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.

COMPOUND	%D
TCMX	0.6
AROCLOR-1016	3.6
AROCLOR-1260	1.9
DCB	1.1

The average of %D's in the continuing calibration is 1.8

Data File: /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 16:20
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

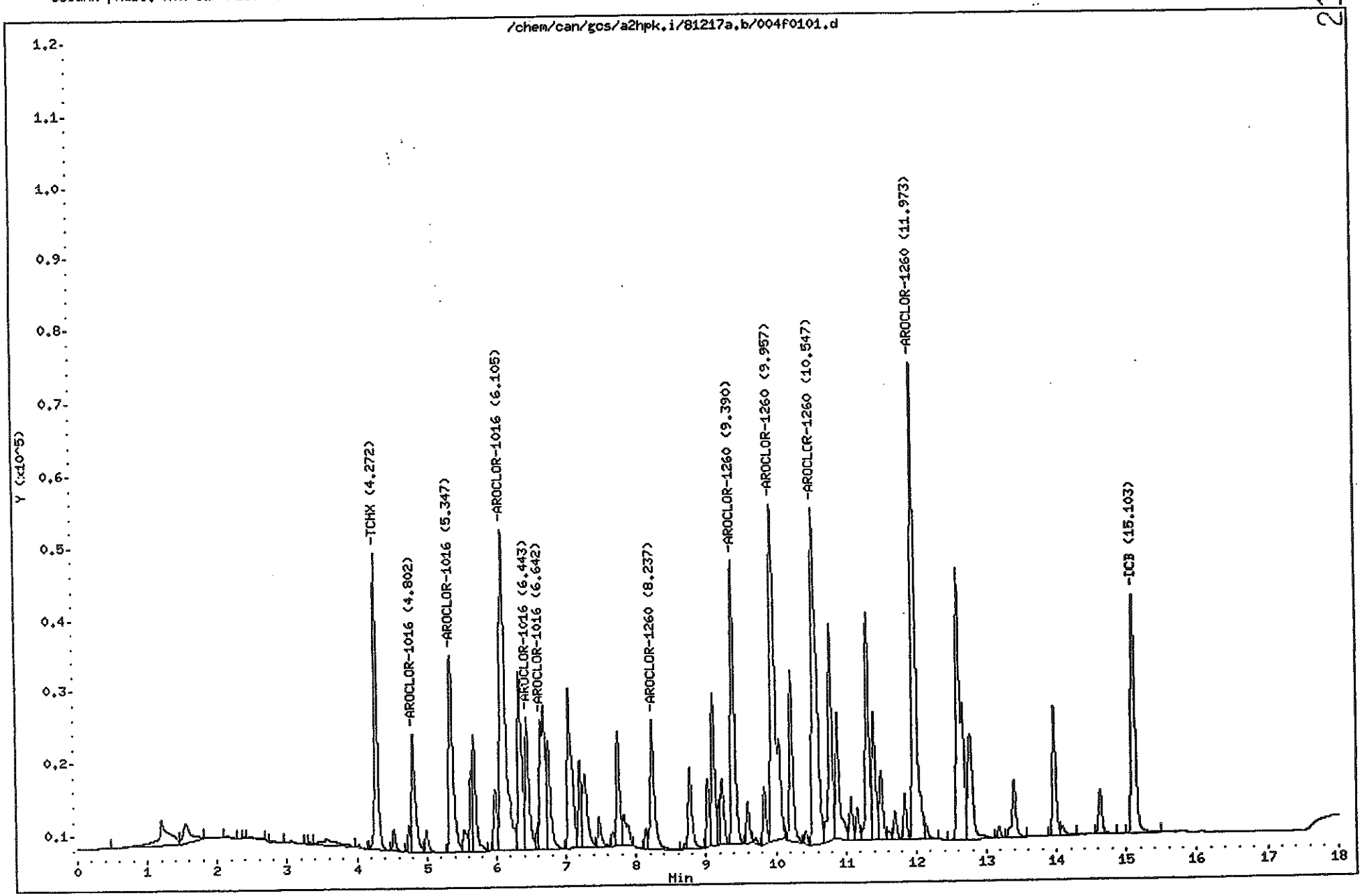
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	41244	0.02500	0.02515	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.800	0.002	16264	0.50000	0.5248	80.00- 120.00	100.00
5.347	5.343	0.004	27263	0.50000	0.5047	128.06- 213.44	167.63
6.105	6.102	0.003	44542	0.50000	0.5313	204.62- 341.03	273.87
6.443	6.440	0.003	18116	0.50000	0.5292	83.61- 139.35	111.39
6.642	6.638	0.004	17794	0.50000	0.4997	84.33- 140.55	109.41
Average of Peak Amounts =					0.518		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.237	8.233	0.004	17734	0.50000	0.5102	80.00- 120.00	100.00
9.390	9.385	0.005	39356	0.50000	0.4974	164.71- 274.51	221.92
9.957	9.952	0.005	46768	0.50000	0.5060	194.93- 324.88	263.72
10.547	10.542	0.005	46824	0.50000	0.5152	195.72- 326.20	264.04
11.973	11.968	0.005	66120	0.50000	0.5198	277.41- 462.34	372.84
Average of Peak Amounts =					0.51		
$ 9 DCB					CAS #: 2051-24-3		
15.103	15.097	0.006	33318	0.02500	0.02527	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81217a.b/004f0101.d
Date : 17-DEC-1998 16:20
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/005f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/005f0101.d
Lab Smp Id: 2154 C061
Inj Date : 17-DEC-1998 16:41
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.642	6.638	0.004	19060	0.50000	0.4743	80.00- 120.00	100.00
9.027	9.023	0.004	47669	0.50000	0.4912	183.65- 306.08	250.10
9.592	9.588	0.004	35184	0.50000	0.5040	134.94- 224.90	184.60
9.968	9.965	0.003	26820	0.50000	0.4882	104.37- 173.96	140.71
10.548	10.543	0.005	38422	0.50000	0.4883	148.01- 246.69	201.58
Average of Peak Amounts =					0.489		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.520	4.518	0.002	9770	0.50000	0.5066	80.00- 120.00	100.00
4.738	4.737	0.001	6997	0.50000	0.4965	54.30- 90.51	71.62
4.800	4.798	0.002	22530	0.50000	0.5002	172.76- 287.93	230.60
Average of Peak Amounts =					0.501		

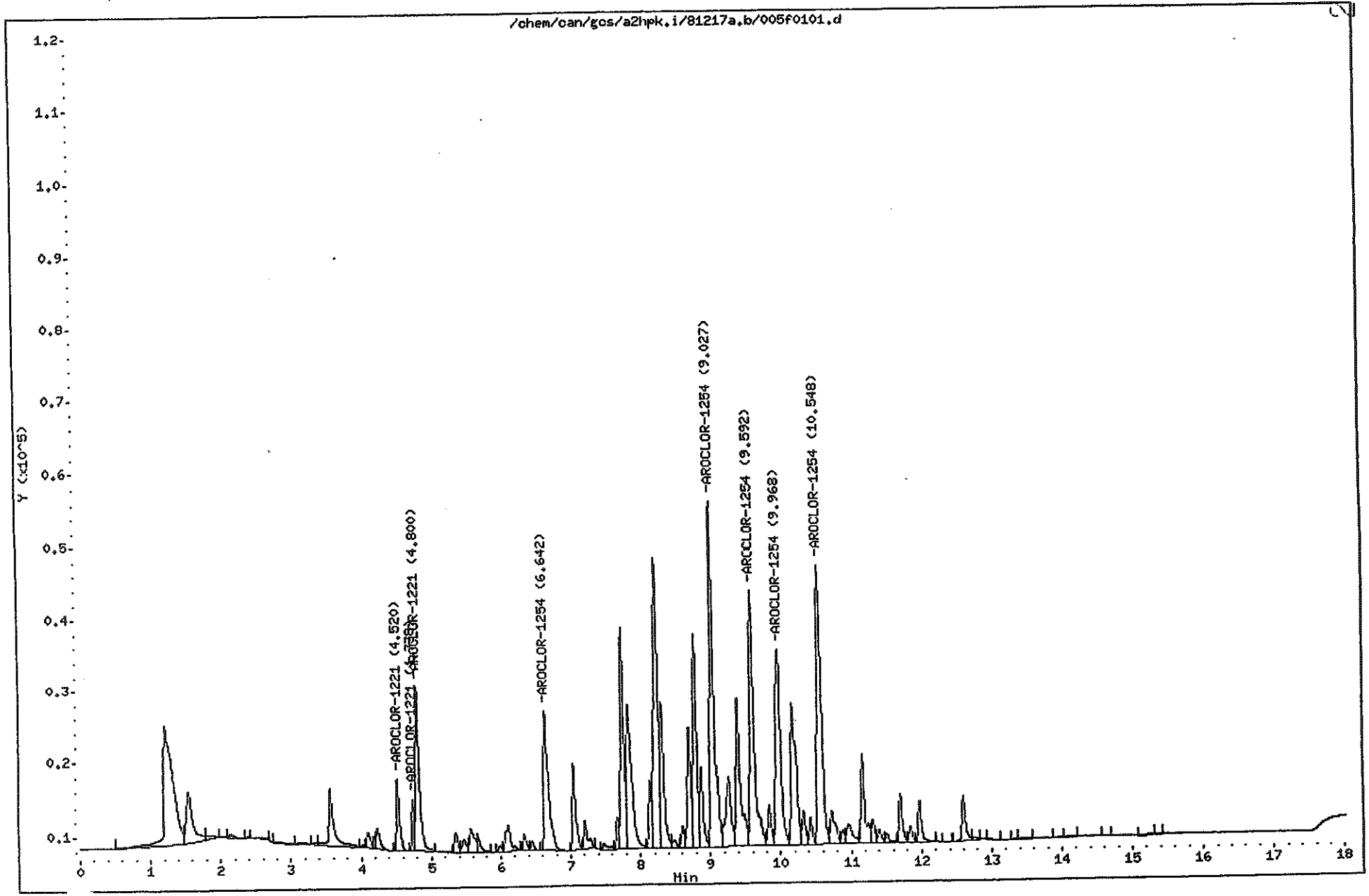
Data File: /chem/can/gcs/a2hpk.i/81217a.b/005f0101.d
Date : 17-DEC-1998 16:41
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

214



Data File: /chem/can/gcs/a2hpk.i/81217a.b/006f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/006f0101.d
Lab Smp Id: 1248 C056
Inj Date : 17-DEC-1998 17:03
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

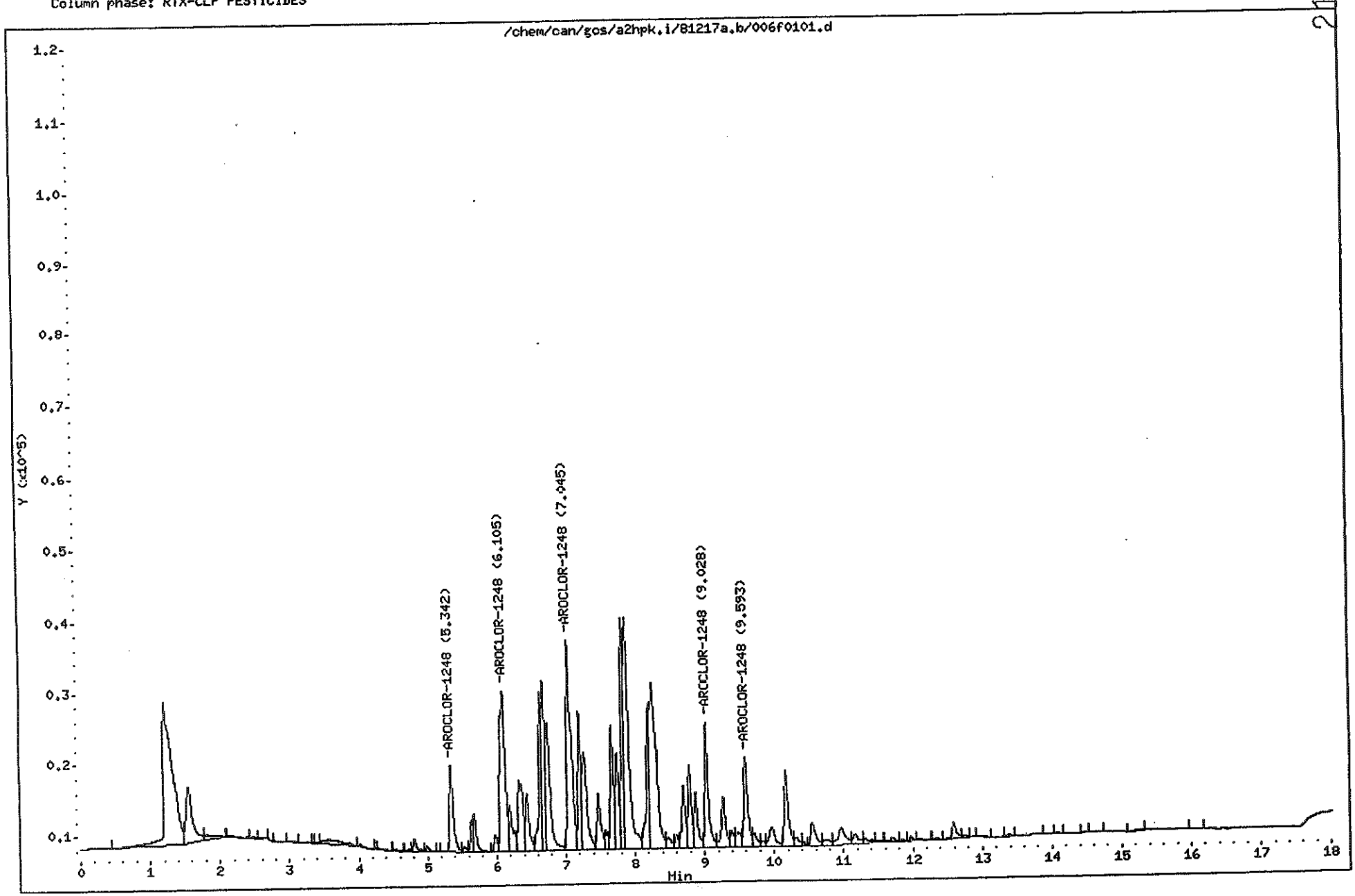
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
**	=======	========	========	=======	=======	============		=====
6 AROCLOR-1248					CAS #: 12672-29-6			
5.342	5.338	0.004	12087	0.50000	0.4998	80.00-	120.00	100.00
6.105	6.102	0.003	22306	0.50000	0.5480	137.72-	229.53	184.55
7.045	7.042	0.003	29366	0.50000	0.5135	181.30-	302.17	242.96
9.028	9.025	0.003	17365	0.50000	0.5243	108.43-	180.71	143.67
9.593	9.590	0.003	12471	0.50000	0.5543	78.36-	130.60	103.18
Average of Peak Amounts =					0.528			

Data File: /chem/can/gcs/a2hpk.i/81217a.b/006f0101.d
Date : 17-DEC-1998 17:03
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



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Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/007f0101.d
Lab Smp Id: 1242 C051
Inj Date : 17-DEC-1998 17:24
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

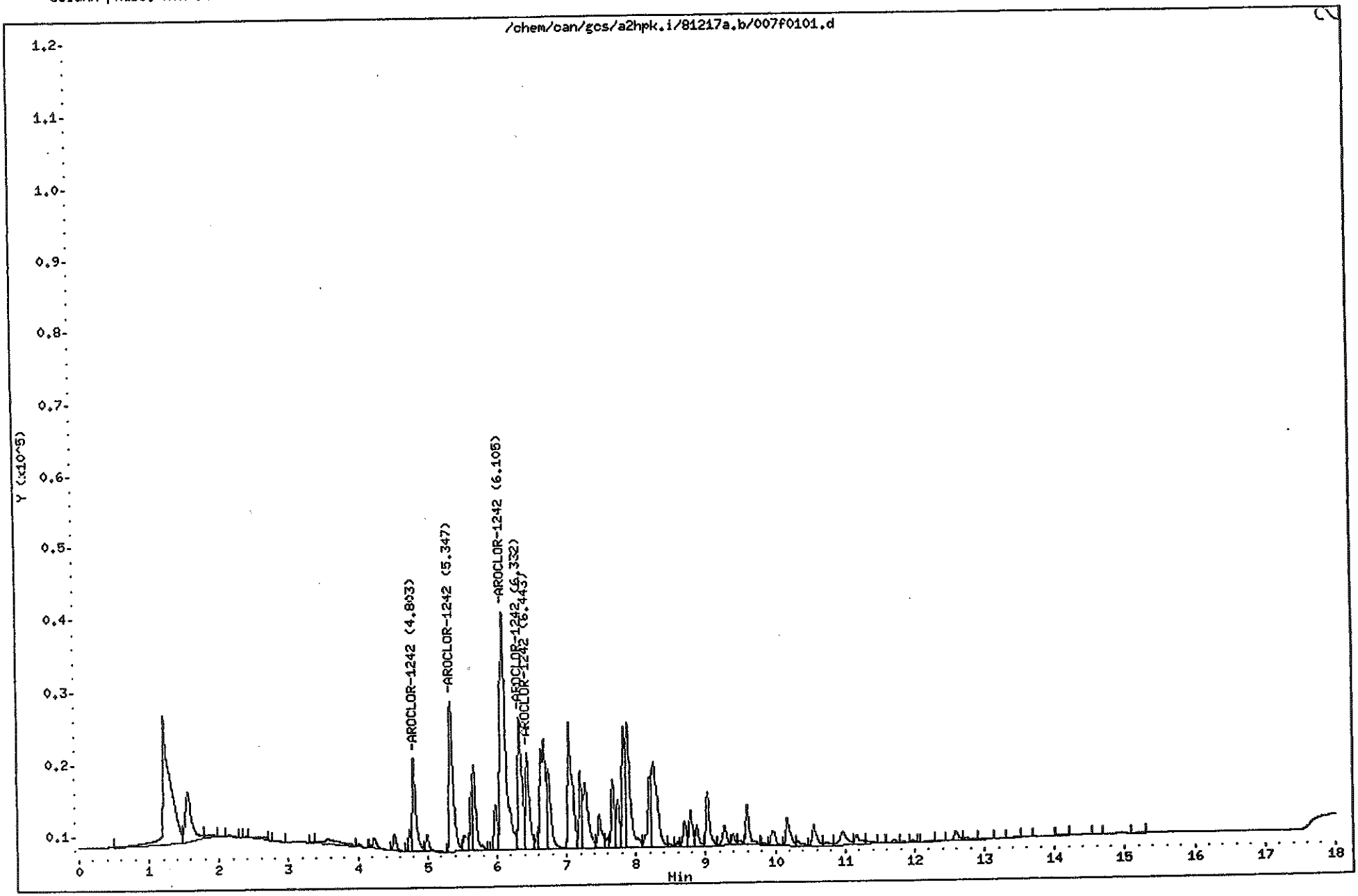
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.803	4.800	0.003	12807	0.50000	0.4814	80.00- 120.00	100.00
5.347	5.343	0.004	20849	0.50000	0.4654	122.23- 203.72	162.79
6.105	6.102	0.003	32922	0.50000	0.4939	193.45- 322.42	257.06
6.332	6.328	0.004	18392	0.50000	0.4883	108.22- 180.37	143.61
6.443	6.440	0.003	13540	0.50000	0.5053	79.59- 132.66	105.72
Average of Peak Amounts =					0.487		

Data File: /chem/can/gcs/a2hpk.i/81217a.b/007f0101.d
Date : 17-DEC-1998 17:24
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81217a.b/008f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/008f0101.d
Lab Smp Id: 1232 C046
Inj Date : 17-DEC-1998 17:45
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.520	4.518	0.002	6357	0.50000	0.4827	80.00- 120.00	100.00
4.802	4.800	0.002	17976	0.50000	0.4820	211.13- 351.88	282.77
5.347	5.345	0.002	12113	0.50000	0.4658	144.23- 240.39	190.55
6.107	6.103	0.004	18665	0.50000	0.4984	220.77- 367.94	293.61
6.332	6.330	0.002	10362	0.50000	0.4814	121.89- 203.14	163.00
		Average of Peak Amounts =			0.482		

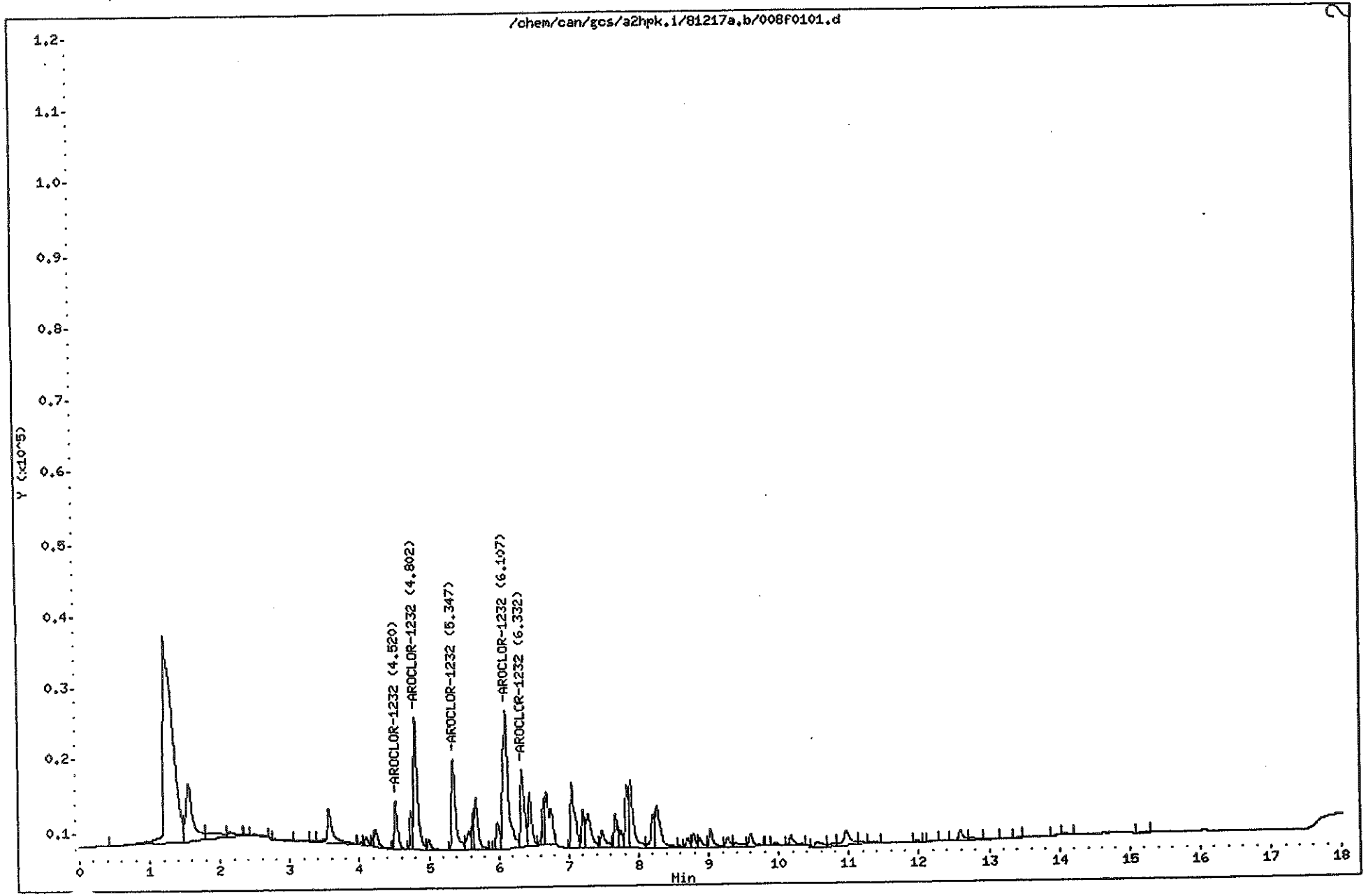
Data File: /chem/can/gcs/a2hpk.i/81217a.b/008f0101.d
Date : 17-DEC-1998 17:45
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

220



Data File: /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Report Date: 12/18/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 025f0101.d
Analysis Type: NONE

Injection Date: 17-DEC-1998 23:42
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII

COMPOUND	%D
TCMX	2.8
AROCLOR-1016	4.9
AROCLOR-1260	3.9
DCB	3.7

The average of %D's in the continuing calibration is 3.8

Data File: /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Report Date: 21-Dec-1998 10:27

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Lab Smp Id: 1660 C110
Inj Date : 17-DEC-1998 23:42 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81217a.b/kfpcbIII.m
Meth Date : 21-Dec-1998 08:55 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

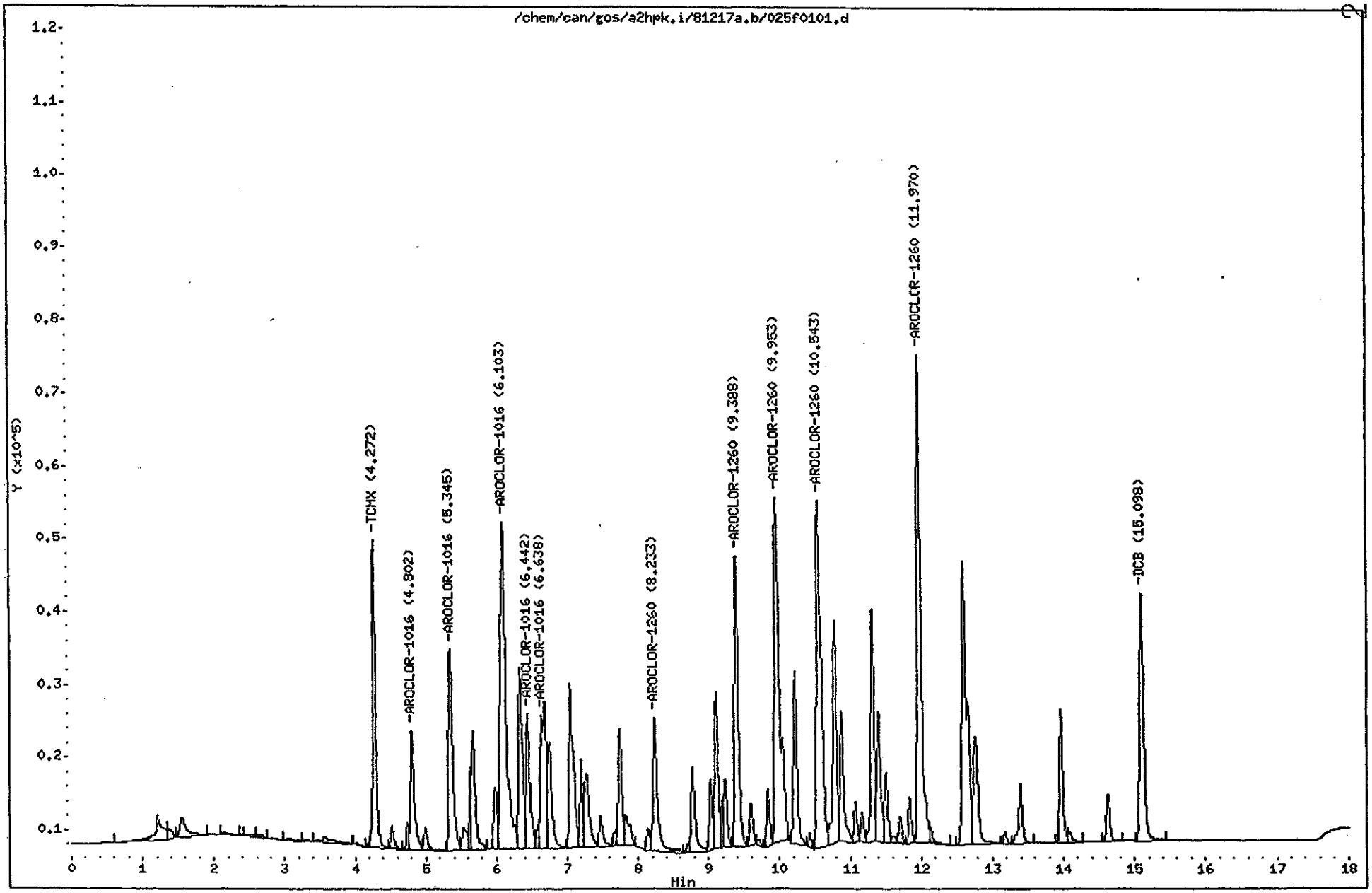
				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.272	4.270	0.002	42138	0.02500	0.02569	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.802	4.800	0.002	16404	0.50000	0.5294	80.00- 120.00	100.00
5.345	5.343	0.002	27634	0.50000	0.5116	128.06- 213.44	168.46
6.103	6.102	0.001	44889	0.50000	0.5354	204.62- 341.03	273.65
6.442	6.440	0.002	18332	0.50000	0.5355	83.61- 139.35	111.75
6.638	6.638	0.000	18205	0.50000	0.5112	84.33- 140.55	110.98
Average of Peak Amounts =					0.525		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.233	8.233	0.000	18159	0.50000	0.5224	80.00- 120.00	100.00
9.388	9.385	0.003	39911	0.50000	0.5044	164.71- 274.51	219.79
9.953	9.952	0.001	47543	0.50000	0.5144	194.93- 324.88	261.82
10.543	10.542	0.001	47928	0.50000	0.5273	195.72- 326.20	263.94
11.970	11.968	0.002	67240	0.50000	0.5286	277.41- 462.34	370.28
Average of Peak Amounts =					0.519		
$ 9 DCB					CAS #: 2051-24-3		
15.098	15.097	0.001	34171	0.02500	0.02592	80.00- 120.00	100.00

Dat e: /chem/can/gcs/a2hpk.i/81217a.b/025f0101.d
Date : 17-DEC-1998 23:42
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L030146

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURROGATE RT FROM INITIAL CALIBRATION					
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT #	RT #
01		2154 C061	12/21/98	1713		
02		1248 C056	12/21/98	1734		
03		1242 C051	12/21/98	1755		
04		1232 C046	12/21/98	1816		
05		1660 C110	12/22/98	0426		
06	CP08NBLK	CP08N101	12/22/98	0632		
07	CP08NCHK	CP08N102	12/22/98	0653		
08	CP08NCHKDUP	CP08N103	12/22/98	0714		
09	S-120298-JH-	CNXAD101	12/22/98	0756		
10	S-120298-JH-	CNXAJ101	12/22/98	0838		
11		1660 C110	12/22/98	0920		
12	S-120298-JH-	CNXAN101	12/22/98	1023		
13	S-120298-JH-	CNXAR101	12/22/98	1044		
14	S-120298-JH-	CNXAT101	12/22/98	1105		
15	S-120298-JH-	CNXAW101	12/22/98	1126		
16	S-120298-JH-	CNXC1101	12/22/98	1147		
17	S-120298-JH-	CNXCD101	12/22/98	1208		
18	S-120298-JH-	CNXCF101	12/22/98	1229		
19	S-120298-JH-	CNXCH101	12/22/98	1250		
20	S-120298-JH-	CNXCL101	12/22/98	1311		
21		1660 C110	12/22/98	1353		
22		2154 C061	12/22/98	1414		
23		1248 C056	12/22/98	1435		
24		1242 C051	12/22/98	1456		
25		1232 C046	12/22/98	1517		
26	S-120298-JH-	CNXCM101	12/22/98	1538		
27	S-120298-JH-	CNXCN101	12/22/98	1559		
28	S-120298-JH-	CNXCP101	12/22/98	1620		
29	S-120298-JH-	CNXCQ101	12/22/98	1641		
30	S-120298-JH-	CNXCR101	12/22/98	1701		
31	S-120298-JH-	CNXD0101	12/22/98	1722		
32		1660 C110	12/22/98	1928		
				QC LIMITS		

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L030

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

					MEAN SURROGATE RT FROM INITIAL CALIBRATION	
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT #	RT #
01	S-120298-JH-	CNXAL101	12/22/98	2340		
02		1660 C110	12/23/98	0022		
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

QC LIMITS

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/009f0101.d
Report Date: 22-Dec-1998 14:37

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/009f0101.d
Lab Smp Id: 2154 C061
Inj Date : 21-DEC-1998 17:13 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.678	6.678	0.000	19426	0.50000	0.4834	80.00- 120.00	100.00
9.072	9.072	0.000	47967	0.50000	0.4942	185.19- 308.65	246.92
9.638	9.638	0.000	34816	0.50000	0.4987	134.42- 224.03	179.22
10.015	10.015	0.000	27509	0.50000	0.5007	106.21- 177.01	141.61
10.595	10.595	0.000	39235	0.50000	0.4986	151.48- 252.46	201.97
Average of Peak Amounts =					0.495		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.548	4.548	0.000	9685	0.50000	0.5022	80.00- 120.00	31.13(M)
4.768	4.768	0.000	7024	0.50000	0.4984	54.39- 90.66	22.58
4.830	4.830	0.000	22574	0.50000	0.5012	174.81- 291.35	72.55
Average of Peak Amounts =					0.501		

QC Flag Legend

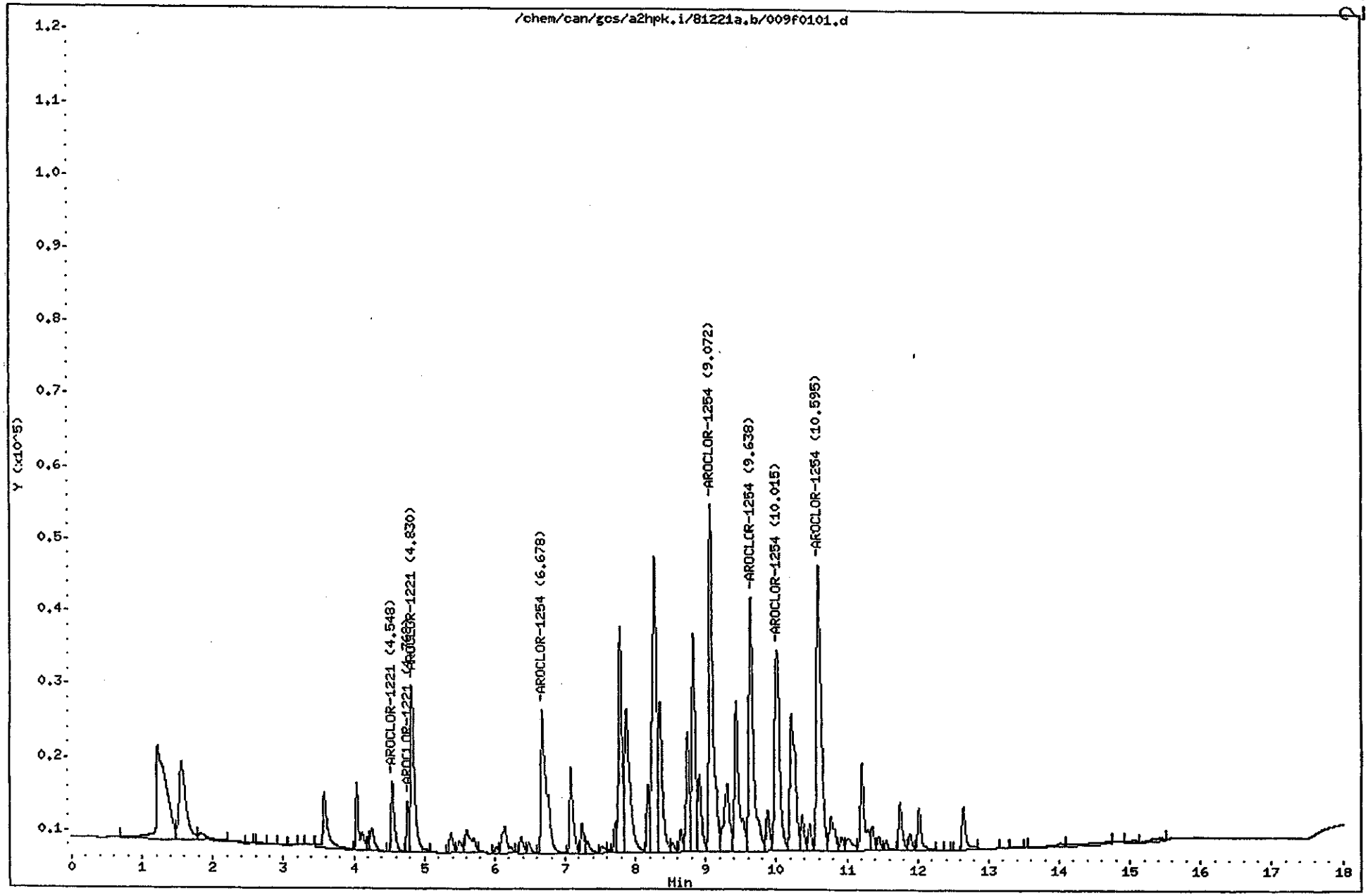
M - Compound response manually integrated.

Da le: /chem/can/gcs/a2hpk.i/81221a.b/009f0101.d
Date : 21-DEC-1998 17:13
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/010f0101.d
Report Date: 22-Dec-1998 14:37

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/010f0101.d
Lab Smp Id: 1248 C056
Inj Date : 21-DEC-1998 17:34
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

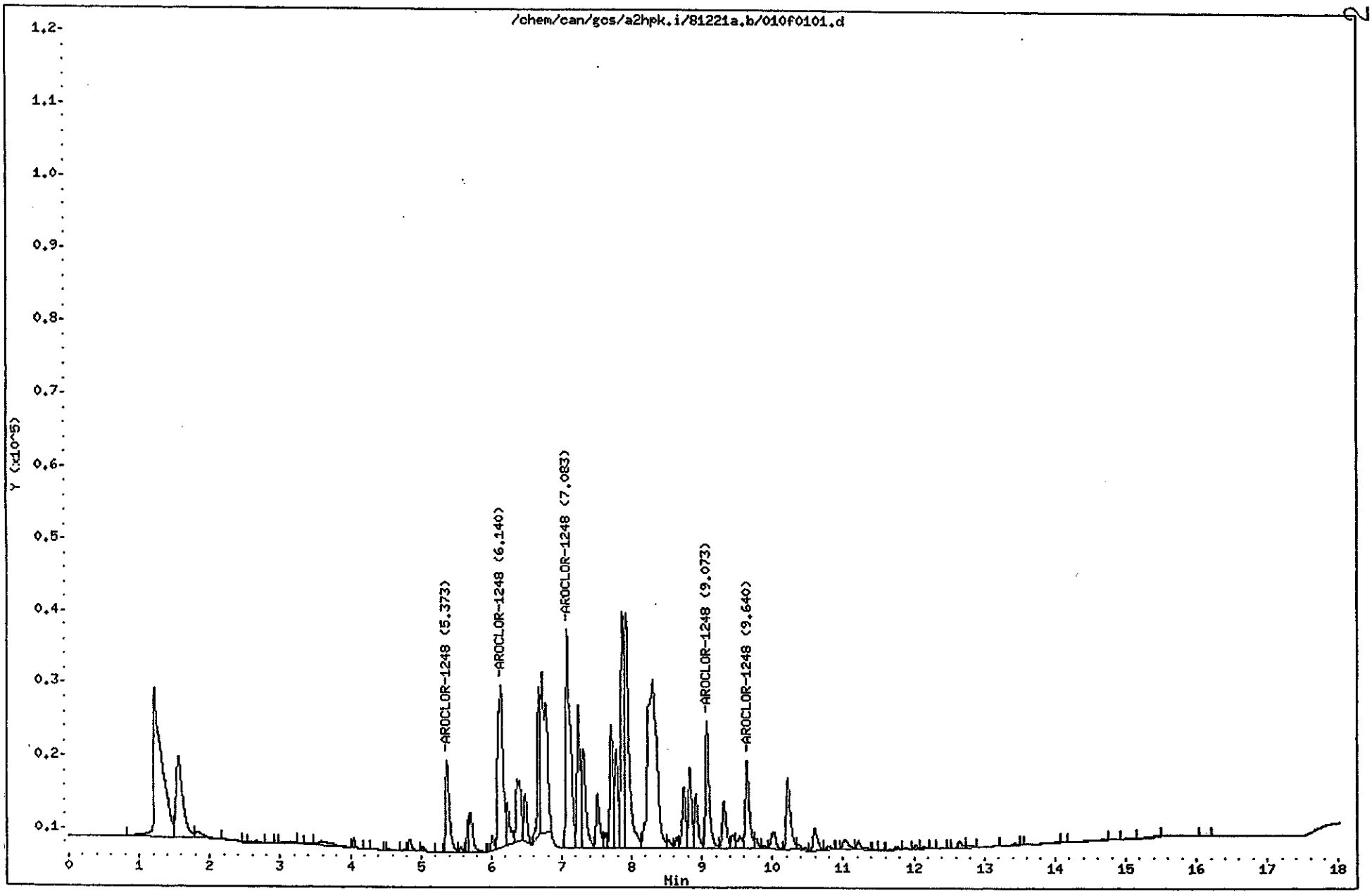
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.373	5.373	0.000	12678	0.50000	0.5242	80.00- 120.00	100.00
6.140	6.140	0.000	22307	0.50000	0.5480	131.96- 219.94	175.95
7.083	7.083	0.000	30260	0.50000	0.5291	179.01- 298.35	238.68
9.073	9.073	0.000	17569	0.50000	0.5305	103.93- 173.22	138.58
9.640	9.640	0.000	12137	0.50000	0.5395	71.80- 119.67	95.73
		Average of Peak Amounts =			0.534		

Dat e: /chem/can/gcs/a2hpk.i/81221a.b/010f0101.d
Date : 21-DEC-1998 17:34
Client ID:
Sample Info: 1248 C056,,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81221a.b/011f0101.d
Report Date: 22-Dec-1998 15:08

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/011f0101.d
Lab Smp Id: 1242 C051
Inj Date : 21-DEC-1998 17:55
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 15:05 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.833	4.833	0.000	13620	0.50000	0.5120	80.00- 120.00	26.90 (M)
5.378	5.378	0.000	22428	0.50000	0.5007	123.50- 205.84	44.29
6.142	6.142	0.000	35120	0.50000	0.5269	193.39- 322.32	69.36
6.368	6.368	0.000	19731	0.50000	0.5238	108.65- 181.08	38.96
6.480	6.480	0.000	14443	0.50000	0.5390	79.53- 132.55	28.52
		Average of Peak Amounts =			0.52		

QC Flag Legend

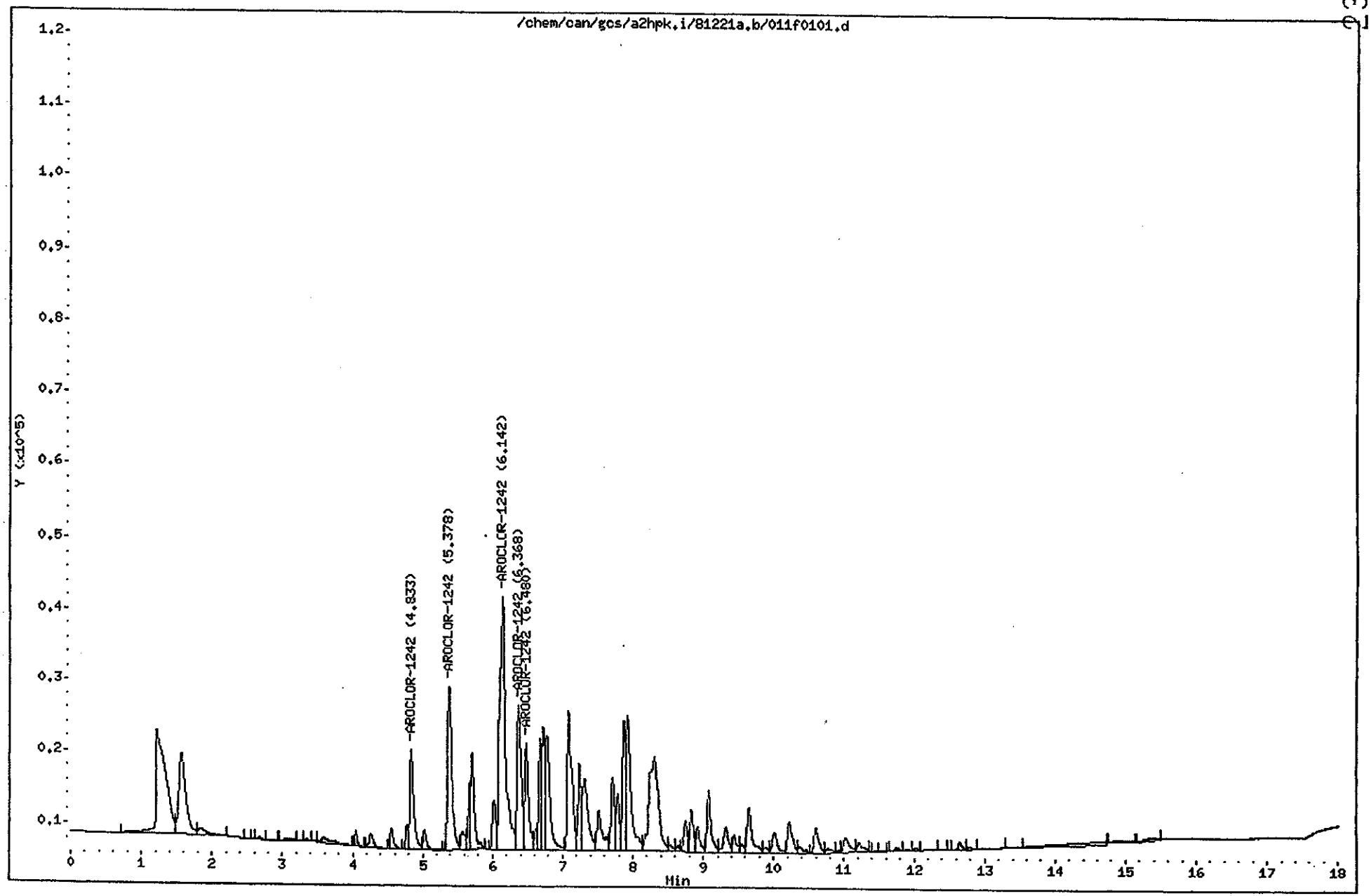
M - Compound response manually integrated.

D: le: /chem/can/gos/a2hpk.i/81221a.b/011f0101.d
Date : 21-DEC-1998 17:55
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/012f0101.d
Report Date: 22-Dec-1998 14:38

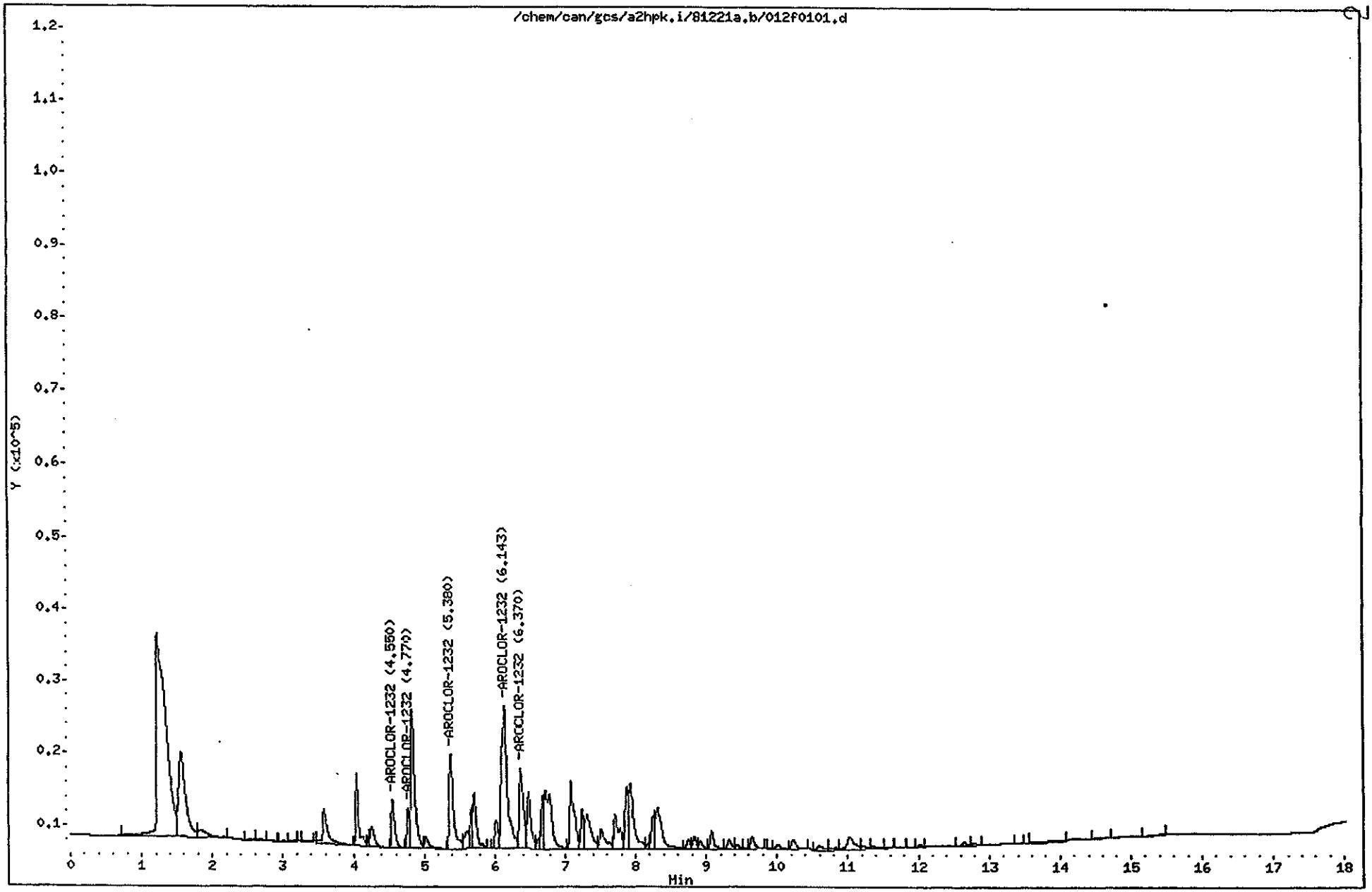
QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/012f0101.d
Lab Smp Id: 1232 C046
Inj Date : 21-DEC-1998 18:16
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.550	4.550	0.000	6748	0.50000	0.5124	80.00- 120.00	100.00
4.770	4.770	0.000	5465	0.50000	0.1465	60.74- 101.23	80.99
5.380	5.380	0.000	13108	0.50000	0.5040	145.69- 242.81	194.25
6.143	6.143	0.000	19686	0.50000	0.5257	218.80- 364.66	291.73
6.370	6.370	0.000	11227	0.50000	0.5215	124.78- 207.97	166.38
	Average of Peak Amounts =				0.442		

Da` le: /chem/can/gcs/a2hpk.i/81221a.b/012f0101.d
Da. 21-DEC-1998 18:16
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81221a.b/041f0101.d
Report Date: 12/22/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 041f0101.d
Analysis Type: NONE

Injection Date: 22-DEC-1998 04:26
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.

COMPOUND	%D
TCMX	5.8
AROCLOR-1016	5.9
AROCLOR-1260	5.7
DCB	11.7

The average of %D's in the continuing calibration is 7.3

Data File: /chem/can/gcs/a2hpk.i/81221a.b/041f0101.d
Report Date: 22-Dec-1998 14:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/041f0101.d
Lab Smp Id: 1660 C110
Inj Date : 22-DEC-1998 04:26
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

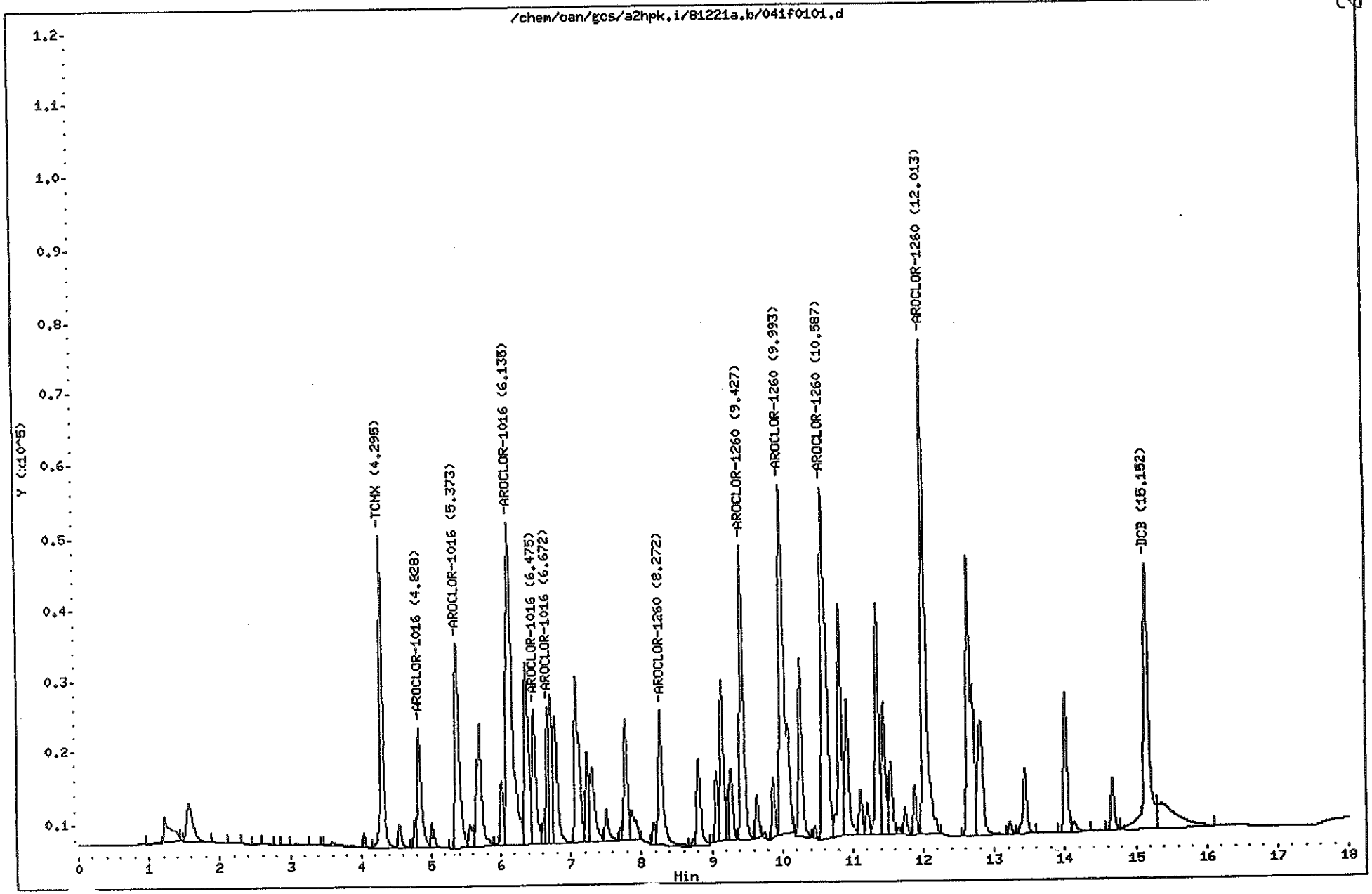
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.295	4.293	0.002	43365	0.02500	0.02644	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.828	4.825	0.003	16472	0.50000	0.5316	80.00- 120.00	100.00
5.373	5.370	0.003	28304	0.50000	0.5240	129.12- 215.20	171.83
6.135	6.132	0.003	44805	0.50000	0.5344	201.49- 335.82	272.01
6.475	6.472	0.003	18337	0.50000	0.5356	79.73- 132.88	111.32
6.672	6.668	0.004	18585	0.50000	0.5219	81.41- 135.68	112.83
Average of Peak Amounts =					0.53		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.272	8.267	0.005	18333	0.50000	0.5274	80.00- 120.00	100.00
9.427	9.422	0.005	40782	0.50000	0.5154	171.13- 285.21	222.45
9.993	9.988	0.005	48367	0.50000	0.5233	202.26- 337.10	263.82
10.587	10.580	0.007	48663	0.50000	0.5354	199.91- 333.18	265.44
12.013	12.007	0.006	68722	0.50000	0.5402	285.25- 475.42	374.85
Average of Peak Amounts =					0.528		
$ 9 DCB					CAS #: 2051-24-3		
15.152	15.143	0.009	36814	0.02500	0.02792	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/041f0101.d
Date : 22-DEC-1998 04:26
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Report Date: 12/22/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 054f0101.d
Analysis Type: NONE

Injection Date: 22-DEC-1998 09:20
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81221a.b/kfpcbII

COMPOUND	%D
TCMX	5.6
AROCLOR-1016	4.7
AROCLOR-1260	4.8
DCB	7.6

The average of %D's in the continuing calibration is 5.7

Data File: /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Report Date: 22-Dec-1998 14:44

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Lab Smp Id: 1660 C110
Inj Date : 22-DEC-1998 09:20 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

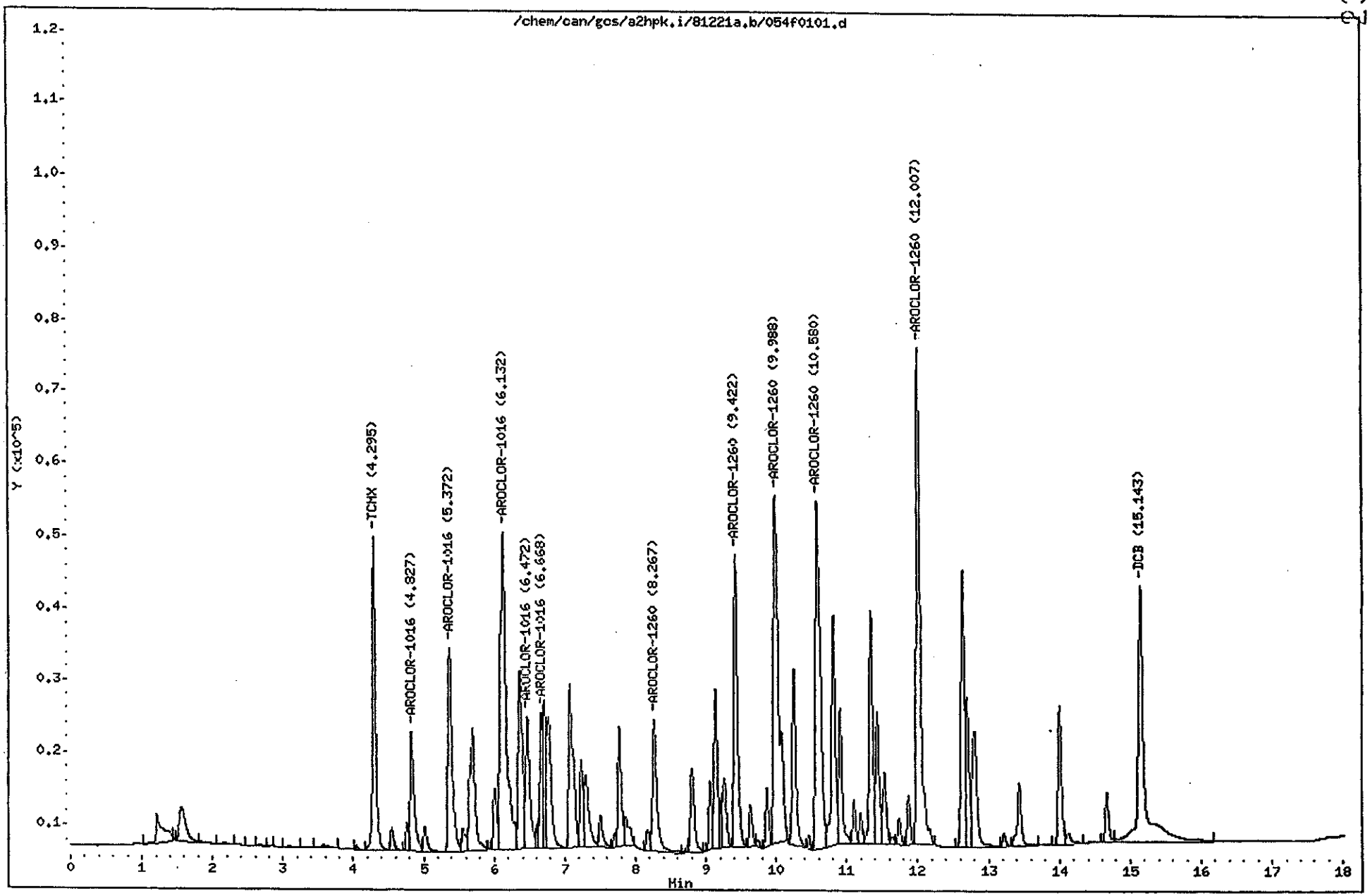
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.295	4.293	0.002	43283	0.02500	0.02639	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.827	4.825	0.002	16270	0.50000	0.5250	80.00- 120.00	100.00
5.372	5.370	0.002	28209	0.50000	0.5222	129.12- 215.20	173.37
6.132	6.132	0.000	43951	0.50000	0.5242	201.49- 335.82	270.14
6.472	6.472	0.000	18052	0.50000	0.5273	79.73- 132.88	110.95
6.668	6.668	0.000	18512	0.50000	0.5199	81.41- 135.68	113.78
Average of Peak Amounts =					0.524		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.267	8.267	0.000	18041	0.50000	0.5190	80.00- 120.00	100.00
9.422	9.422	0.000	40547	0.50000	0.5125	171.13- 285.21	224.75
9.988	9.988	0.000	48042	0.50000	0.5198	202.26- 337.10	266.29
10.580	10.580	0.000	48061	0.50000	0.5288	199.91- 333.18	266.40
12.007	12.007	0.000	68714	0.50000	0.5402	285.25- 475.42	380.88
Average of Peak Amounts =					0.524		
$ 9 DCB					CAS #: 2051-24-3		
15.143	15.143	0.000	35464	0.02500	0.02690	80.00- 120.00	100.00

Dat e: /chem/can/gcs/a2hpk.i/81221a.b/054f0101.d
Date : 22-DEC-1998 09:20
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Report Date: 12/22/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 067f0101.d
Analysis Type: NONE

Injection Date: 22-DEC-1998 13:53
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII

COMPOUND	%D
TCMX	5.3
AROCLOR-1016	4.6
AROCLOR-1260	5.1
DCB	11.5

The average of %D's in the continuing calibration is 6.6

Data File: /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Report Date: 22-Dec-1998 15:05

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Lab Smp Id: 1660 C110
Inj Date : 22-DEC-1998 13:53
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 15:04 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

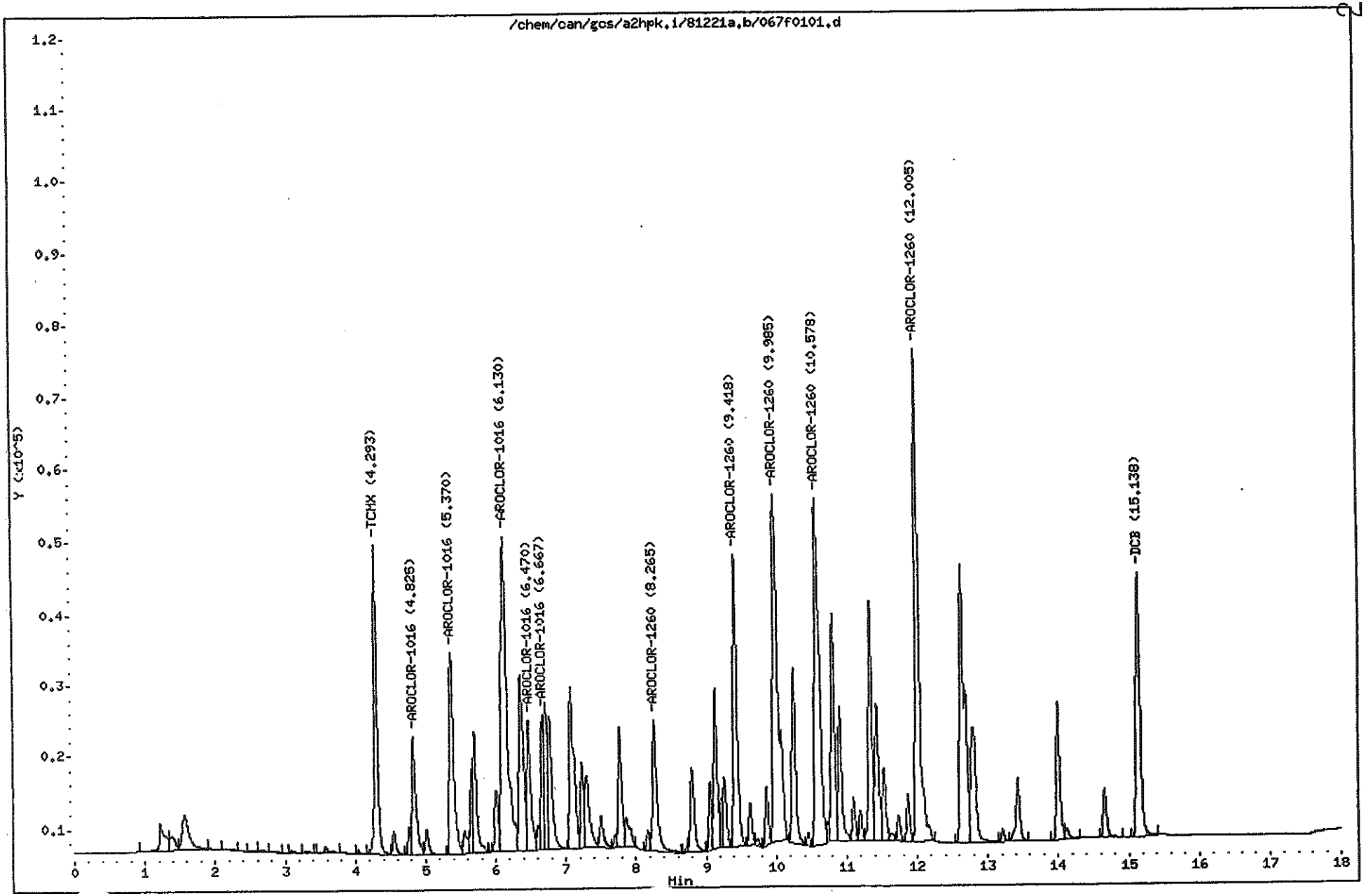
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.293	4.293	0.000	43170	0.02500	0.02632	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.825	4.825	0.000	16304	0.50000	0.5261	80.00- 120.00	100.00
5.370	5.370	0.000	28130	0.50000	0.5208	129.40- 215.67	172.53
6.130	6.130	0.000	43835	0.50000	0.5229	201.65- 336.08	268.86
6.470	6.470	0.000	17917	0.50000	0.5234	82.42- 137.37	109.89
6.667	6.667	0.000	18543	0.50000	0.5207	85.30- 142.17	113.73
Average of Peak Amounts =					0.523		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.265	8.265	0.000	18118	0.50000	0.5212	80.00- 120.00	100.00
9.418	9.418	0.000	40642	0.50000	0.5137	168.24- 280.40	224.32
9.985	9.985	0.000	48247	0.50000	0.5220	199.72- 332.87	266.29
10.578	10.578	0.000	48351	0.50000	0.5320	200.15- 333.58	266.87
12.005	12.005	0.000	68593	0.50000	0.5392	283.94- 473.24	378.59
Average of Peak Amounts =					0.526		
$ 9 DCB					CAS #: 2051-24-3		
15.138	15.138	0.000	36765	0.02500	0.02788	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/067f0101.d
Date : 22-DEC-1998 13:53
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/068f0101.d
Report Date: 22-Dec-1998 15:05

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/068f0101.d
Lab Smp Id: 2154 C061
Inj Date : 22-DEC-1998 14:14
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 15:05 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

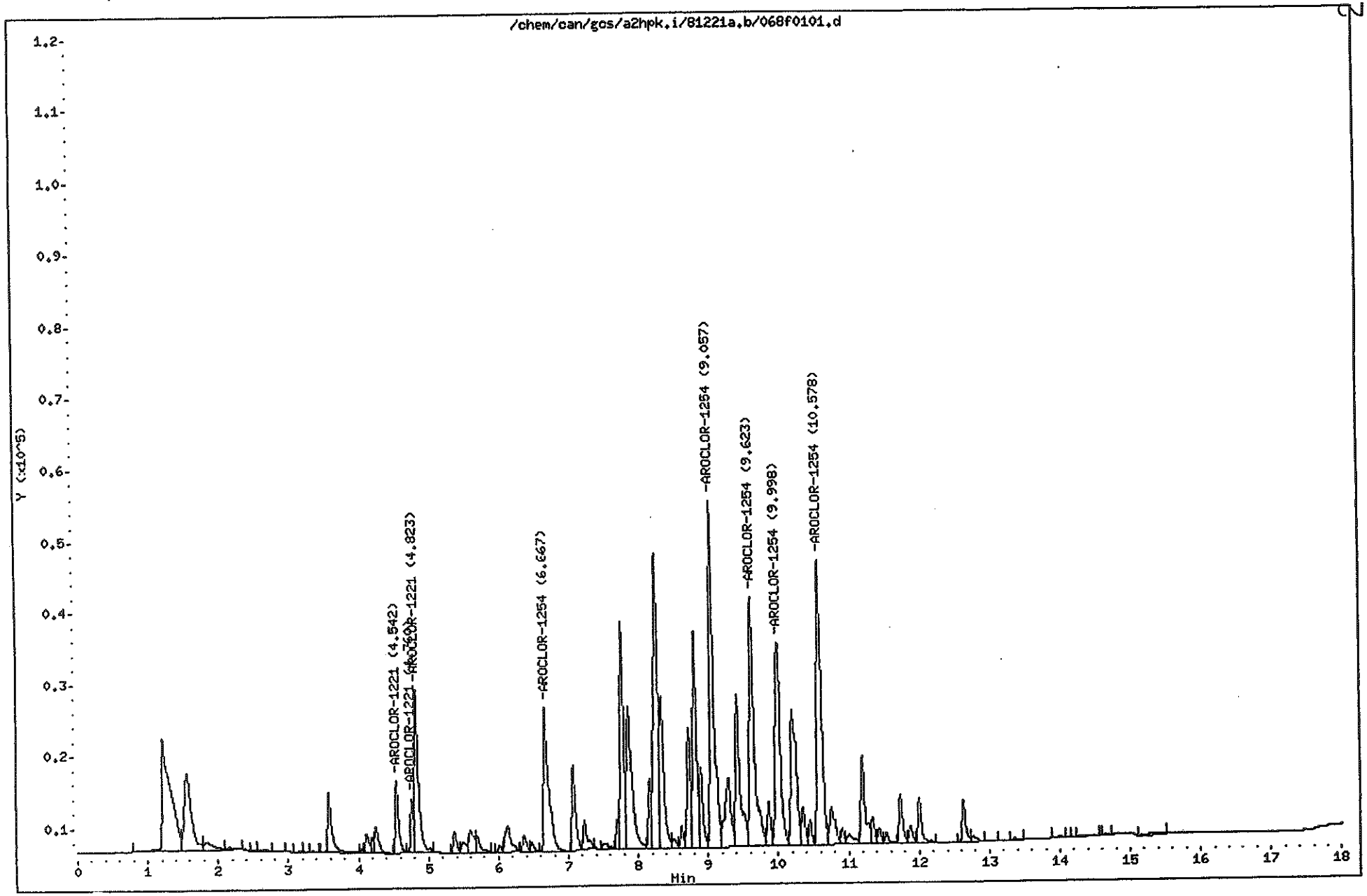
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
7 AROCLOR-1254					CAS #: 11097-69-1			
6.667	6.667	0.000	19818	0.50000	0.4931	80.00-	120.00	100.00
9.057	9.057	0.000	48406	0.50000	0.4988	183.19-	305.32	244.25
9.623	9.623	0.000	34676	0.50000	0.4967	131.23-	218.72	174.97
9.998	9.998	0.000	28304	0.50000	0.5152	107.11-	178.52	142.82
10.578	10.578	0.000	39769	0.50000	0.5054	150.50-	250.84	200.67
Average of Peak Amounts =					0.502			
2 AROCLOR-1221					CAS #: 11104-28-2			
4.542	4.542	0.000	9786	0.50000	0.5074	80.00-	120.00	100.00
4.760	4.760	0.000	7337	0.50000	0.5206	56.23-	93.72	74.97
4.823	4.823	0.000	22559	0.50000	0.5008	172.89-	288.15	230.52
Average of Peak Amounts =					0.51			

Data File: /chem/can/gcs/a2hpk.i/81221a.b/068f0101.d
Date : 22-DEC-1998 14:14
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/069f0101.d
Report Date: 22-Dec-1998 15:05

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/069f0101.d
Lab Smp Id: 1248 C056
Inj Date : 22-DEC-1998 14:35
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 15:05 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
6 AROCLOR-1248					CAS #: 12672-29-6			
5.365	5.365	0.000	12173	0.50000	0.5033	80.00-	120.00	100.00
6.132	6.132	0.000	20509	0.50000	0.5038	126.36-	210.60	168.48
7.072	7.072	0.000	28431	0.50000	0.4972	175.17-	291.95	233.56
9.060	9.060	0.000	16082	0.50000	0.4856	99.08-	165.14	132.11
9.628	9.628	0.000	10730	0.50000	0.4770	66.11-	110.18	88.15
		Average of Peak Amounts =			0.493			

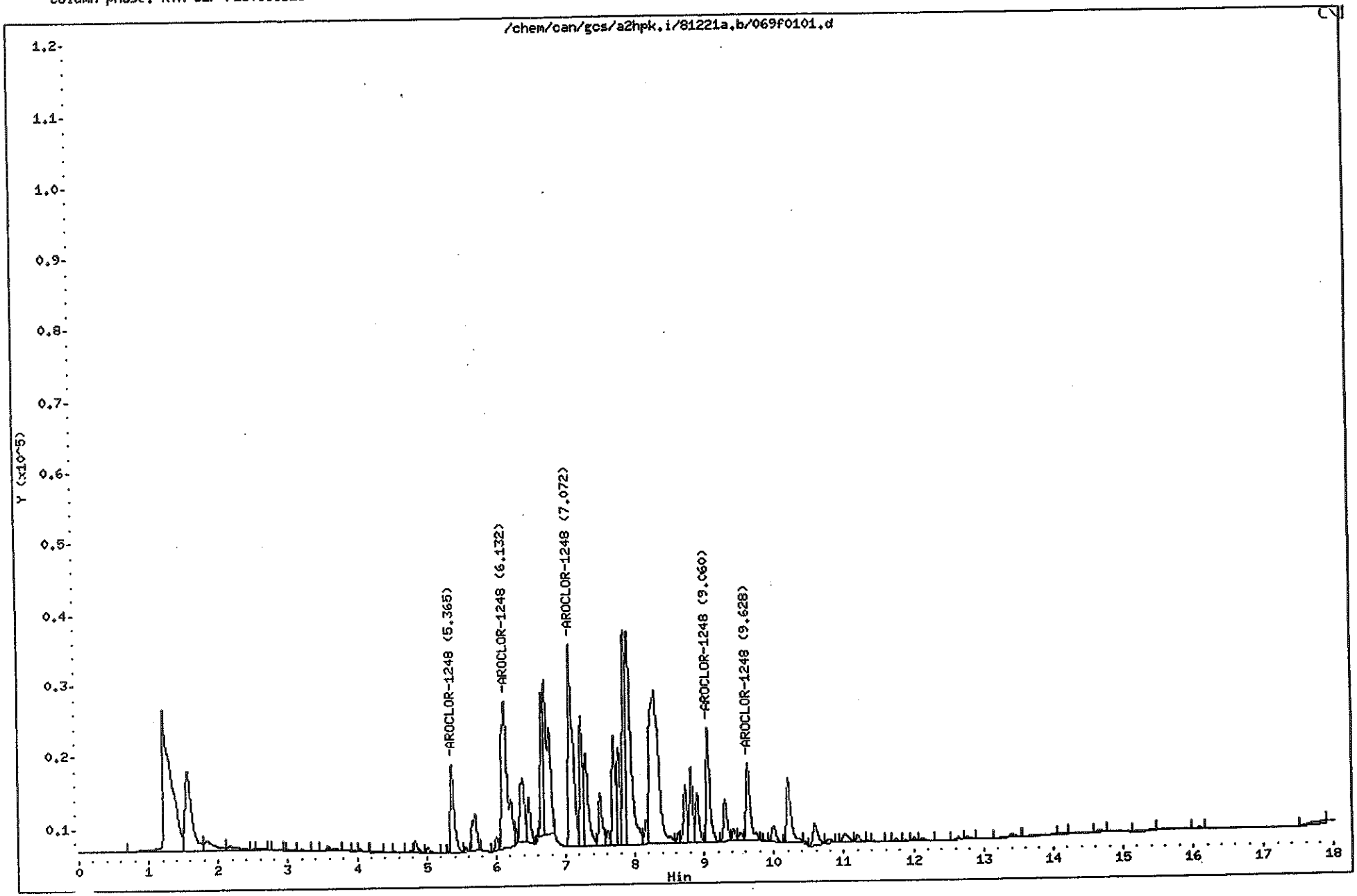
Data File: /chem/can/gcs/a2hpk.i/81221a,b/069f0101.d
Date : 22-DEC-1998 14:35
Client ID:
Sample Info: 1248 C056,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

246



Data File: /chem/can/gcs/a2hpk.i/81221a.b/070f0101.d
Report Date: 22-Dec-1998 15:08

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/070f0101.d
Lab Smp Id: 1242 C051
Inj Date : 22-DEC-1998 14:56
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 15:05 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.825	4.833	-0.008	13117	0.50000	0.4930	80.00- 120.00	26.27(M)
5.370	5.378	-0.008	22022	0.50000	0.4916	123.50- 205.84	44.11
6.132	6.142	-0.010	32908	0.50000	0.4937	193.39- 322.32	65.91
6.358	6.368	-0.010	18603	0.50000	0.4939	108.65- 181.08	37.26
6.470	6.480	-0.010	13507	0.50000	0.5041	79.53- 132.55	27.05
Average of Peak Amounts =					0.495		

QC Flag Legend

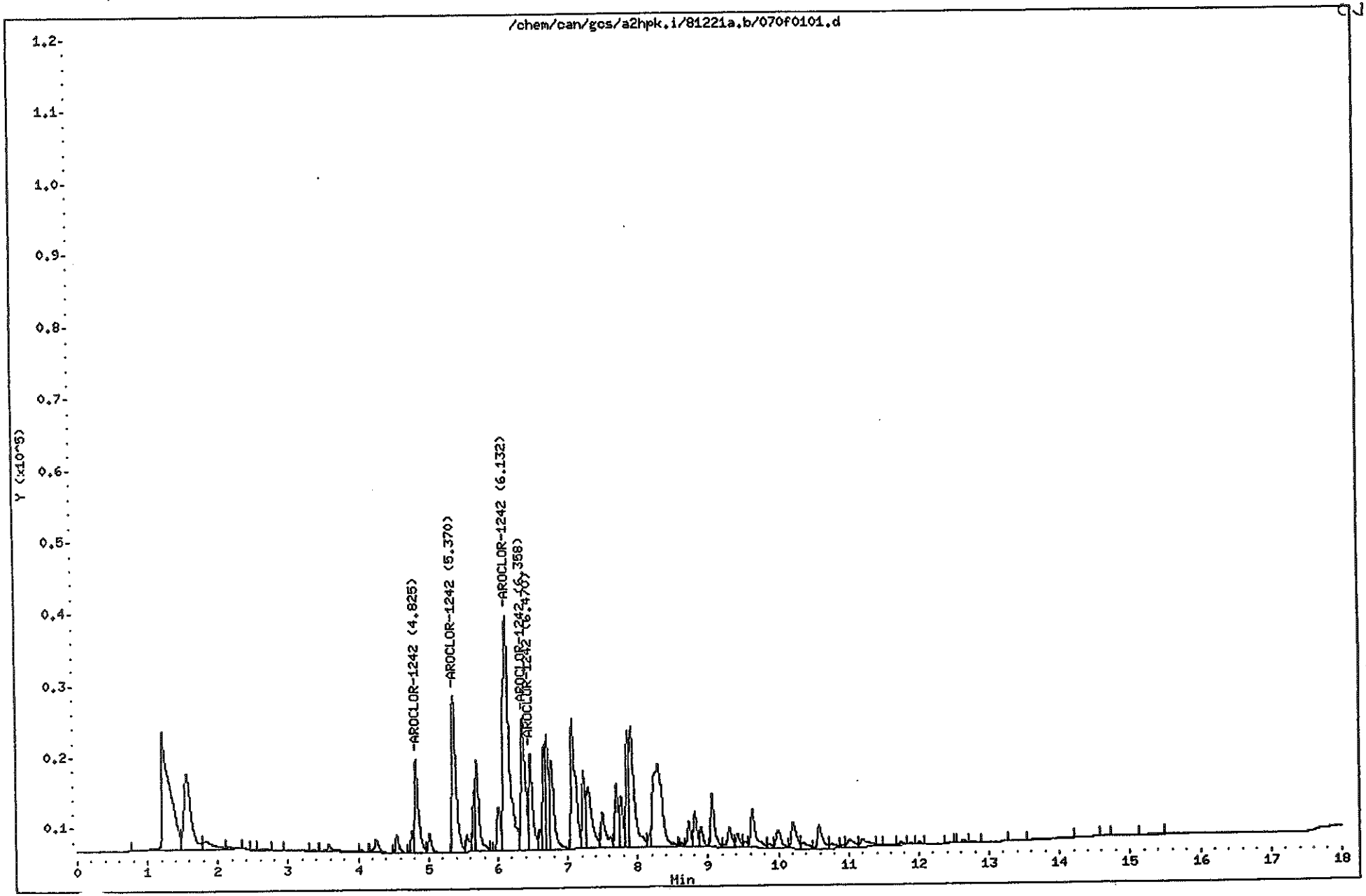
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/070f0101.d
Date : 22-DEC-1998 14:56
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81221a.b/071f0101.d
Report Date: 23-Dec-1998 10:21

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/071f0101.d
Lab Smp Id: 1232 C046
Inj Date : 22-DEC-1998 15:17
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.543	4.543	0.000	6200	0.50000	0.4708	80.00- 120.00	30.35 (M)
4.823	4.823	0.000	17564	0.50000	0.4710	212.47- 354.11	85.98
5.370	5.370	0.000	12276	0.50000	0.4720	148.50- 247.50	60.10
6.133	6.133	0.000	17643	0.50000	0.4711	213.42- 355.71	86.37
6.360	6.360	0.000	10129	0.50000	0.4705	122.53- 204.21	49.59
		Average of Peak Amounts =			0.471		

QC Flag Legend

M - Compound response manually integrated.

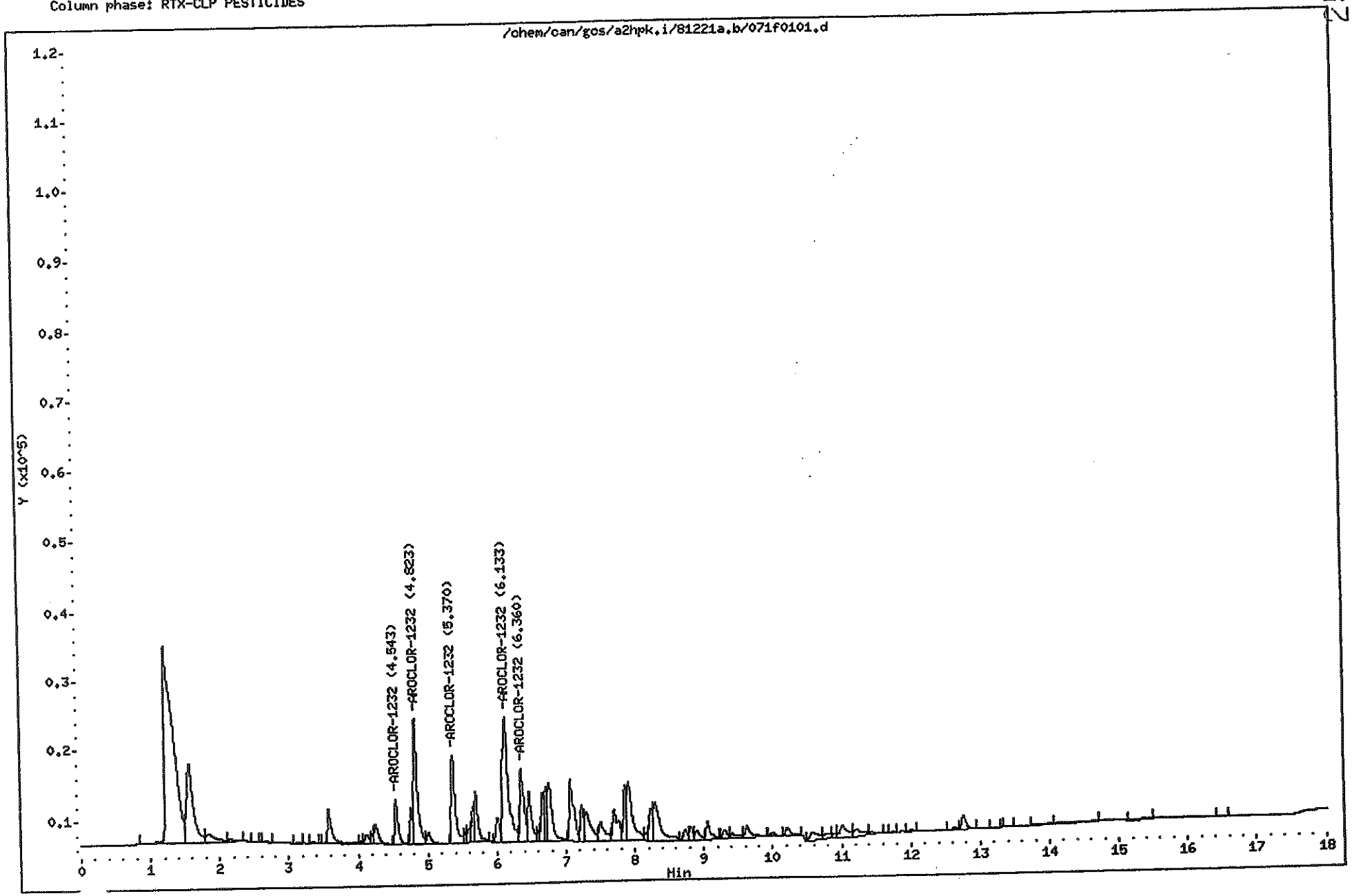
Data File: /chem/can/gcs/a2hpk.i/81221a.b/071f0101.d
Date : 22-DEC-1998 15:17
Client ID:
Sample Info: 1232 C046,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

250



Data File: /chem/can/gcs/a2hpk.i/81221a.b/083f0101.d
Report Date: 12/23/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 083f0101.d
Analysis Type: NONE

Injection Date: 22-DEC-1998 19:28
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII

COMPOUND	%D
TCMX	4.0
AROCLOR-1016	2.7
AROCLOR-1260	3.1
DCB	5.8

The average of %D's in the continuing calibration is 3.9

Data File: /chem/can/gcs/a2hpk.i/81221a.b/083f0101.d
Report Date: 23-Dec-1998 10:22

QUANTERRA-NORTH CANTON

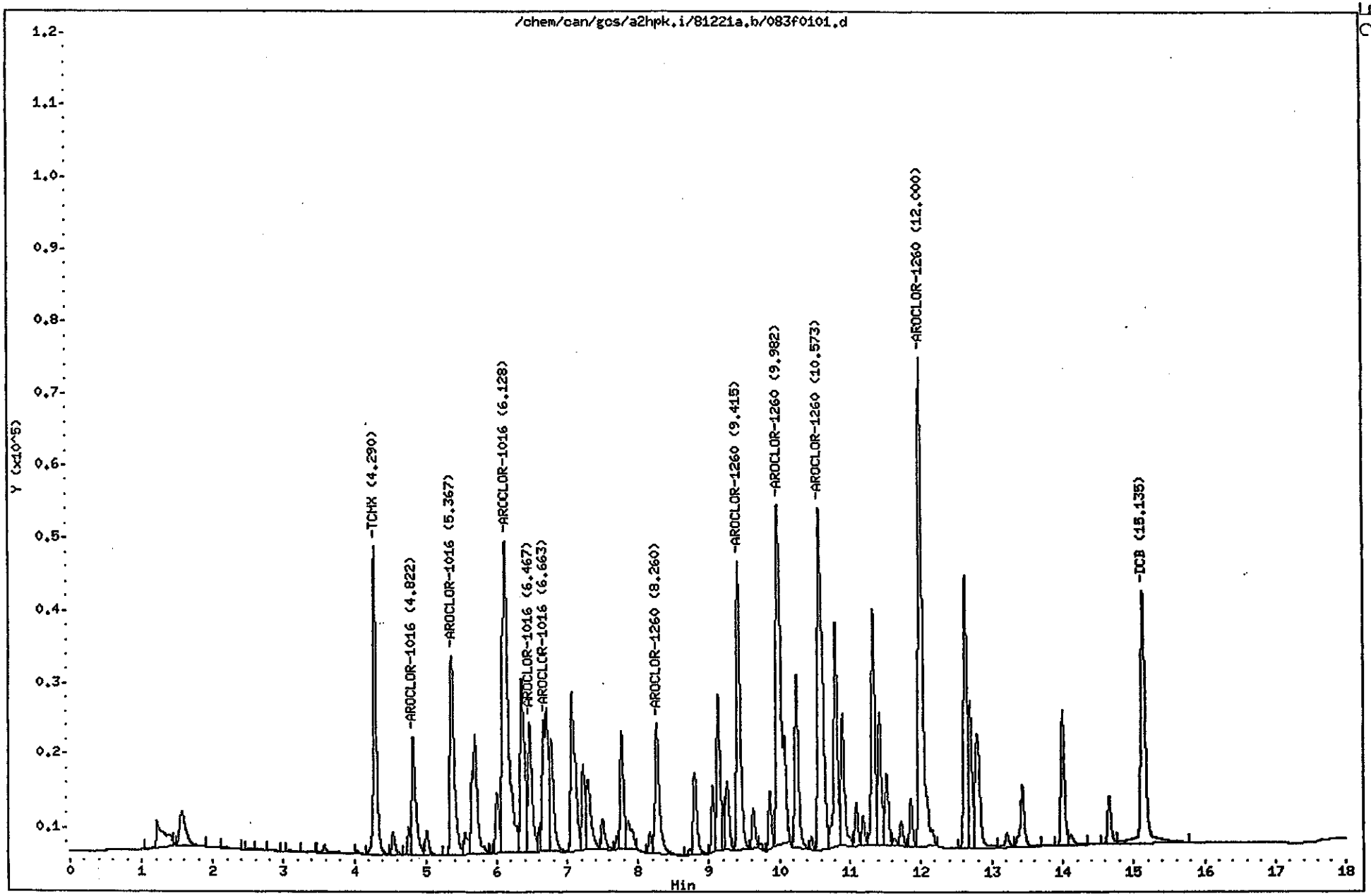
Data file : /chem/can/gcs/a2hpk.i/81221a.b/083f0101.d
Lab Smp Id: 1660 C110
Inj Date : 22-DEC-1998 19:28 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.290	4.295	-0.005	42640	0.02500	0.02600	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.822	4.825	-0.003	16009	0.50000	0.5166	80.00- 120.00	100.00
5.367	5.370	-0.003	27599	0.50000	0.5109	127.22- 212.04	172.40
6.128	6.132	-0.004	43174	0.50000	0.5150	198.24- 330.40	269.69
6.467	6.470	-0.003	17702	0.50000	0.5171	78.59- 130.99	110.58
6.663	6.668	-0.005	18059	0.50000	0.5071	80.95- 134.92	112.81
Average of Peak Amounts =					0.513		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.260	8.265	-0.005	17795	0.50000	0.5120	80.00- 120.00	100.00
9.415	9.420	-0.005	39934	0.50000	0.5047	165.01- 275.01	224.41
9.982	9.988	-0.006	47087	0.50000	0.5094	196.25- 327.09	264.61
10.573	10.578	-0.005	47261	0.50000	0.5200	189.58- 315.97	265.59
12.000	12.005	-0.005	67667	0.50000	0.5319	260.56- 434.26	380.26
Average of Peak Amounts =					0.516		
$ 9 DCB					CAS #: 2051-24-3		
15.135	15.142	-0.007	34860	0.02500	0.02644	80.00- 120.00	100.00

Data : /chem/can/gcs/a2hpk.i/81221a.b/083f0101.d
Date -DEC-1998 19:28
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81221a.b/097f0101.d
Report Date: 12/23/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 097f0101.d
Analysis Type: NONE

Injection Date: 23-DEC-1998 00:22
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII

COMPOUND	%D
TCMX	8.7
AROCLOR-1016	6.2
AROCLOR-1260	16.4
DCB	34.8

The average of %D's in the continuing calibration is 16.5

Data File: /chem/can/gcs/a2hpk.i/81221a.b/097f0101.d
Report Date: 23-Dec-1998 10:22

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/097f0101.d
Lab Smp Id: 1660 C110
Inj Date : 23-DEC-1998 00:22
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 23-Dec-1998 10:20 sharkeyp Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

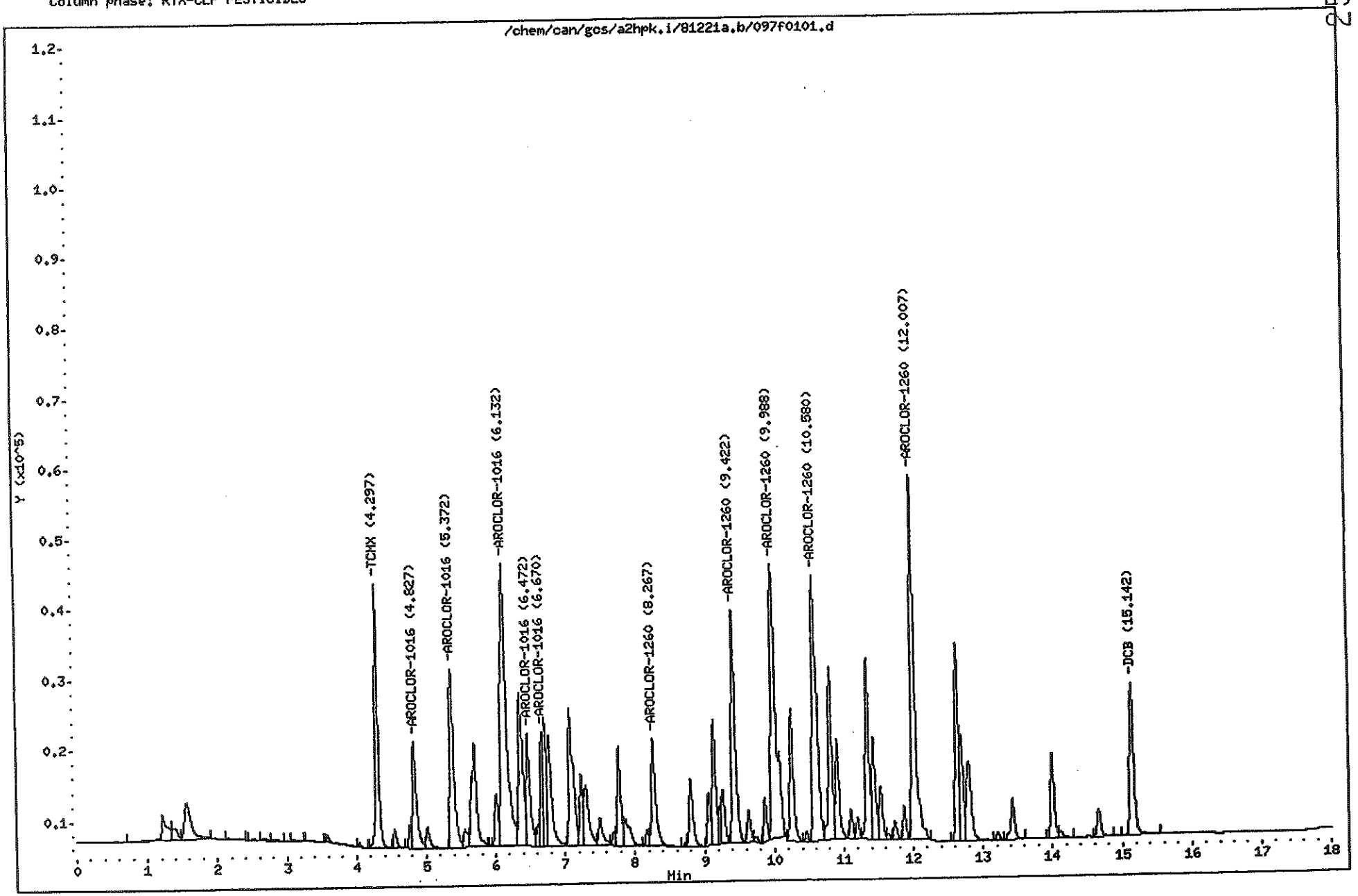
				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.297	4.295	0.002	37436	0.02500	0.02283	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.827	4.825	0.002	15021	0.50000	0.4847	80.00- 120.00	100.00
5.372	5.370	0.002	25249	0.50000	0.4674	127.22- 212.04	168.09
6.132	6.132	0.000	39978	0.50000	0.4769	198.24- 330.40	266.15
6.472	6.470	0.002	15817	0.50000	0.4620	78.59- 130.99	105.30
6.670	6.668	0.002	16184	0.50000	0.4545	80.95- 134.92	107.74
Average of Peak Amounts =					0.469		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.267	8.265	0.002	15008	0.50000	0.4318	80.00- 120.00	100.00
9.422	9.420	0.002	32956	0.50000	0.4165	165.01- 275.01	219.59
9.988	9.988	0.000	38908	0.50000	0.4210	196.25- 327.09	259.25
10.580	10.578	0.002	37583	0.50000	0.4135	189.58- 315.97	250.42
12.007	12.005	0.002	51886	0.50000	0.4079	260.56- 434.26	345.72
Average of Peak Amounts =					0.418		
$ 9 DCB					CAS #: 2051-24-3		
15.142	15.142	0.000	21505	0.02500	0.01631	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/097f0101.d
Date : 23-DEC-1998 00:22
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A8L030

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 11/02/98

Instrument ID: A2HPK

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 4.29 S2 : 15.19

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		1660 C110	12/23/98	1803	4.29	15.20
02		2154 C061	12/23/98	1824		
03		1248 C056	12/23/98	1845		
04		1242 C051	12/23/98	1906		
05		1232 C046	12/23/98	1927		
06	S-120298-JH-	CNXAC101	12/23/98	2030	4.38	15.22
07	S-120298-JH-	CNXAG101	12/23/98	2051	4.38	15.22
08		1660 C110	12/23/98	2339	4.29	15.19
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						

QC LIMITS

S1 = TCMX (+/- 0.10 MINUTES)
S2 = DCB (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Data File: /chem/can/gcs/a2hpk.i/81223c.b/007f0101.d
Report Date: 12/24/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 007f0101.d
Analysis Type: NONE

Injection Date: 23-DEC-1998 18:03
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.

COMPOUND	%D
TCMX	3.3
AROCLOR-1016	5.0
AROCLOR-1260	6.9
DCB	11.4

The average of %D's in the continuing calibration is 6.6

Data File: /chem/can/gcs/a2hpk.i/81223c.b/007f0101.d
Report Date: 26-Dec-1998 18:02

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81223c.b/007f0101.d
Lab Smp Id: 1660 C110
Inj Date : 23-DEC-1998 18:03
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 26-Dec-1998 15:56 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

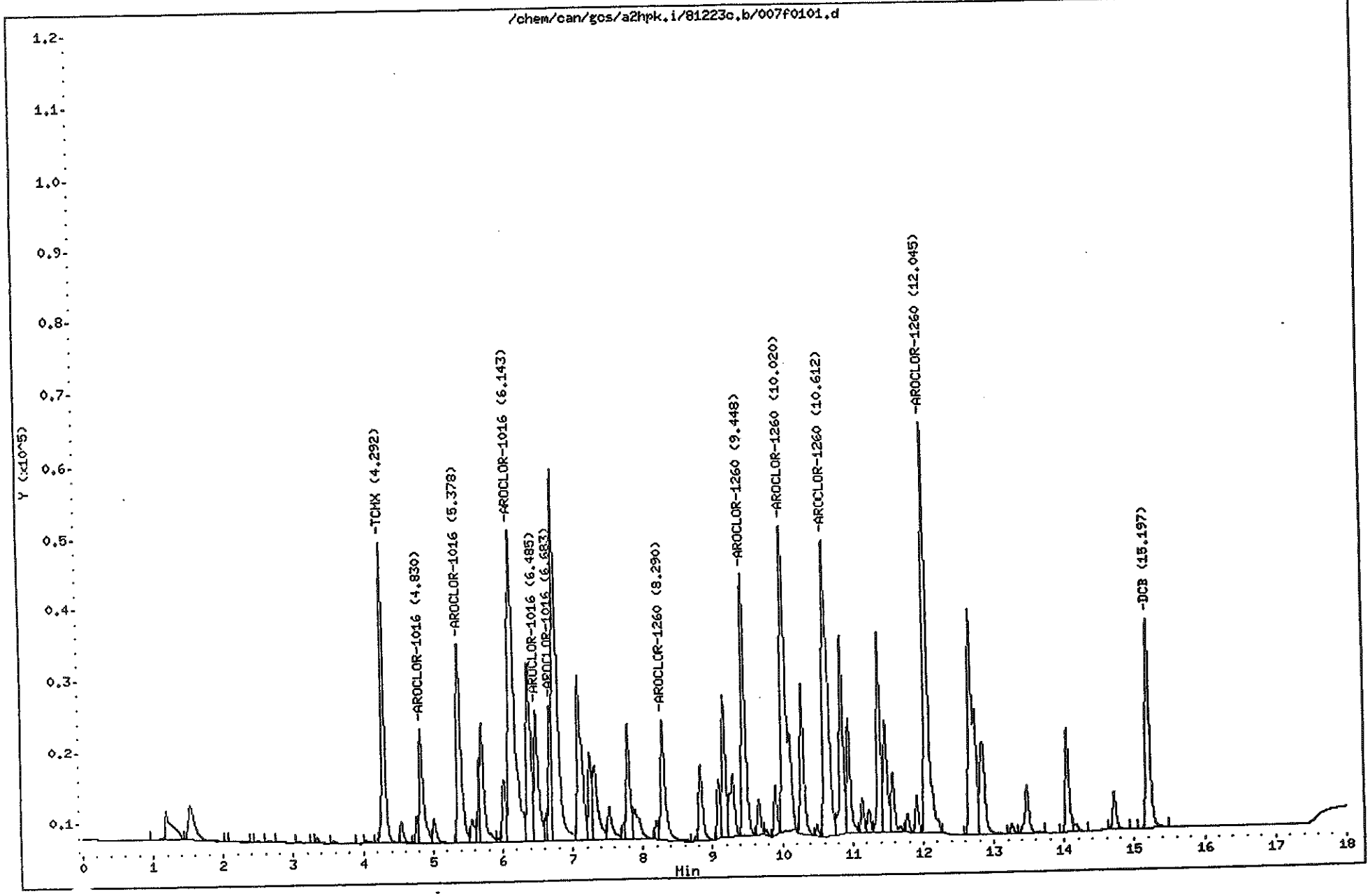
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
**	=======	========	========	=======	=======	============	=====
$ 1 TCMX					CAS #: 877-09-8		
4.292	4.290	0.002	42335	0.02500	0.02581	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.830	4.830	0.000	15962	0.50000	0.5151	80.00- 120.00	100.00
5.378	5.377	0.001	27774	0.50000	0.5142	134.50- 224.17	174.00
6.143	6.143	0.000	43872	0.50000	0.5233	202.66- 337.77	274.85
6.485	6.485	0.000	18395	0.50000	0.5373	84.10- 140.17	115.24
6.683	6.680	0.003	19051	0.50000	0.5350	91.35- 152.25	119.35
Average of Peak Amounts =					0.525		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.290	8.287	0.003	16785	0.50000	0.4829	80.00- 120.00	100.00
9.448	9.445	0.003	36847	0.50000	0.4657	173.85- 289.76	219.52
10.020	10.015	0.005	43018	0.50000	0.4654	205.86- 343.09	256.29
10.612	10.608	0.004	41742	0.50000	0.4592	199.16- 331.93	248.69
12.045	12.040	0.005	57626	0.50000	0.4530	284.17- 473.62	343.32
Average of Peak Amounts =					0.465		
$ 9 DCB					CAS #: 2051-24-3		
15.197	15.188	0.009	29221	0.02500	0.02216	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81223c.b/007f0101.d
Date : 23-DEC-1998 18:03
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81223c.b/008f0101.d
Report Date: 26-Dec-1998 18:03

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81223c.b/008f0101.d
Lab Smp Id: 2154 C061
Inj Date : 23-DEC-1998 18:24
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 2154 C061,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 26-Dec-1998 15:56 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

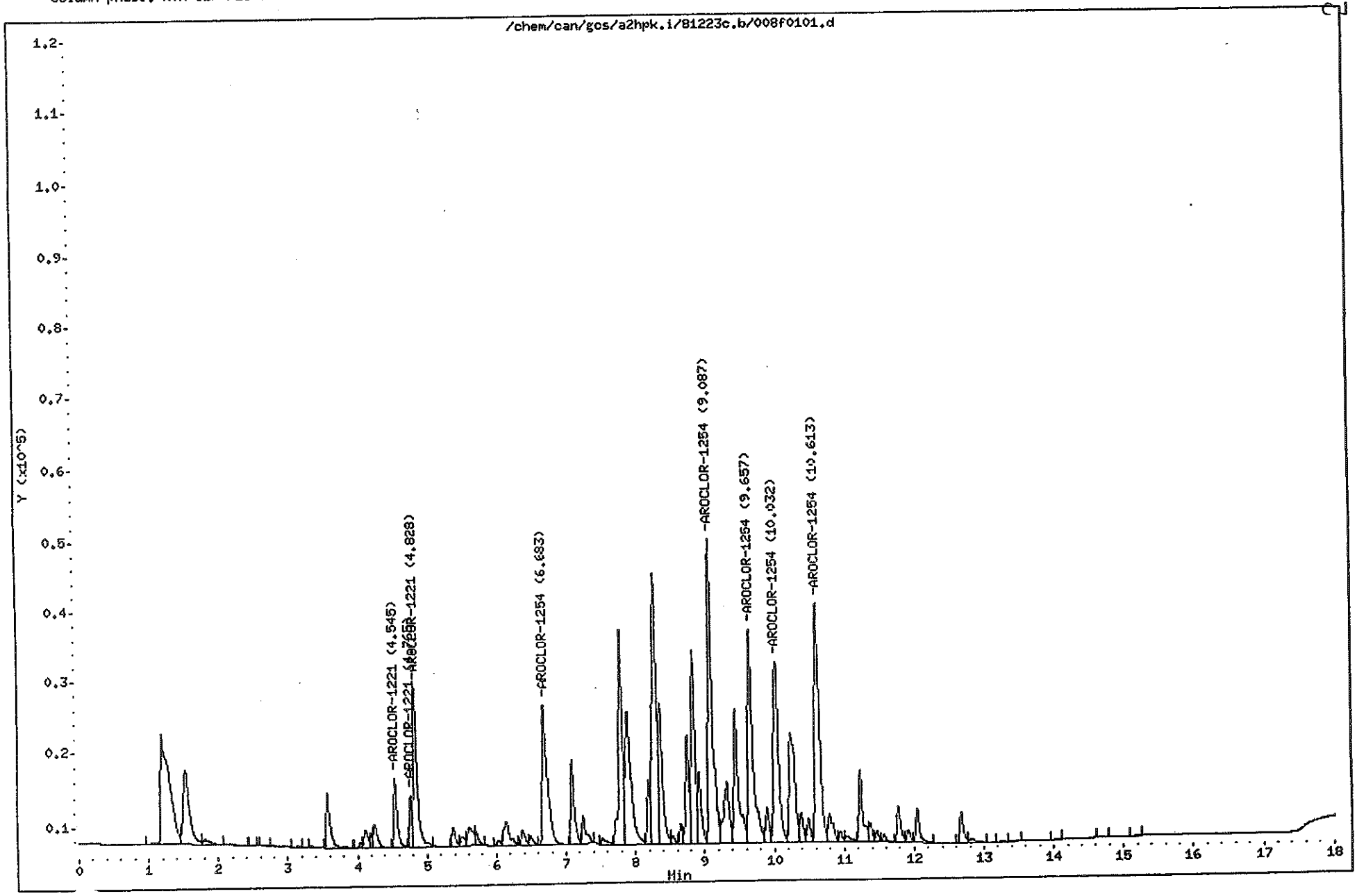
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
6.683	6.682	0.001	19363	0.50000	0.4818	80.00- 120.00	100.00
9.087	9.085	0.002	42853	0.50000	0.4416	185.99- 309.99	221.31
9.657	9.657	0.000	29681	0.50000	0.4252	129.11- 215.18	153.29
10.032	10.030	0.002	24928	0.50000	0.4537	112.33- 187.22	128.74
10.613	10.612	0.001	33383	0.50000	0.4242	152.35- 253.92	172.41
Average of Peak Amounts =					0.445		
2 AROCLOR-1221					CAS #: 11104-28-2		
4.545	4.535	0.010	9505	0.50000	0.4928	80.00- 120.00	100.00
4.765	4.767	-0.002	6943	0.50000	0.4927	34.69- 57.81	73.05
4.828	4.828	0.000	21898	0.50000	0.4862	99.69- 166.15	230.38
Average of Peak Amounts =					0.491		

Data File: /chem/can/gcs/a2hpk.i/81223c.b/008f0101.d
Date : 23-DEC-1998 18:24
Client ID:
Sample Info: 2154 C061,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81223c.b/009f0101.d
Report Date: 26-Dec-1998 18:03

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81223c.b/009f0101.d
Lab Smp Id: 1248 C056
Inj Date : 23-DEC-1998 18:45
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1248 C056,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 26-Dec-1998 15:56 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

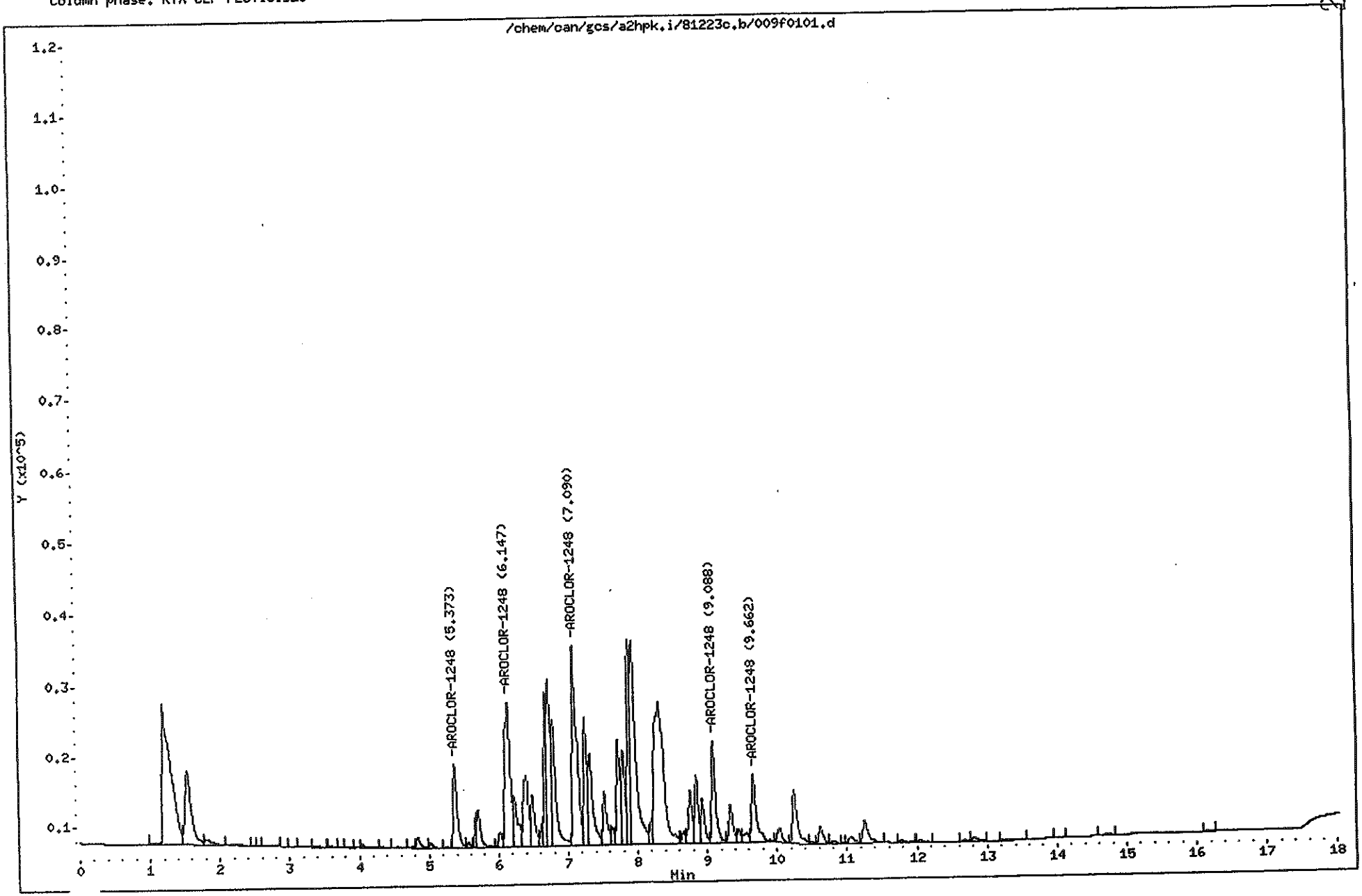
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
5.373	5.372	0.001	11823	0.50000	0.4889	80.00- 120.00	100.00
6.147	6.145	0.002	20410	0.50000	0.5014	117.61- 196.01	172.63
7.090	7.088	0.002	28157	0.50000	0.4924	176.18- 293.63	238.15
9.088	9.087	0.001	14520	0.50000	0.4384	98.60- 164.33	122.81
9.662	9.660	0.002	9498	0.50000	0.4222	60.99- 101.65	80.33
Average of Peak Amounts =					0.469		

Data File: /chem/can/gcs/a2hpk.i/81223c.b/009f0101.d
Date : 23-DEC-1998 18:45
Client ID:
Sample Info: 1248 C056,,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81223c.b/010f0101.d
Report Date: 26-Dec-1998 18:03

QUANTERRA-NORTH CANTON

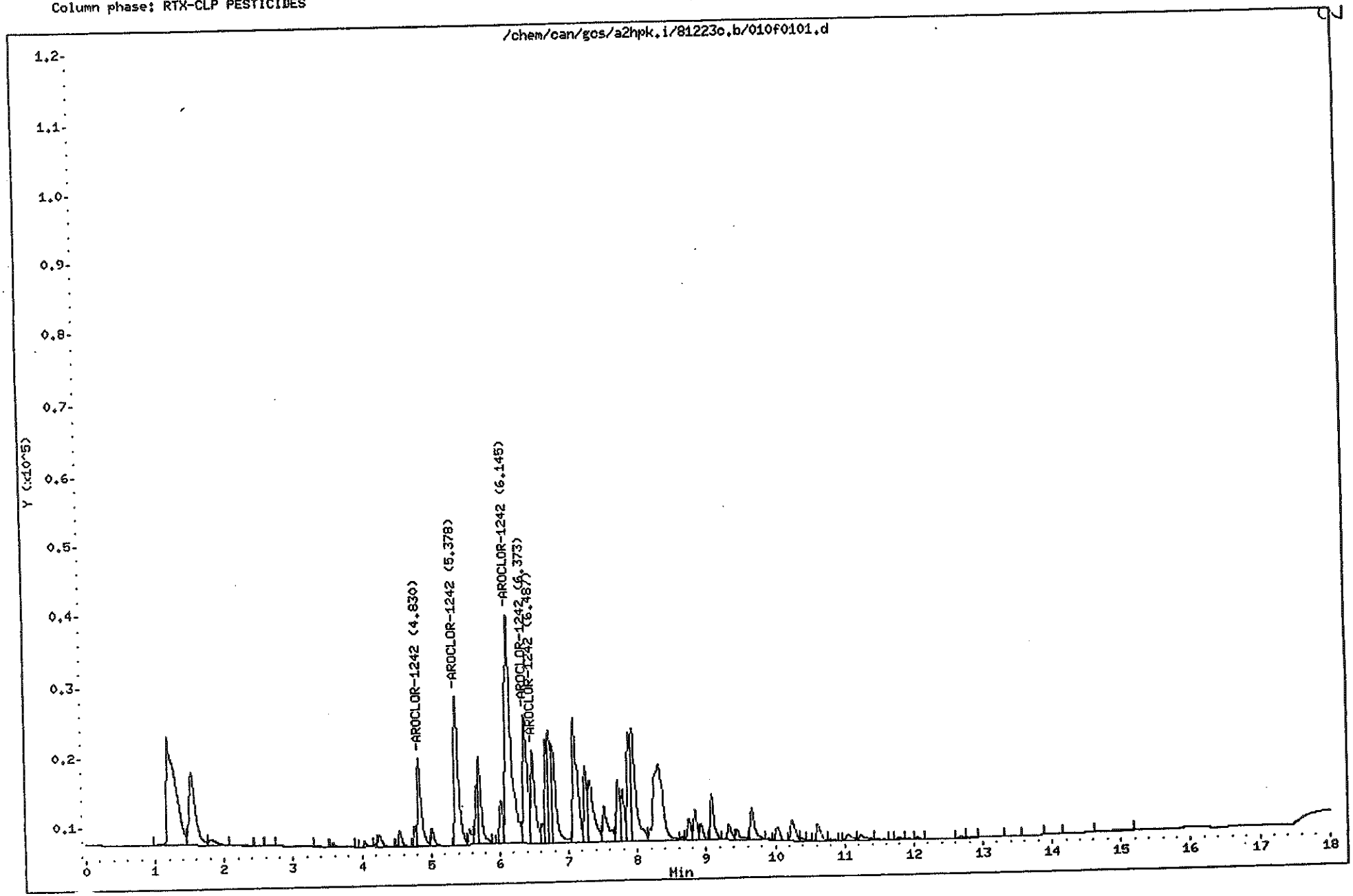
Data file : /chem/can/gcs/a2hpk.i/81223c.b/010f0101.d
Lab Smp Id: 1242 C051
Inj Date : 23-DEC-1998 19:06
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1242 C051,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 26-Dec-1998 15:56 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
4.830	4.830	0.000	12707	0.50000	0.4776	80.00- 120.00	100.00
5.378	5.377	0.001	21541	0.50000	0.4809	144.17- 240.28	169.52
6.145	6.145	0.000	32325	0.50000	0.4849	202.77- 337.96	254.39
6.373	6.373	0.000	18364	0.50000	0.4876	104.84- 174.74	144.52
6.487	6.485	0.002	13293	0.50000	0.4961	68.07- 113.44	104.61
Average of Peak Amounts =					0.485		

Data File: /chem/can/gcs/a2hpk.i/81223c.b/010f0101.d
Date : 23-DEC-1998 19:06
Client ID:
Sample Info: 1242 C051,,2

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hpk.i/81223c.b/011f0101.d
Report Date: 26-Dec-1998 18:03

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81223c.b/011f0101.d
Lab Smp Id: 1232 C046
Inj Date : 23-DEC-1998 19:27
Operator : 1808 Inst ID: a2hpk.i
Smp Info : 1232 C046,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 26-Dec-1998 15:56 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

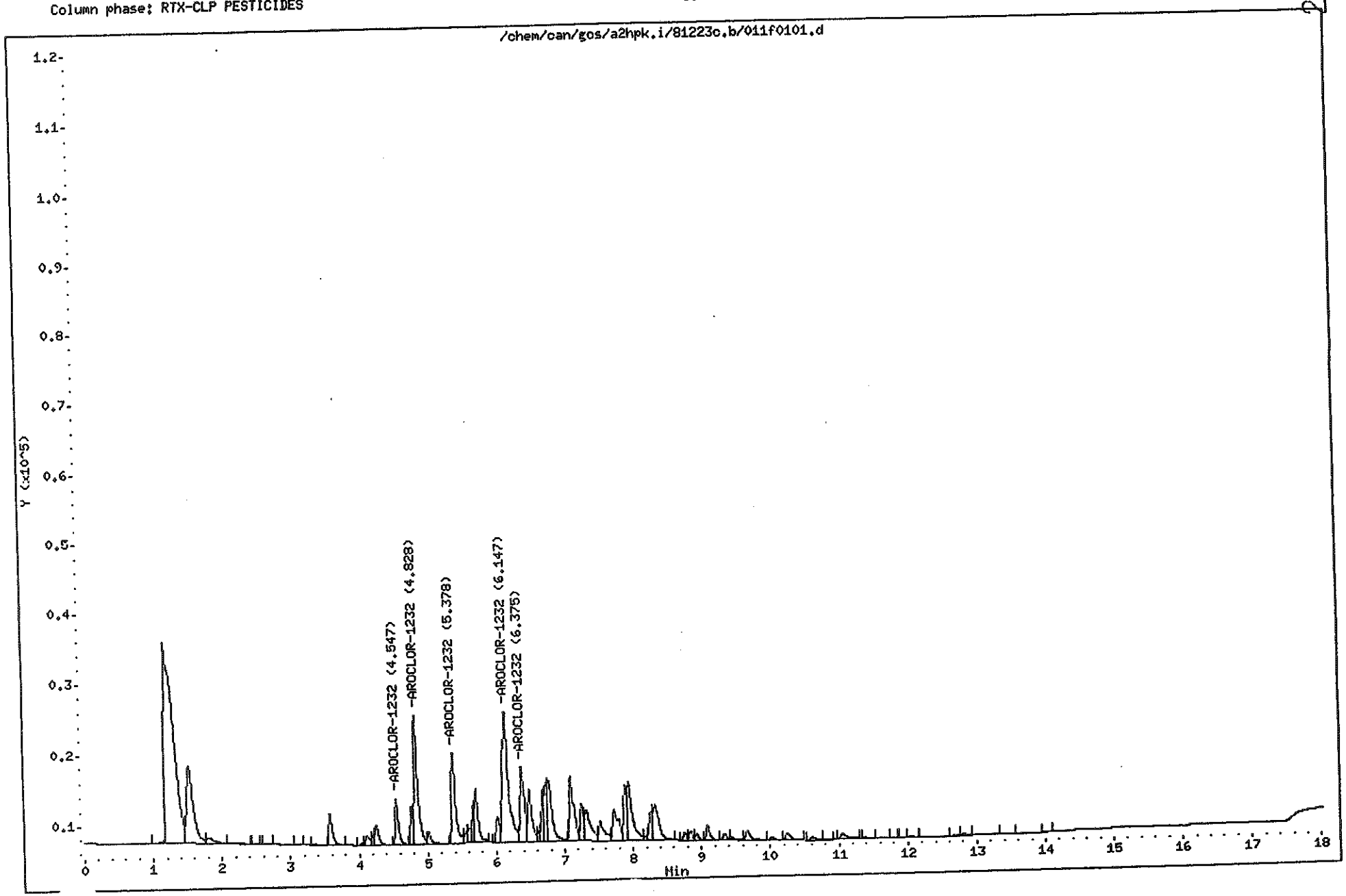
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
4.547	4.525	0.022	6446	0.50000	0.4894	80.00- 120.00	100.00
4.828	4.830	-0.002	18173	0.50000	0.4873	86.35- 143.91	281.93
5.378	5.378	0.000	12789	0.50000	0.4917	67.66- 112.76	198.40
6.147	6.148	-0.001	18405	0.50000	0.4915	91.49- 152.49	285.53
6.375	6.377	-0.002	10500	0.50000	0.4878	48.75- 81.25	162.89
Average of Peak Amounts =					0.49		

Data File: /chem/can/gcs/a2hpk.i/81223c.b/011f0101.d
Date : 23-DEC-1998 19:27
Client ID:
Sample Info: 1232 C046,,2

Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hpk.i/81223c.b/023f0101.d
Report Date: 12/24/1998

CONTINUING CALIBRATION REPORT

Instrument ID: a2hpk.i
Lab File ID: 023f0101.d
Analysis Type: NONE

Injection Date: 23-DEC-1998 23:39
Lab Sample ID: 1660 C110
Method File: /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII

COMPOUND	%D
TCMX	4.5
AROCLOR-1016	1.2
AROCLOR-1260	3.7
DCB	5.4

The average of %D's in the continuing calibration is 3.7

Data File: /chem/can/gcs/a2hpk.i/81223c.b/023f0101.d
Report Date: 26-Dec-1998 18:03

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81223c.b/023f0101.d
Lab Smp Id: 1660 C110
Inj Date : 23-DEC-1998 23:39 Inst ID: a2hpk.i
Operator : 1808
Smp Info : 1660 C110,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81223c.b/kfpcbIII.m
Meth Date : 26-Dec-1998 15:56 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None
Processing Host: hpuxcs2

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.292	4.290	0.002	42829	0.02500	0.02611	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.830	4.830	0.000	16076	0.50000	0.5188	80.00- 120.00	100.00
5.377	5.377	0.000	27315	0.50000	0.5057	134.50- 224.17	169.91
6.143	6.143	0.000	41943	0.50000	0.5003	202.66- 337.77	260.90
6.485	6.485	0.000	17195	0.50000	0.5023	84.10- 140.17	106.96
6.682	6.680	0.002	17947	0.50000	0.5040	91.35- 152.25	111.64
Average of Peak Amounts =					0.506		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.288	8.287	0.001	17401	0.50000	0.5006	80.00- 120.00	100.00
9.447	9.445	0.002	38327	0.50000	0.4844	173.85- 289.76	220.26
10.018	10.015	0.003	44266	0.50000	0.4789	205.86- 343.09	254.39
10.612	10.608	0.004	43011	0.50000	0.4732	199.16- 331.93	247.18
12.043	12.040	0.003	59979	0.50000	0.4715	284.17- 473.62	344.69
Average of Peak Amounts =					0.482		
$ 9 DCB					CAS #: 2051-24-3		
15.193	15.188	0.005	31168	0.02500	0.02364	80.00- 120.00	100.00

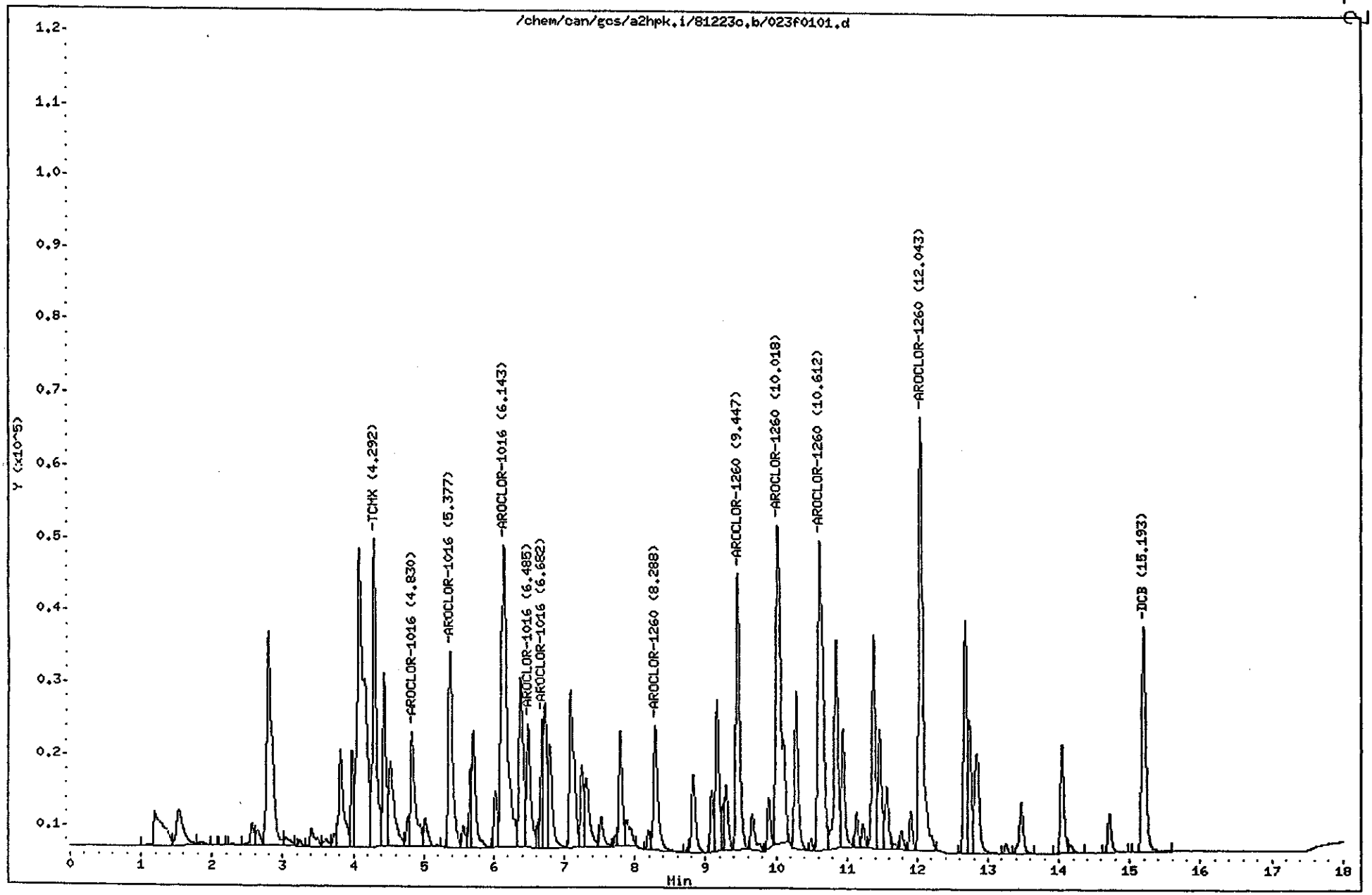
Da le: /chem/can/gcs/a2hpk.i/81223c.b/023f0101.d
Date : 23-DEC-1998 23:39
Client ID:
Sample Info: 1660 C110,,2

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

971



POLYCHLORINATED BIPHENYLS
RAW QC DATA

CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 112

Sample WT/Vol: 30 / g
Work Order: CP07R102
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	270	
11096-82-5	Aroclor 1260	310	

Data File: /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Report Date: 30-Dec-1998 15:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Lab Smp Id: CP07R102 Client Smp ID: CP07RCHK
Inj Date : 17-DEC-1998 09:44
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP07R102
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

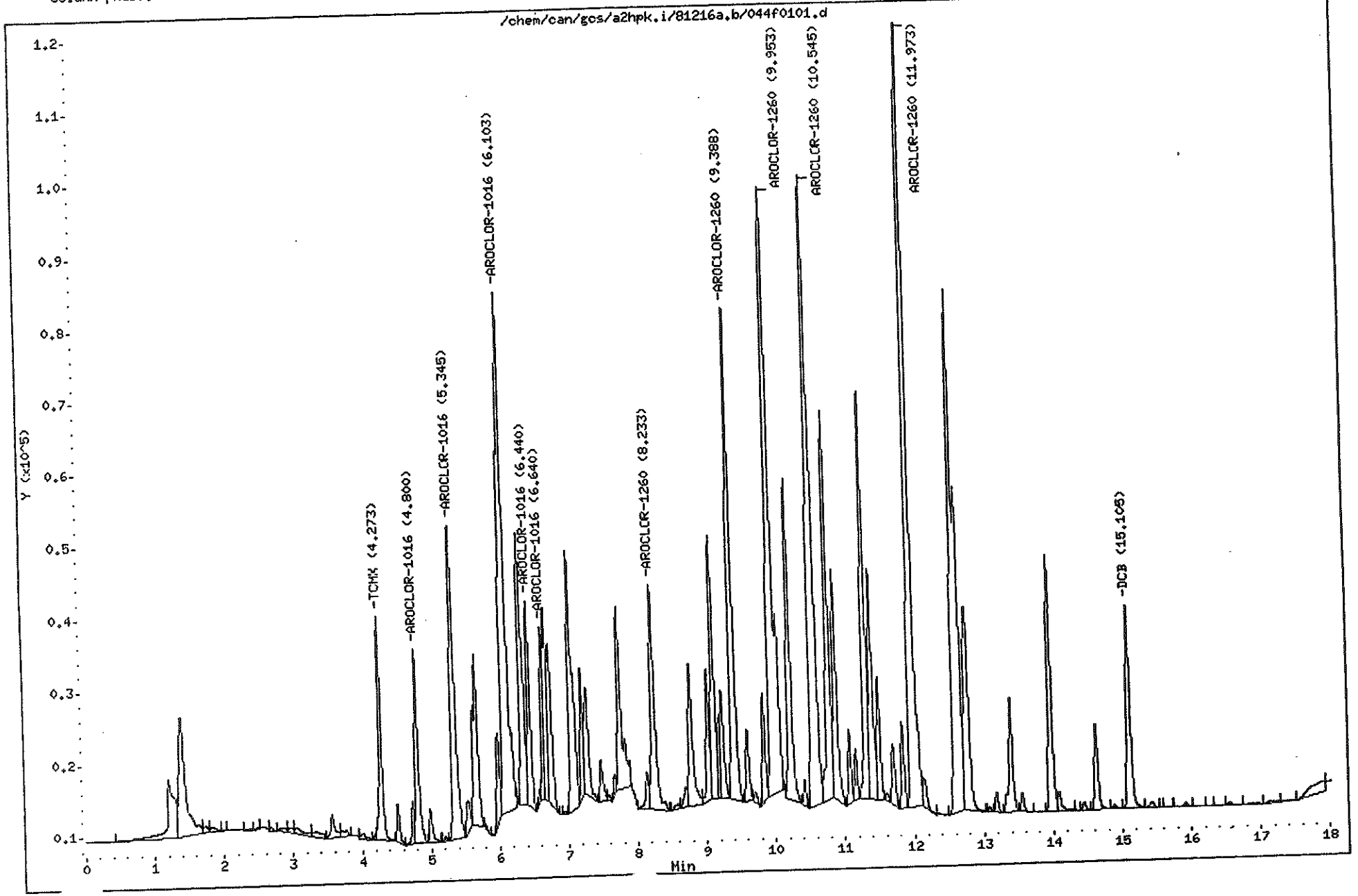
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.273	4.272	0.001	30936	0.01886	6.288	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.800	4.802	-0.002	26770	0.86390	288.0	80.00- 120.00	100.00
	5.345	5.347	-0.002	43363	0.80276	267.6	125.29- 208.81	161.98
	6.103	6.105	-0.002	72313	0.86256	287.5	207.30- 345.49	270.13
	6.440	6.442	-0.002	28285	0.82620	275.4	84.66- 141.09	105.66
	6.640	6.642	-0.002	24019	0.67451	224.8	81.88- 136.47	89.72
Average of Peak Concentrations =						268.7		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.233	8.237	-0.004	31084	0.89428	298.1	80.00- 120.00	100.00
	9.388	9.390	-0.002	68274	0.86290	287.6	166.19- 276.99	219.64
	9.953	9.955	-0.002	84382	0.91294	304.3	196.82- 328.04	271.46
	10.545	10.547	-0.002	87511	0.96283	320.9	201.36- 335.60	281.53

Data File: /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Report Date: 30-Dec-1998 15:41

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
	8 AROCLOR-1260 (continued)							
	11.973	11.973	0.000	125106	0.98348	327.8	281.46- 469.10	402.48
	Average of Peak Concentrations =					307.8		
$	9 DCB					CAS #: 2051-24-3		
	15.105	15.105	0.000	28114	0.02132	7.107	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/044f0101.d
Date : 17-DEC-1998 09:44
Client ID: CP07RCHK
Sample Info: CP07R102
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE DUPLICATE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 112

Sample WT/Vol: 30 / g
Work Order: CP07R103
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: DUPLICATE CHECK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	260	
11096-82-5	Aroclor 1260	280	

Data File: /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
eport Date: 30-Dec-1998 15:41

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
Lab Smp Id: CP07R103 Client Smp ID: CP07RCHKDUP
Inj Date : 17-DEC-1998 10:05
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP07R103
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

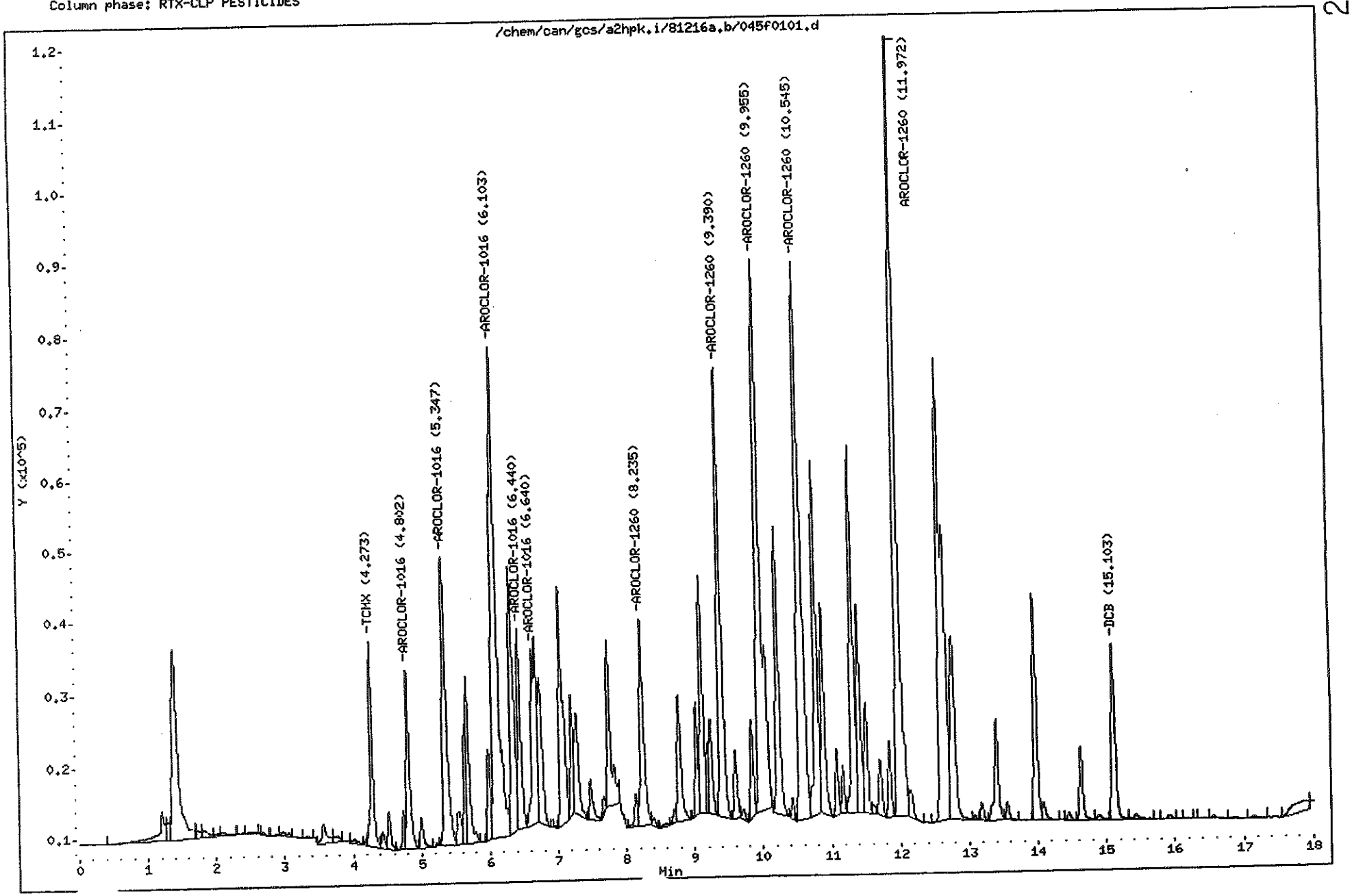
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.273	4.272	0.001	28309	0.01726	5.754	80.00- 120.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	4.802	4.802	0.000	24945	0.80500	268.3	80.00- 120.00	100.00
	5.347	5.347	0.000	40220	0.74457	248.2	125.29- 208.81	161.23
	6.103	6.105	-0.002	68717	0.81967	273.2	207.30- 345.49	275.47
	6.440	6.442	-0.002	27496	0.80316	267.7	84.66- 141.09	110.23
	6.640	6.642	-0.002	24230	0.68044	226.8	81.88- 136.47	97.13
Average of Peak Concentrations =						256.8		
8 AROCLOR-1260						CAS #: 11096-82-5		
	8.235	8.237	-0.002	28508	0.82017	273.4	80.00- 120.00	100.00
	9.390	9.390	0.000	62661	0.79196	264.0	166.19- 276.99	219.80
	9.955	9.955	0.000	77176	0.83498	278.3	196.82- 328.04	270.72
	10.545	10.547	-0.002	78103	0.85932	286.4	201.36- 335.60	273.97

Data File: /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
Report Date: 30-Dec-1998 15:41

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
	8 AROCLOR-1260 (continued)							
	11.972	11.973	-0.001	112901	0.88753	295.8	281.46- 469.10	396.03
	Average of Peak Concentrations =					279.6		
$	9 DCB					CAS #: 2051-24-3		
	15.103	15.105	-0.002	24343	0.01846	6.154	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81216a.b/045f0101.d
Date : 17-DEC-1998 10:05
Client ID: CP07RCHKDUP
Sample Info: CP07R103
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 126

Sample WT/Vol: 30 / g
Work Order: CP08N102
Dilution factor: 1
Moisture %:NA

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	250	
11096-82-5	Aroclor 1260	300	

Data File: /chem/can/gcs/a2hpk.i/81221a.b/047f0101.d
Report Date: 22-Dec-1998 14:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/047f0101.d
Lab Smp Id: CP08N102 Client Smp ID: INTRA-LAB CHECK
Inj Date : 22-DEC-1998 06:53
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP08N102
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.295	4.293	0.002	29856	0.01820	6.068	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.825	4.825	0.000	25574	0.82530	275.1	80.00- 120.00	28.88(M)
5.372	5.370	0.002	41060	0.76012	253.4	129.12- 215.20	46.37
6.132	6.132	0.000	69525	0.82930	276.4	201.49- 335.82	78.51
6.470	6.472	-0.002	27212	0.79486	265.0	79.73- 132.88	30.73
6.668	6.668	0.000	21417	0.60144	200.5	81.41- 135.68	24.18
Average of Peak Concentrations =					254.1		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.265	8.267	-0.002	30706	0.88341	294.5	80.00- 120.00	100.00
9.422	9.422	0.000	67194	0.84925	283.1	171.13- 285.21	218.83
9.987	9.988	-0.001	82153	0.88883	296.3	202.26- 337.10	267.55

Data File: /chem/can/gcs/a2hpk.i/81221a.b/047f0101.d
Report Date: 22-Dec-1998 14:42

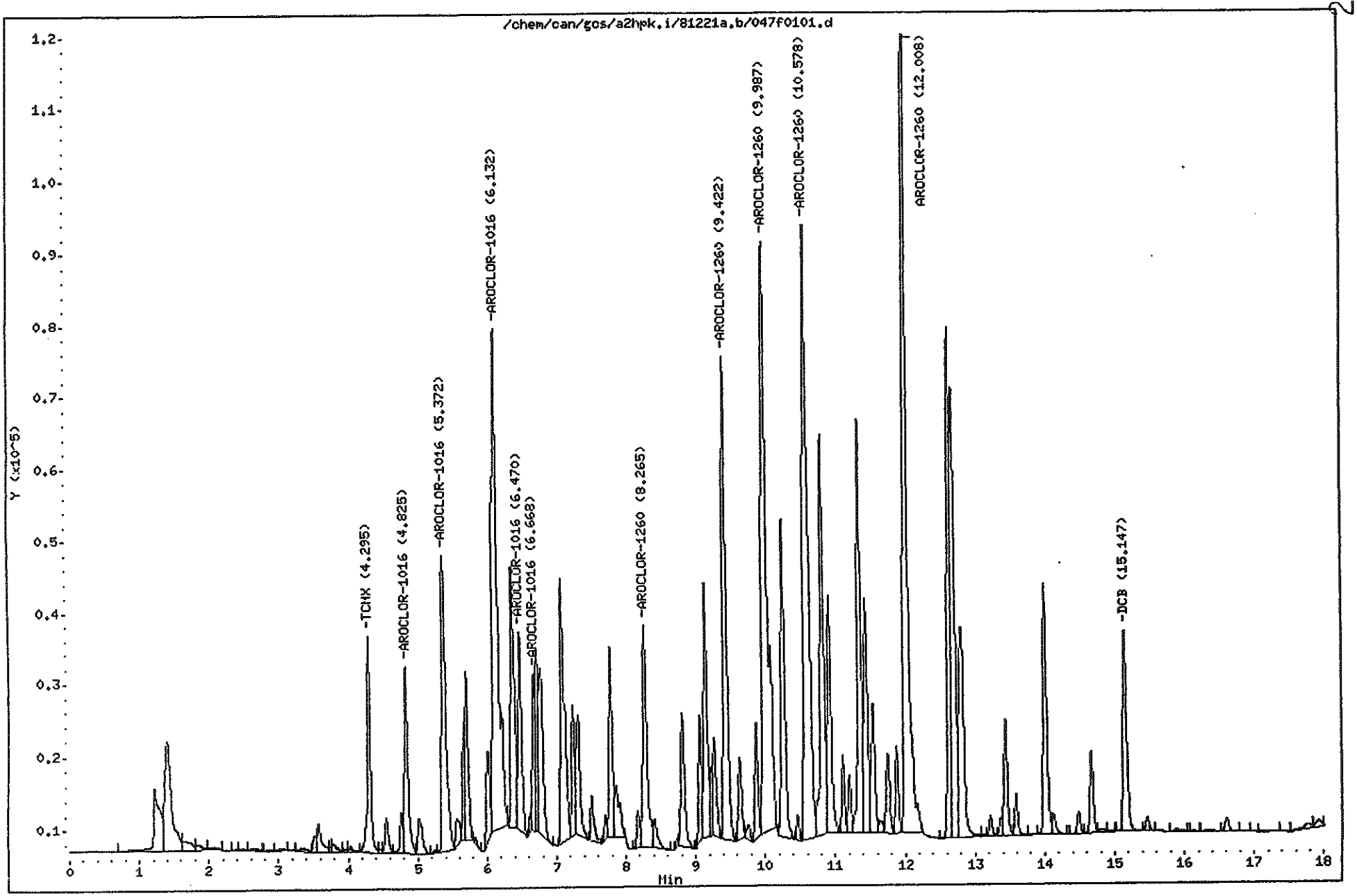
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
10.578	10.580	-0.002	85588	0.94167	313.9	199.91- 333.18	278.73
12.008	12.007	0.001	123449	0.97045	323.5	285.25- 475.42	402.04
	Average of Peak Concentrations =				302.2		
$ 9 DCB					CAS #: 2051-24-3		
15.147	15.143	0.004	27780	0.02107	7.023	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hpk.i/81221a.b/047f0101.d
Date : 22-DEC-1998 06:53
Client ID: INTRA-LAB CHECK
Sample Info: CP08N102
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE DUPLICATE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 126

Sample WT/Vol: 30 / g
Work Order: CP08N103
Dilution factor: 1
Moisture %:NA

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: DUPLICATE CHECK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	230	
11096-82-5	Aroclor 1260	270	

Data File: /chem/can/gcs/a2hpk.i/81221a.b/048f0101.d
Report Date: 22-Dec-1998 14:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/048f0101.d
Lab Smp Id: CP08N103 Client Smp ID: INTRA-LAB CHECK
Inj Date : 22-DEC-1998 07:14
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP08N103
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.295	4.293	0.002	25302	0.01543	5.142	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.825	4.825	0.000	22348	0.72119	240.4	80.00- 120.00	100.00
5.373	5.370	0.003	36590	0.67737	225.8	129.12- 215.20	163.73
6.132	6.132	0.000	61954	0.73900	246.3	201.49- 335.82	277.22
6.470	6.472	-0.002	24231	0.70779	235.9	79.73- 132.88	108.43
6.668	6.668	0.000	19216	0.53963	179.9	81.41- 135.68	85.99
Average of Peak Concentrations =					225.7		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.267	8.267	0.000	26443	0.76076	253.6	80.00- 120.00	100.00
9.422	9.422	0.000	61522	0.77756	259.2	171.13- 285.21	232.66
9.987	9.988	-0.001	75067	0.81216	270.7	202.26- 337.10	283.88

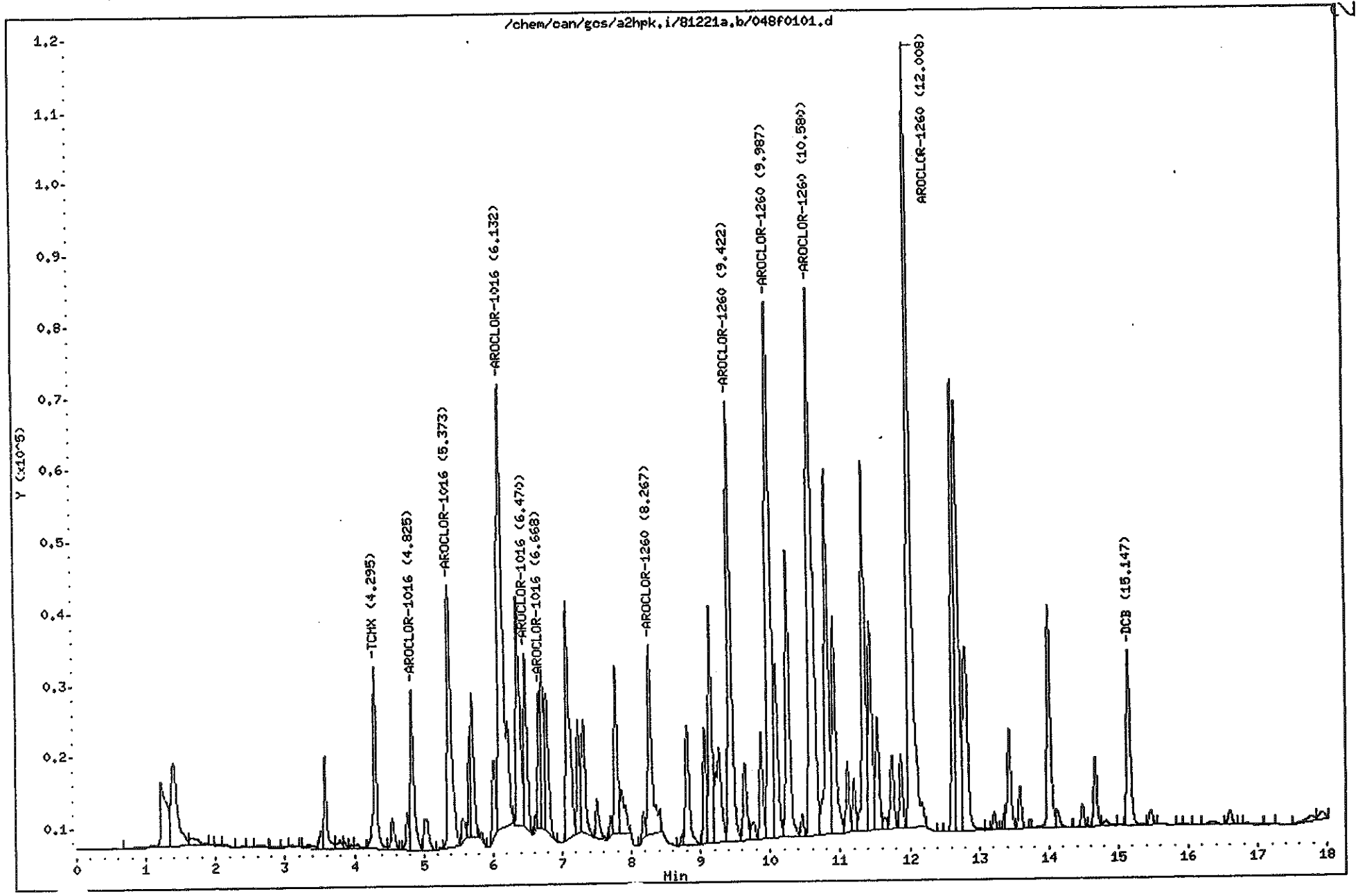
Data File: /chem/can/gcs/a2hpk.i/81221a.b/048f0101.d
Report Date: 22-Dec-1998 14:42

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
10.580	10.580	0.000	76638	0.84320	281.1	199.91- 333.18	289.82
12.008	12.007	0.001	109772	0.86294	287.6	285.25- 475.42	415.13
		Average of Peak Concentrations =			270.4		
$ 9 DCB					CAS #: 2051-24-3		
15.147	15.143	0.004	24388	0.01850	6.165	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/048f0101.d
Date : 22-DEC-1998 07:14
Client ID: INTRA-LAB CHECK
Sample Info: CP08N103
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L080000 110

Sample WT/Vol: 30 / g
Work Order: CP35A102
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/08/98
Date Analyzed: 12/15/98

QC Batch: 8342110

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	310	
11096-82-5	Aroclor 1260	340	

Data File: /chem/can/gcs/a2hpk.i/81214a.b/067f0101.d
Report Date: 16-Dec-1998 08:00

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/067f0101.d
Lab Smp Id: CP35A102 Client Smp ID: INTRA-LAB CHECK
Inj Date : 15-DEC-1998 14:17
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP35A102
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

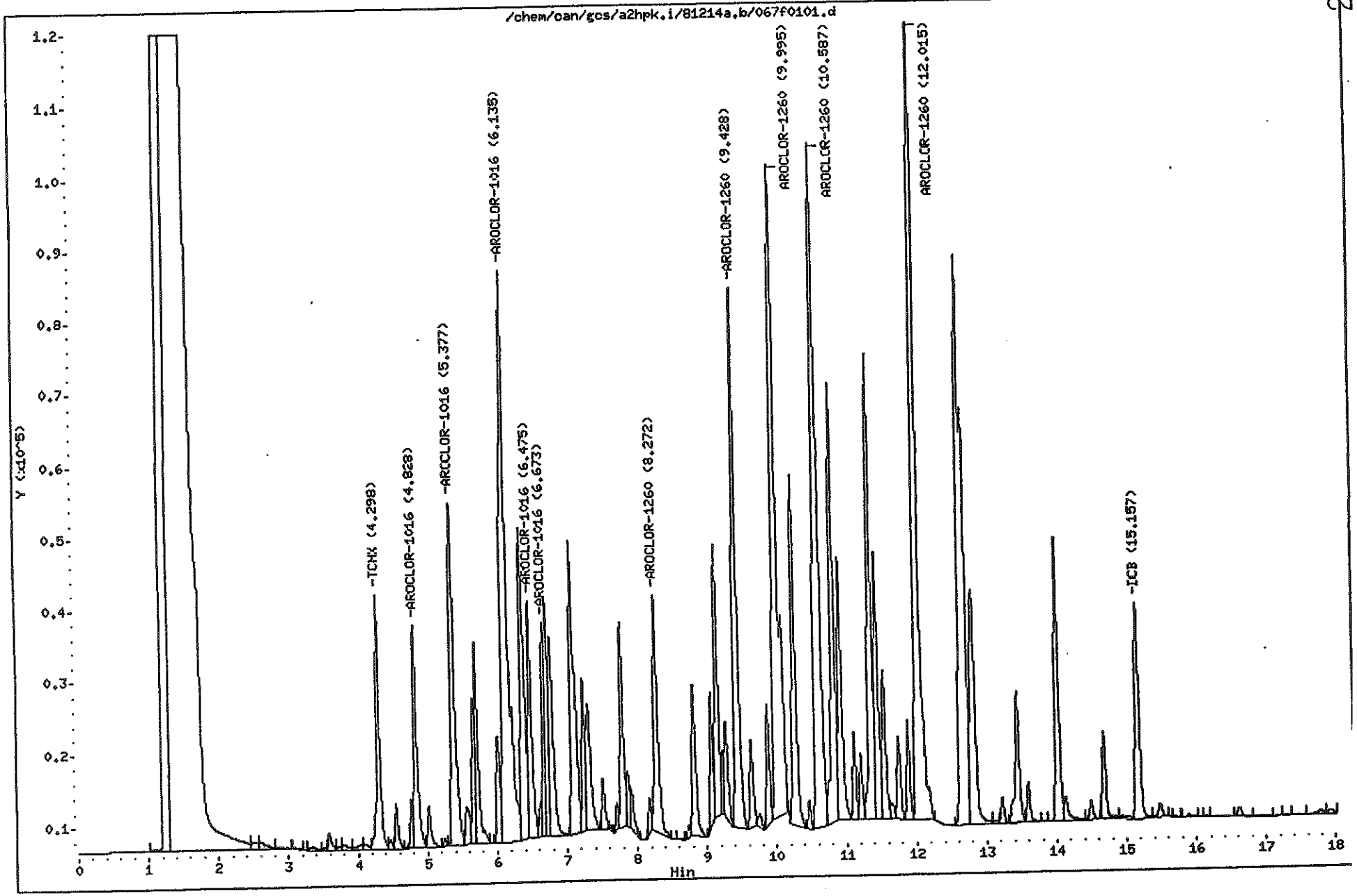
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.298	4.298	0.000	35327	0.02154	7.180	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
4.828	4.832	-0.004	30739	0.99198	330.7	80.00- 120.00	100.00
5.377	5.377	0.000	47693	0.88292	294.3	131.48- 219.13	155.15
6.135	6.140	-0.005	79650	0.95008	316.7	201.19- 335.32	259.12
6.475	6.480	-0.005	32847	0.95946	319.8	80.13- 133.54	106.86
6.673	6.677	-0.004	29569	0.83037	276.8	83.41- 139.01	96.19
		Average of Peak Concentrations =			307.6		
8 AROCLOR-1260					CAS #: 11096-82-5		
8.272	8.277	-0.005	32790	0.94336	314.4	80.00- 120.00	100.00
9.428	9.432	-0.004	75258	0.95117	317.0	171.69- 286.15	229.52
9.995	9.998	-0.003	91254	0.98729	329.1	202.14- 336.89	278.30

Data File: /chem/can/gcs/a2hpk.i/81214a.b/067f0101.d
Report Date: 16-Dec-1998 08:00

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
10.587	10.590	-0.003	95535	1.05111	350.4	199.32- 332.20	291.35
12.015	12.018	-0.003	140191	1.10207	367.4	282.30- 470.51	427.54
	Average of Peak Concentrations =				335.7		
$ 9 DCB					CAS #: 2051-24-3		
15.157	15.157	0.000	29824	0.02262	7.540	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81214a.b/067f0101.d
Date : 15-DEC-1998 14:17
Client ID: INTRA-LAB CHECK
Sample Info: CP35A102
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
METHOD BLANK COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 112

Sample WT/Vol: 30 / g
Work Order: CP07R101
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/04/98
Date Analyzed: 12/17/98

QC Batch: 8338112

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	33	U
11104-28-2	Aroclor 1221	33	U
11141-16-5	Aroclor 1232	33	U
53469-21-9	Aroclor 1242	33	U
12672-29-6	Aroclor 1248	33	U
11097-69-1	Aroclor 1254	33	U
11096-82-5	Aroclor 1260	33	U

Data File: /chem/can/gcs/a2hpk.i/81216a.b/040f0101.d
Report Date: 30-Dec-1998 15:41

QUANTERRA-NORTH CANTON

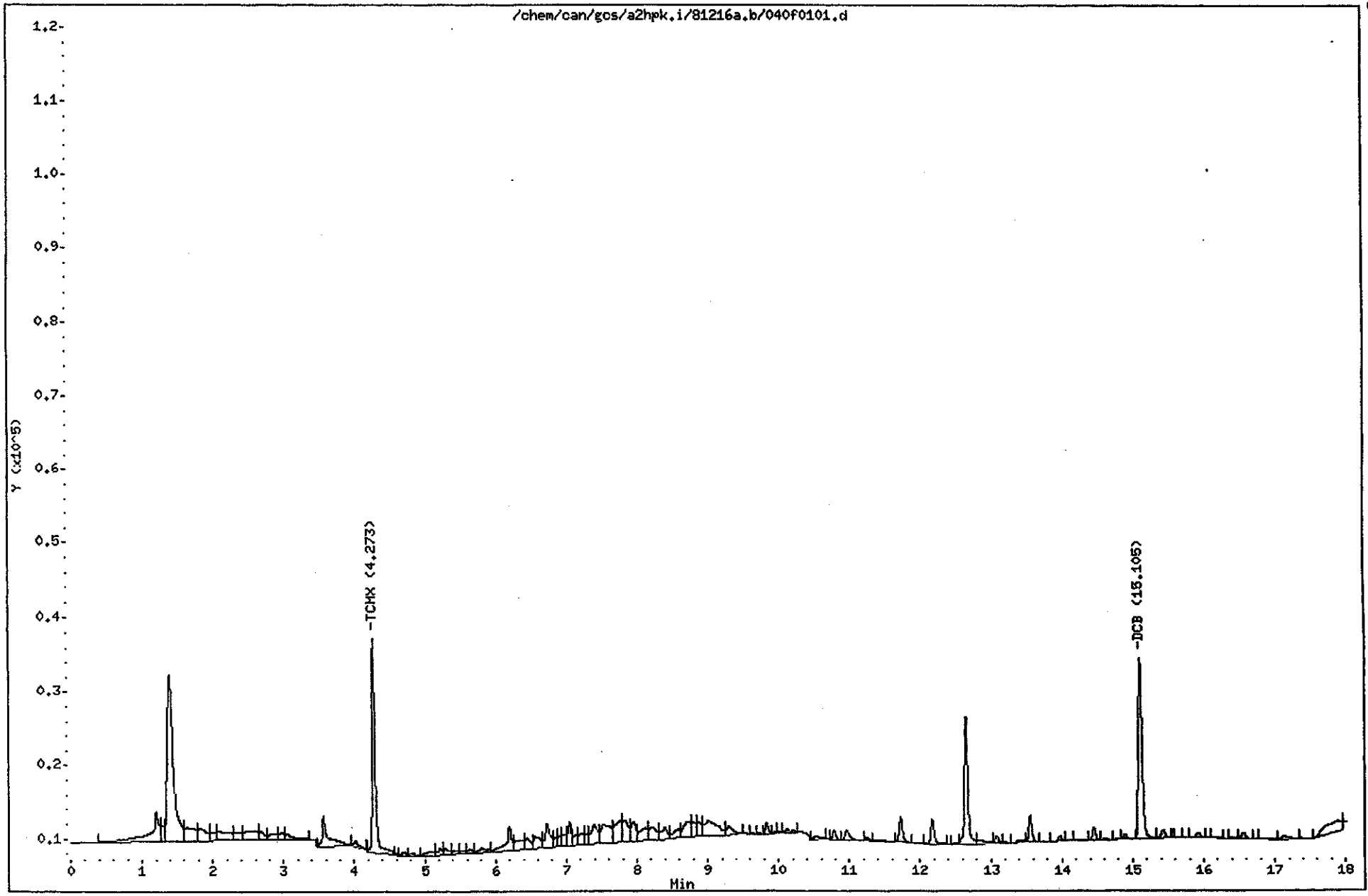
Data file : /chem/can/gcs/a2hpk.i/81216a.b/040f0101.d
Lab Smp Id: CP07R101 Client Smp ID: CP07RBLK
Inj Date : 17-DEC-1998 08:20
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP07R101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81216a.b/kfpcbIII.m
Meth Date : 17-Dec-1998 13:18 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.273	4.272	0.001	29125	0.01776	5.920	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	15.105	15.105	0.000	24672	0.01871	6.237	80.00- 120.00	100.00

D: ile: /chem/can/gcs/a2hpk.i/81216a.b/040f0101.d
Date : 17-DEC-1998 08:20
Client ID: CP07RBLK
Instrument: a2hpk.i
Sample Info: CP07R101
Volume Injected (uL): 1.0
Operator: 1808
Column phase: RTX-CLP PESTICIDES
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
METHOD BLANK COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L040000 126

Sample WT/Vol: 30 / g
Work Order: CP08N101
Dilution factor: 1
Moisture %:NA

Date Received: 12/03/98
Date Extracted:12/04/98
Date Analyzed: 12/22/98

QC Batch: 8338126

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	33	U
11104-28-2	Aroclor 1221	33	U
11141-16-5	Aroclor 1232	33	U
53469-21-9	Aroclor 1242	33	U
12672-29-6	Aroclor 1248	33	U
11097-69-1	Aroclor 1254	33	U
11096-82-5	Aroclor 1260	33	U

Data File: /chem/can/gcs/a2hpk.i/81221a.b/046f0101.d
Report Date: 22-Dec-1998 14:42

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81221a.b/046f0101.d
Lab Smp Id: CP08N101 Client Smp ID: INTRA-LAB BLANK
Inj Date : 22-DEC-1998 06:32
Operator : 1808 Inst ID: a2hpk.i
Smp Info : CP08N101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81221a.b/kfpcbIII.m
Meth Date : 22-Dec-1998 13:49 a Quant Type: ESTD
Cal Date : 17-DEC-1998 00:15 Cal File: 017f0101.d
Als bottle: 1 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

Concentration Formula: Amt * DF * Vt/Vo

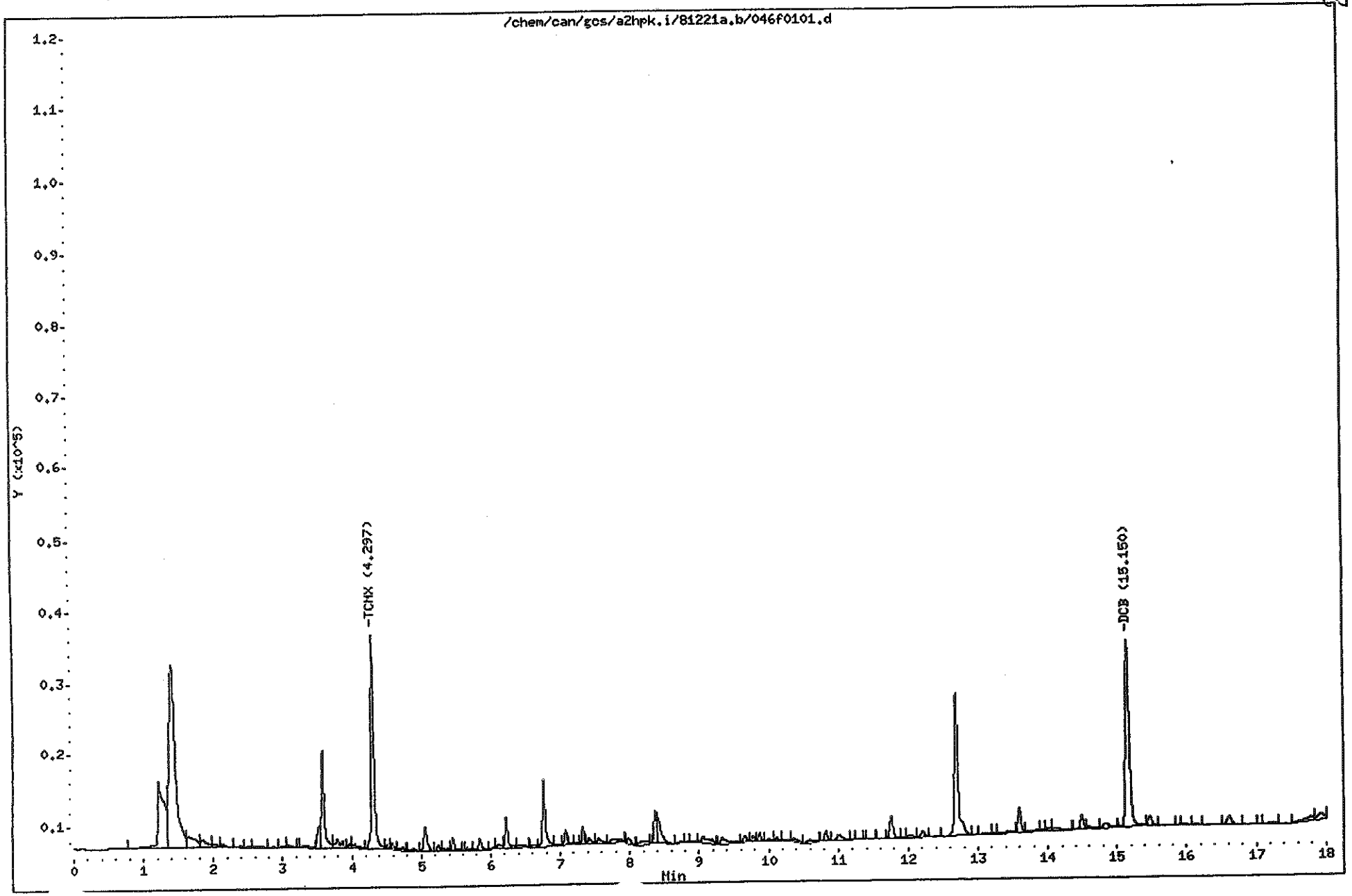
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
4.297	4.293	0.004	29708	0.01811	6.038	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
15.150	15.143	0.007	26075	0.01978	6.592	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hpk.i/81221a.b/046f0101.d
Date : 22-DEC-1998 06:32
Client ID: INTRA-LAB BLANK
Sample Info: CP08N101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i

Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
METHOD BLANK COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A8L080000 110

Sample WT/Vol: 30 / g
Work Order: CP35A101
Dilution factor: 1
Moisture %:NA

Date Received: 12/02/98
Date Extracted:12/08/98
Date Analyzed: 12/15/98

QC Batch: 8342110

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	33	U
11104-28-2	Aroclor 1221	33	U
11141-16-5	Aroclor 1232	33	U
53469-21-9	Aroclor 1242	33	U
12672-29-6	Aroclor 1248	33	U
11097-69-1	Aroclor 1254	33	U
11096-82-5	Aroclor 1260	33	U

Data File: /chem/can/gcs/a2hpk.i/81214a.b/066f0101.d
Report Date: 16-Dec-1998 08:00

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hpk.i/81214a.b/066f0101.d
Lab Smp Id: CP35A101 Client Smp ID: INTRA-LAB BLANK
Inj Date : 15-DEC-1998 13:56 Inst ID: a2hpk.i
Operator : 1808
Smp Info : CP35A101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hpk.i/81214a.b/kfpcbIII.m
Meth Date : 16-Dec-1998 06:06 a Quant Type: ESTD
Cal Date : 06-DEC-1998 20:55 Cal File: 026f0101.d
Als bottle: 1 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: hpuxcs2

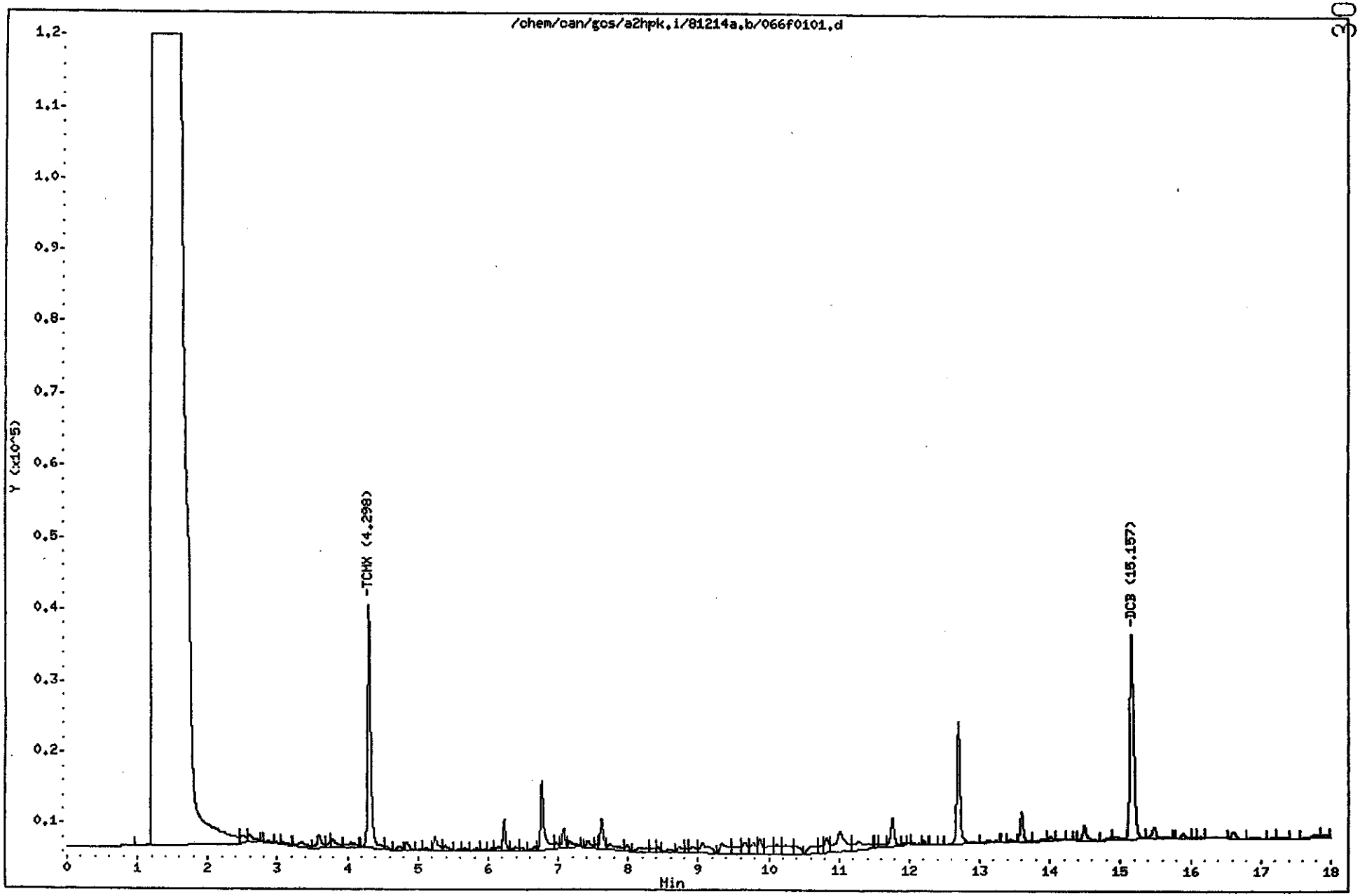
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	4.298	4.298	0.000	33935	0.02069	6.897	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	15.157	15.157	0.000	28653	0.02173	7.244	80.00- 120.00	100.00

File: /chem/can/gcs/a2hpk.i/81214a.b/066f0101.d
Date : 15-DEC-1998 13:56
Client ID: INTRA-LAB BLANK
Sample Info: CP35A101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hpk.i
Operator: 1808
Column diameter: 0.32



POLYCHLORINATED BIPHENYLS
INSTRUMENT LOG SHEETS

Sequence: C:\HPCHEM\2\SEQUENCE\81102IC.SEQ

Operator: 0595

Sequence preparation date: 02 Nov 98 03:37 PM

Data File Names: Auto

Data File Subdirectory: 81102IC.B

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

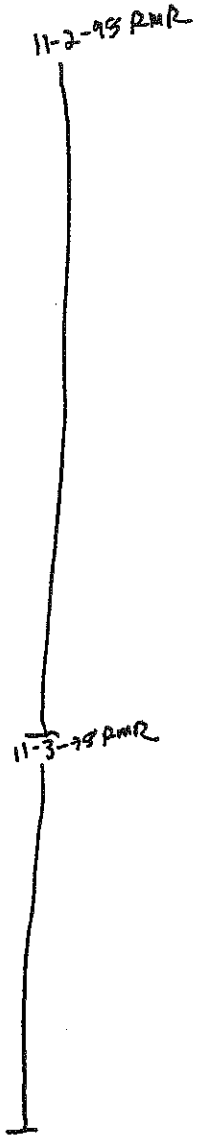
Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	
1	2	HEX					KPCB2	
1	3	HEX					KPCB2	1
1	4	HEX					KPCB2	1
1	5	HEX					KPCB2	1
1	6	HEX					KPCB2	1

11-2-98 AMR

Sequence: C:\HPCHEM\2\SEQUENCE\81102IC.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	HEX					KPCB2	1
1	8	HEX					KPCB2	1
1	9	HEX					KPCB2	1
1	10	HEX					KPCB2	1
1	11	1660 C064,,1,1					KPCB2	1
1	12	1660 C065,,1,2					KPCB2	1
1	13	1660 C066,,1,3					KPCB2	1
1	14	1660 C067,,1,4					KPCB2	1
1	15	1660 C068,,1,5					KPCB2	1
1	16	2154 C059,,1,1					KPCB2	1
1	17	2154 C060,,1,2					KPCB2	1
1	18	2154 C061,,1,3					KPCB2	1
1	19	2154 C062,,1,4					KPCB2	1
1	20	2154 C063,,1,5					KPCB2	1
	21	1248 C054,,1,1					KPCB2	1
1	22	1248 C055,,1,2					KPCB2	1
1	23	1248 C056,,1,3					KPCB2	1
1	24	1248 C057,,1,4					KPCB2	1
1	25	1248 C058,,1,5					KPCB2	1
1	26	1242 C049,,1,1					KPCB2	1
1	27	1242 C050,,1,2					KPCB2	1
1	28	1242 C051,,1,3					KPCB2	1
1	29	1242 C052,,1,4					KPCB2	1
1	30	1242 C053,,1,5					KPCB2	1
1	31	1232 C044,,1,1					KPCB2	1
1	32	1232 C045,,1,2					KPCB2	1
1	33	1232 C046,,1,3					KPCB2	1
1	34	1232 C047,,1,4					KPCB2	1
1	35	1232 C048,,1,5					KPCB2	1
1	36						KPCB2	1
1	37						KPCB2	1
1	38						KPCB2	1
1	39						KPCB2	1
1	40						KPCB2	1
1	41						KPCB2	1
1	42						KPCB2	1
1	43						KPCB2	1
1	44						KPCB2	1
1	45						KPCB2	1
1	46						KPCB2	1
1	47						KPCB2	1



Sequence: C:\HPCHEM\2\SEQUENCE\81214A.SEQ

Operator: 0595

Sequence preparation date: 14 Dec 98 03:08 PM

Data File Names: Auto

Data File Subdirectory: 81214A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

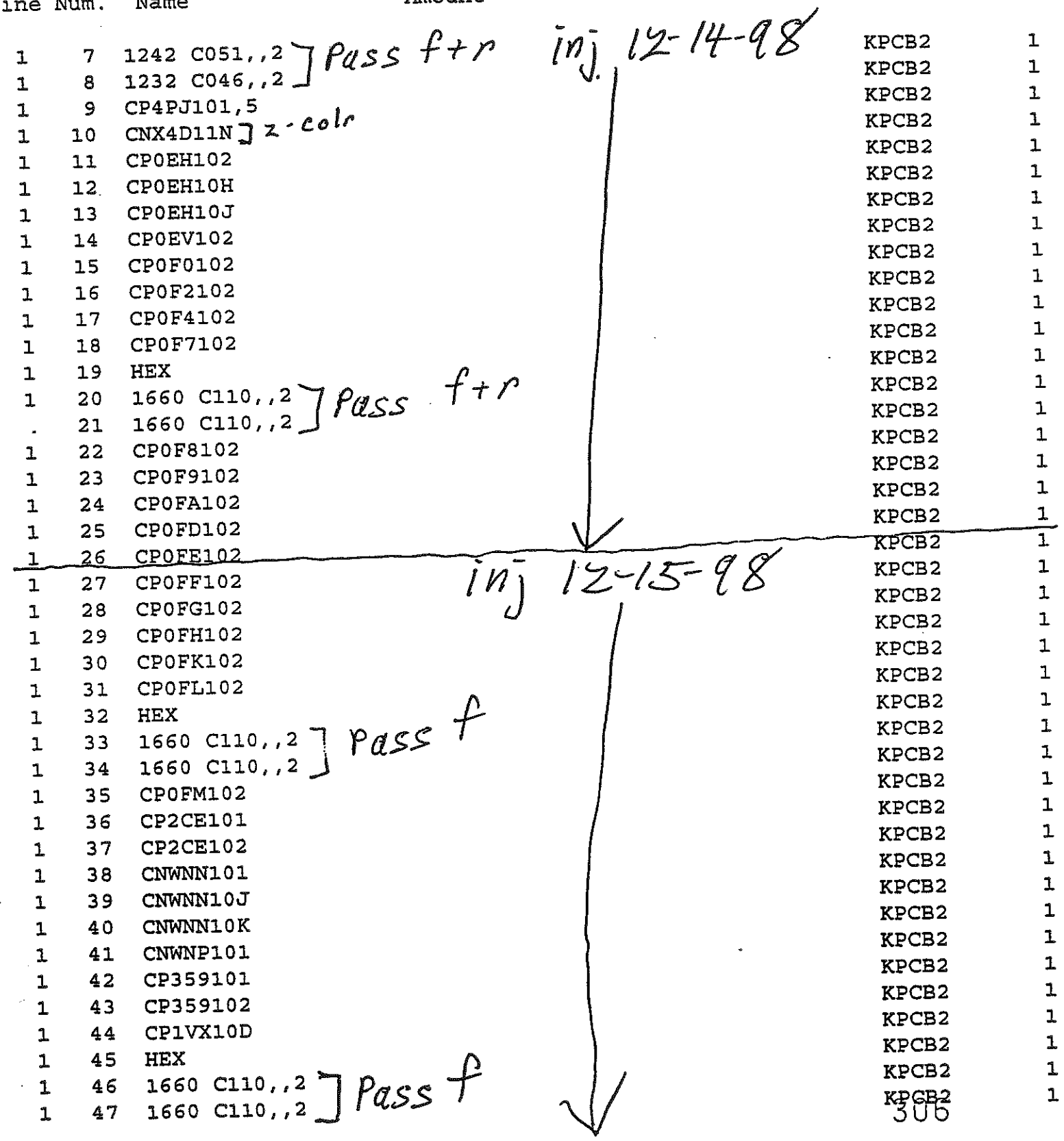
Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
1	2	HEX					KPCB2	
1	3	HEX					KPCB2	1
1	4	1660 C110,,2					KPCB2	1
1	5	2154 C061,,2					KPCB2	1
1	6	1248 C056,,2					KPCB2	1

inj 12-14-98 RLS

Pass f+r

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	1242 C051,,2					KPCB2	1
1	8	1232 C046,,2					KPCB2	1
1	9	CP4PJ101,5					KPCB2	1
1	10	CNX4D11N					KPCB2	1
1	11	CP0EH102					KPCB2	1
1	12	CP0EH10H					KPCB2	1
1	13	CP0EH10J					KPCB2	1
1	14	CP0EV102					KPCB2	1
1	15	CP0F0102					KPCB2	1
1	16	CP0F2102					KPCB2	1
1	17	CP0F4102					KPCB2	1
1	18	CP0F7102					KPCB2	1
1	19	HEX					KPCB2	1
1	20	1660 C110,,2					KPCB2	1
.	21	1660 C110,,2					KPCB2	1
1	22	CP0F8102					KPCB2	1
1	23	CP0F9102					KPCB2	1
1	24	CP0FA102					KPCB2	1
1	25	CP0FD102					KPCB2	1
1	26	CP0FE102					KPCB2	1
1	27	CP0FF102					KPCB2	1
1	28	CP0FG102					KPCB2	1
1	29	CP0FH102					KPCB2	1
1	30	CP0FK102					KPCB2	1
1	31	CP0FL102					KPCB2	1
1	32	HEX					KPCB2	1
1	33	1660 C110,,2					KPCB2	1
1	34	1660 C110,,2					KPCB2	1
1	35	CP0FM102					KPCB2	1
1	36	CP2CE101					KPCB2	1
1	37	CP2CE102					KPCB2	1
1	38	CNWNN101					KPCB2	1
1	39	CNWNN10J					KPCB2	1
1	40	CNWNN10K					KPCB2	1
1	41	CNWNP101					KPCB2	1
1	42	CP359101					KPCB2	1
1	43	CP359102					KPCB2	1
1	44	CP1VX10D					KPCB2	1
1	45	HEX					KPCB2	1
1	46	1660 C110,,2					KPCB2	1
1	47	1660 C110,,2					KPCB2	1



Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
			inj 12-15-98					
1	48	CP10X104					KPCB2	1
1	49	CP118104					KPCB2	1
1	50	CP120104					KPCB2	1
1	51	CP123104					KPCB2	1
1	52	CP125104					KPCB2	1
1	53	CP0TA101					KPCB2	1
1	54	CP0TA10F					KPCB2	1
1	55	CP0TA10G					KPCB2	1
1	56	CP0TC101					KPCB2	1
1	57	CP0TD101					KPCB2	1
1	58	HEX					KPCB2	1
1	59X	1660 C110,,2					KPCB2	1
1	60	2154 C061,,2					KPCB2	1
1	61	1248 C056,,2					KPCB2	1
1	62	1242 C051,,2					KPCB2	1
1	63X	1232 C046,,2					KPCB2	
1	64	CP0TF101					KPCB2	-
1	65	CP0TG101					KPCB2	1
1	66X	CP35A101					KPCB2	1
1	67	CP35A102					KPCB2	1
1	68	CNXD1101,100					KPCB2	1
1	69X	CNXD2101,500					KPCB2	1
1	70	CNXD3101,500					KPCB2	1
1	71	CNVCQ101,100					KPCB2	1
1	72	CNVCT101					KPCB2	1
1	73	CNVD6101,5					KPCB2	1
1	74	HEX					KPCB2	1
1	75X	1660 C110,,2					KPCB2	1
1	76	1660 C110,,2					KPCB2	1
1	77	1262 C002,,1,1					KPCB2	1
1	78	1262 C002,,1,2					KPCB2	1
1	79	1262 C002,,1,3					KPCB2	1
1	80	1262 C002,,1,4					KPCB2	1
1	81	1262 C002,,1,5					KPCB2	1
1	82	HEX					KPCB2	1
1	83	1660 C110,,2					KPCB2	
1	84	1660 C110,,2					KPCB2	-
1	85						KPCB2	1
1	86						KPCB2	1
1	87						KPCB2	1
1	88						KPCB2	1

Pass f

processed 12-15

pass f

pass f
processed 12-16

16 Dec 98 06:38 PM
Sequence: C:\HPCHEM\2\SEQUENCE\81216A.SEQ

Operator: 0595

Sequence preparation date: 16 Dec 98 06:38 PM

Data File Names: Auto

Data File Subdirectory: 81216A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
	2	HEX					KPCB2	1
1	3	HEX					KPCB2	1
1	4	HEX					KPCB2	1
1	5	HEX					KPCB2	1
1	6	HEX					KPCB2	1

12-16-98 Amk

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	HEX					KPCB2	1
1	8	1660 C110,,2					KPCB2	1
1	9	2154 C061,,2					KPCB2	1
1	10	1248 C056,,2					KPCB2	1
1	11	1242 C051,,2					KPCB2	1
1	12	1232 C046,,2					KPCB2	1
1	13	1262 C002,,1,1					KPCB2	1
1	14	1262 C002,,1,2					KPCB2	1
1	15	1262 C002,,1,3					KPCB2	1
1	16	1262 C002,,1,4					KPCB2	1
1	17	1262 C002,,1,5					KPCB2	1
1	18	CNVD6101,2					KPCB2	1
1	19	CNVD6101,5					KPCB2	1
1	20	CNVCQ101,1000					KPCB2	1
1	21	CNXD3101,1000					KPCB2	1
1	22	CNW6H101,100					KPCB2	1
1	23	CNW6T101,100					KPCB2	
1	24	CNW6V101,100					KPCB2	1
1	25	CNW6W101,1000					KPCB2	1
1	26	CNW6X101,100					KPCB2	1
1	27	CNW7A101,100					KPCB2	1
1	28	HEX					KPCB2	1
1	29	1660 C110,,2					KPCB2	1
1	30	1660 C110,,2					KPCB2	1
1	31	CNW7C101,10					KPCB2	1
1	32	CNW7E101					KPCB2	1
1	33	CNW7G101,100					KPCB2	1
1	34	CNW7H101,100					KPCB2	1
1	35	CNW71101,1000					KPCB2	1
1	36	CNW73101,10					KPCB2	1
1	37	CNW74101,100					KPCB2	1
1	38	CNW76101,1000					KPCB2	1
1	39	CNW78101,1000					KPCB2	1
1	40	CP07R101					KPCB2	1
1	41	HEX					KPCB2	1
1	42	1660 C110,,2					KPCB2	1
1	43	1660 C110,,2					KPCB2	1
1	44	CP07R102					KPCB2	
1	45	CP07R103					KPCB2	1
1	46	CNXA5101,1000					KPCB2	1
1	47	CNXA6101,100					KPCB2	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	48	CNX9X101,5					KPCB2	1
1	49	HEX					KPCB2	1
1	50	1660 C110,,2					KPCB2	1
1	51	1660 C110,,2					KPCB2	1
1	52						KPCB2	1
1	53						KPCB2	1
1	54						KPCB2	1
1	55						KPCB2	1
1	56						KPCB2	1
1	57						KPCB2	1
1	58						KPCB2	1
1	59						KPCB2	1
1	60						KPCB2	1
1	61						KPCB2	1
1	62						KPCB2	1
	63						KPCB2	1
1	64						KPCB2	1
1	65						KPCB2	1
1	66						KPCB2	1
1	67						KPCB2	1
1	68						KPCB2	1
1	69						KPCB2	1
1	70						KPCB2	1
1	71						KPCB2	1
1	72						KPCB2	1
1	73						KPCB2	1
1	74						KPCB2	1
1	75						KPCB2	1
1	76						KPCB2	1
1	77						KPCB2	1
1	78						KPCB2	1
1	79						KPCB2	1
1	80						KPCB2	1
1	81						KPCB2	1
1	82						KPCB2	1
1	83						KPCB2	1
	84						KPCB2	1
1	85						KPCB2	1
1	86						KPCB2	1
1	87						KPCB2	1
1	88						KPCB2	1

Sequence: C:\HPCHEM\2\SEQUENCE\81217A.SEQ

Operator: 0595

Sequence preparation date: 17 Dec 98 05:35 PM

Data File Names: Auto

Data File Subdirectory: 81217A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
1	2	HEX					KPCB2	
1	3	HEX					KPCB2	
1	4	X 1660 C110,,2 Pass for					KPCB2	1
1	5	X 2154 C061,,2					KPCB2	1
1	6	X 1248 C056,,2					KPCB2	1

inj 12-17-98 BLS

17 Dec 98 05:35 PM
Sequence: C:\HPCHEM\2\SEQUENCE\81217A.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	1242 C051,,2					KPCB2	1
1	8	1232 C046,,2					KPCB2	1
1	9	1262 C002,,1,1					KPCB2	1
1	10	1262 C002,,1,2					KPCB2	1
1	11	1262 C002,,1,3					KPCB2	1
1	12	1262 C002,,1,4					KPCB2	1
1	13	1262 C002,,1,5					KPCB2	1
1	14	CNVD6101,2					KPCB2	1
1	15	CNVD6101,5					KPCB2	1
1	16	CNVCQ101,1000					KPCB2	1
1	17	CNXD3101,5000					KPCB2	1
1	18	CNW7E101,5					KPCB2	1
1	19	CNW73101,50					KPCB2	1
1	20	CPAE1101					KPCB2	1
1	21	CPAE1102					KPCB2	1
1	22	CPA8T102					KPCB2	1
1	23	CPA8W102					KPCB2	1
1	24	HEX					KPCB2	1
1	25	1660 C110,,2					KPCB2	1
1	26	1660 C110,,2					KPCB2	1
1	27	CPA9C102					KPCB2	1
1	28	CPA9C103					KPCB2	1
1	29	CPA9C104					KPCB2	1
1	30	CPA9F102,5					KPCB2	1
1	31	CPA90102					KPCB2	1
1	32	CPA91102,10					KPCB2	1
1	33	CPA92102					KPCB2	1
1	34	CPA96102,5					KPCB2	1
1	35	CPA98102,10					KPCB2	1
1	36	CPA99102,10					KPCB2	1
1	37	HEX					KPCB2	1
1	38	1660 C110,,2					KPCB2	1
1	39	1660 C110,,2					KPCB2	1
1	40	CP0EH202					KPCB2	1
1	41	CP0EH11A					KPCB2	1
1	42	CP0EH11C					KPCB2	1
1	43	CP0EV202					KPCB2	1
1	44	CP0F0202					KPCB2	1
1	45	CP0F2202					KPCB2	1
1	46	CP0F4202					KPCB2	1
1	47	CP0F7202					KPCB2	1

inj 12-17-98

Pass 5+r

rerun failed

rerun for 62

Done 12-17-98 RLS

rerun pos mis inj.

Pass 5

Pass 5

inj 12-18-98 RLS

Sequence: C:\HPCHEM\2\SEQUENCE\81221A.SEQ

Operator: 0595

Sequence preparation date: 21 Dec 98 05:16 PM

Data File Names: Auto

Data File Subdirectory: 81221A

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
1	2	HEX					KPCB2	
1	3	HEX					KPCB2	1
1	4	HEX					KPCB2	1
1	5	HEX					KPCB2	1
1	6	HEX					KPCB2	1

inj 12-21-98 BLS

Sequence: C:\HPCHEM\2\SEQUENCE\81221A.SEQ

Manual Int.; OK!

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	HEX					KPCB2	1
1	8	1660 C110,,2					KPCB2	1
1	9	2154 C061,,2					KPCB2	1
1	10	1248 C056,,2					KPCB2	1
1	11	1242 C051,,2					KPCB2	1
1	12	1232 C046,,2					KPCB2	1
1	13	CPF8N101					KPCB2	1
1	14	CPF8N102					KPCB2	1
1	15	CPA8T202					KPCB2	1
1	16	CPA8W202					KPCB2	1
1	17	CPA9C202					KPCB2	1
1	18	CPA9C105					KPCB2	1
1	19	CPA9C106					KPCB2	1
1	20	CPA9F202,5					KPCB2	1
1	21	CPA90202					KPCB2	1
1	22	CPA91202,10					KPCB2	1
1	23	HEX					KPCB2	1
1	24	1660 C110,,2					KPCB2	1
1	25	1660 C110,,2					KPCB2	1
1	26	CPA92202					KPCB2	1
1	27	CPA96202,5					KPCB2	1
1	28	CPA98202,10					KPCB2	1
1	29	CPA99202,10					KPCB2	1
1	30	CP3EM102					KPCB2	1
1	31	CP4DH101					KPCB2	1
1	32	CP4DH102 RIR					KPCB2	1
1	33	CP3HP102,5					KPCB2	1
1	34	CP3J1102					KPCB2	1
1	35	CP3J2102					KPCB2	1
1	36	CP3J3102					KPCB2	1
1	37	CP3J4102					KPCB2	1
1	38	CP3J5102,10					KPCB2	1
1	39	CP3J8102					KPCB2	1
1	40	HEX					KPCB2	1
1	41	1660 C110,,2					KPCB2	1
1	42	1660 C110,,2					KPCB2	1
1	43	CP3J9102					KPCB2	1
1	44	CP3JC102,10					KPCB2	1
1	45	CP3JE102					KPCB2	1
1	46	CP08N101					KPCB2	1
1	47	CP08N102					KPCB2	1

1254 ok; 1221 ok

Pass f

inj 12-21-98

Pass f

inj 12-22-98

Pass f

processed

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Multiplier Amount	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
			Inj 12/22/98 8:53				
1	48	CP08N103				KPCB2	1
1	49	CNXAC101,20 R/R 1:100 - Acid - Bad Backend				KPCB2	1
1	50	CNXAD101,10				KPCB2	1
1	51	CNXAG101,20 R/R 1:50 Acid Bad Backend				KPCB2	1
1	52	CNXAJ101,100				KPCB2	1
1	53	HEX				KPCB2	1
1	54	1660 C110,,2				KPCB2	1
1	55	1660 C110,,2				KPCB2	1
1	56	CNXAL101,100				KPCB2	1
1	57	CNXAN101				KPCB2	1
1	58	CNXAR101				KPCB2	1
1	59	CNXAT101				KPCB2	1
1	60	CNXAW101				KPCB2	1
1	61	CNXC1101				KPCB2	1
1	62	CNXCD101,500				KPCB2	1
1	63	CNXCF101,500				KPCB2	
1	64	CNXCH101				KPCB2	
1	65	CNXCL101				KPCB2	1
1	66	HEX				KPCB2	1
1	67	1660 C110,,2 P				KPCB2	1
1	68	2154 C061,,2 P				KPCB2	1
1	69	1248 C056,,2 P				KPCB2	1
1	70	1242 C051,,2 P				KPCB2	1
1	71	1232 C046,,2 P				KPCB2	1
1	72	CNXCM101,10				KPCB2	1
1	73	CNXCN101,10				KPCB2	1
1	74	CNXCP101,10				KPCB2	1
1	75	CNXCQ101,100				KPCB2	1
1	76	CNXCR101,500				KPCB2	1
1	77	CNXD0101				KPCB2	1
1	78	CP37A101				KPCB2	1
1	79	CP37A102,2 Pest Spike				KPCB2	1
1	80	CNXFR102				KPCB2	1
1	81	CNXFR107 Pest Spike				KPCB2	1
1	82	HEX				KPCB2	1
1	83	1660 C110,,2 P				KPCB2	1
1	84	1660 C110,,2 — D.d not get sentover in target (Lost)				KPCB2	
1	85	CP3HL112 update II 4608				KPCB2	
1	86	CP9F5101				KPCB2	1
1	87	CP9F5102,2				KPCB2	1
1	88	CP9F5103,2				KPCB2	1

Sequence: C:\HPCHEM\2\SEQUENCE\81221A.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Multiplier Amount	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	89	CP4T7102,100				KPCB2	1
1	90	CPEJP101				KPCB2	1
1	91	CPEJP102,10				KPCB2	1
1	92	CPEAR102				KPCB2	1
1	93	CPEAR104,10				KPCB2	1
1	94	CPEAR105,10				KPCB2	1
1	95	~~HEX~~ CNXAL101,100				KPCB2	1
1	96	~~1660 C110,,2 F~~				KPCB2	1
1	97	1660 C110,,2 F				KPCB2	1
1	98	1660 C110,,2 F				KPCB2	1
1	99					KPCB2	1
1	100					KPCB2	1

Sequence: C:\HPCHEM\2\SEQUENCE\81223C.SEQ

Operator: 0595

Sequence preparation date: 23 Dec 98 05:29 PM

Data File Names: Auto

Data File Subdirectory: 81223C

Part of methods to run: full method

On a barcode mismatch: inject anyway

Comment:

QUANTERRA NORTH CANTON

FRONT COLUMN:RTX-CLP PESTICIDES REAR COLUMN: DB-5.625
FRONT DETECTOR: ECD REAR DETECTOR: ECD
INJECTOR TEMP: 225 DETECTOR TEMP: 300
PROGRAM:
INITIAL TEMP:135C INITIAL TIME: 0.65
RATE 1: 25/M FINAL TEMP: 200 FINAL TIME: 0.75
RATE 2: 8/M FINAL TEMP: 280 FINAL TIME: 4.00
INJECTION AMOUNT: KPCB2-2UL KPCB24UL-4UL

Sequence Table

Inj.	Seq. Line	Cal. Line	Method Name	From Vial	To Vial	Inj/ Vial
FRONT						
	1					
REAR						
	1		KPCB2	1	100	1

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
FRONT								
1								
REAR								
1	1	HEX					KPCB2	1
1	2	HEX					KPCB2	1
1	3	HEX					KPCB2	
1	4	HEX					KPCB2	1
1	5	HEX					KPCB2	1
1	6	HEX					KPCB2	1

Inj 12-23-98 BLS

23 Dec 98 05:29 PM
Sequence: C:\HPCHEM\2\SEQUENCE\81223C.SEQ

Sample Log Table

Seq. Line	Vial Num.	Sample Name	Sample Amount	Multiplier	ISTD Amount	Cal. Line	Method Name	Inj/ Vial
1	7	1660 C110,,2					KPCB2	1
1	8	2154 C061,,2					KPCB2	1
1	9	1248 C056,,2					KPCB2	1
1	10	1242 C051,,2					KPCB2	1
1	11	1232 C046,,2					KPCB2	1
1	12	CP4DC102					KPCB2	1
1	13	CP4DH102					KPCB2	1
1	14	CNXAC101,100					KPCB2	1
1	15	CNXAG101,50					KPCB2	1
1	16	CPHV9102					KPCB2	1
1	17	CPHVA102,10					KPCB2	1
1	18	CPHVC102,10					KPCB2	1
1	19	CPHVD102,10					KPCB2	1
1	20	CPHVE102,50					KPCB2	1
1	21	CPJ0X101					KPCB2	1
1	22	HEX					KPCB2	1
1	23	1660 C110,,2					KPCB2	1
1	24	1660 C110,,2					KPCB2	1
1	25	CPJ0X102					KPCB2	1
1	26	CPJ0X103					KPCB2	1
1	27	CP9VX103					KPCB2	1
1	28	CPA01103,10					KPCB2	1
1	29	CPGFP101					KPCB2	1
1	30	CPGFP102					KPCB2	1
1	31	CPGFP103					KPCB2	1
1	32	CP4DJ101					KPCB2	1
1	33	CP4DJ102					KPCB2	1
1	34	CP3JG102,20					KPCB2	1
1	35	HEX					KPCB2	1
1	36	1660 C110,,2					KPCB2	1
1	37	1660 C110,,2					KPCB2	1
1	38	CP3JG106,20					KPCB2	1
1	39	CP3JG107,20					KPCB2	1
1	40	CP3JH102					KPCB2	1
1	41	CP3JK102					KPCB2	1
1	42	CP3JW102					KPCB2	1
1	43	CP3K4102					KPCB2	1
1	44	CP3K6102					KPCB2	1
1	45	CP3K7102					KPCB2	1
1	46	CP3KN102,5					KPCB2	1
1	47	CP3KQ102					KPCB2	1

inj 12-23-98

Pass f

Pass f

inj 12-24-98

Pass f

POLYCHLORINATED BIPHENYLS
ORGANIC EXTRACTION
LOG SHEETS

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 8:48:59

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
–	–	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			–	–	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
Y Bench Sheet Copied
– Package Submitted to AnalyticalGroup
– Bench Sheet Copied per COC

Extractionist: 100001 Walsh Cooper
MM Walsh Cooper
NP Walsh Cooper
Concentrationist: 009625 Lee J. Nelmes

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* *
* QC BATCH: 8338112 *
* *
****

PREP DATE: 12/04/98
COMP DATE: 12/04/98

Reviewer/Date: SALMONSR / 12/10/98

PCBs (8082)
SONICATION w/ACID STRIP (PCB)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJT	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	12/16/98	A8L020132-014 CNW6H-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-022 CNW6T-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-023 CNW6V-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-024 CNW6W-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-025 CNW6X-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-031 CNW7A-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-032 CNW7C-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 8:48:59

QC BATCH: 8338112

PREP DATE: 12/04/98
COMP DATE: 12/04/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	12/16/98	A8L020132-033 CNW7E-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-034 CNW7G-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-035 CNW7H-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-026 CNW71-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-027 CNW73-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-028 CNW74-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-029 CNW76-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	12/16/98	A8L020132-030 CNW78-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-002 CNXA5-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-003 CNXA6-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/10/98
Time: 8:48:59

QC BATCH: 8338112

PREP DATE: 12/04/98
COMP DATE: 12/04/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/16/98	12/17/98	A8L030146-001 CNX9X-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L040000-112 CP07R-1-01B		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L040000-112 CP07R-1-02C		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 10PPM #3491 1.0ML 2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L040000-112 CP07R-1-03L	DR	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1.0ML 2/.2 #3529
COMMENTS:															

DCM #M38270 ACE #H451-KXKC HEX #M22300 NA2S04 #8024-KXRR
S/S BY C.W. DONE AS SOXHLETS

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 21

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/13/98
Time: 17:55:03

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
_	_	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			_	_	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: 001163 Donny E. Williamson
100001 Walsh Cooper
MM Walsh Cooper
Concentrationist: 009625 Lee J. Nelmes
990005 Charles L. Miller

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* *
* QC BATCH: 8338126 *
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PREP DATE: 12/04/98
COMP DATE: 12/05/98

Reviewer/Date: NELMESL / 12/13/98

PCBs (8082)
SOXHLET (Na2SO4) w/ACID STRIP (PCB)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJT	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	SOLVENTS EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/16/98	12/17/98	A8L030146-004 CNXAC-1-01	D	63	QH	SOLID	30.05g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-005 CNXAD-1-01	D	63	QH	SOLID	30.17g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-006 CNXAG-1-01	D	63	QH	SOLID	30.16g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-007 CNXAJ-1-01	D	63	QH	SOLID	30.04g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-008 CNXAL-1-01	D	63	QH	SOLID	30.11g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-009 CNXAN-1-01	D	63	QH	SOLID	30.17g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-010 CNXAR-1-01	D	63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/13/98
Time: 17:55:03

QC BATCH: 8338126

PREP DATE: 12/04/98
COMP DATE: 12/05/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/16/98	12/17/98	A8L030146-011 CNXAT-1-01	D	63	QH	SOLID	30.15g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-012 CNXAW-1-01	D	63	QH	SOLID	30.04g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-014 CNXCD-1-01	D	63	QH	SOLID	30.09g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-015 CNXCF-1-01	D	63	QH	SOLID	30.02g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-016 CNXCH-1-01	D	63	QH	SOLID	30.11g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-017 CNXCL-1-01	D	63	QH	SOLID	30.06g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-018 CNXCM-1-01	D	63	QH	SOLID	30.14g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-019 CNXCN-1-01	D	63	QH	SOLID	30.18g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-020 CNXCP-1-01	D	63	QH	SOLID	30.14g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-021 CNXCQ-1-01	D	63	QH	SOLID	30.18g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/13/98
Time: 17:55:03

QC BATCH: 8338126

PREP DATE: 12/04/98
COMP DATE: 12/05/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
12/16/98	12/17/98	A8L030146-022 CNXCR-1-01	D	63	QH	SOLID	30.07g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-013 CNXC1-1-01	D	63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-023 CNXD0-1-01	D	63	QH	SOLID	30.06g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	0/00/00	A8L040000-126 CP08N-1-01B		63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	0/00/00	A8L040000-126 CP08N-1-02C		63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML 10PPM #3491 1ML .2/.2 #3529
COMMENTS:															
12/16/98	0/00/00	A8L040000-126 CP08N-1-03L	DR	63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML 10PPM #3491 1ML .2/.2 #3529
COMMENTS:															

DCM# M38270 ACE# H451-KXRD NA2SO4# 8024-KXRR HEX# M22300
S/S BY DW

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 23

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/09/98
Time: 21:39:16

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
Y	Y	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets
					computer batch: correct & all match
			_	_	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: NP
001163 Donny E. Williamson

Concentrationist: 009625 Lee J. Nelmes
JA Lee J. Nelmes

Reviewer/Date: NELMESL / 12/09/98

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* QC BATCH: 8342110 *
* *
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PREP DATE: 12/08/98
COMP DATE: 12/09/98

PCBs (8082)
SOXHLET (Na2SO4) w/ACID STRIP (PCB)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/16/98	12/17/98	A8L030146-024 CNXD1-1-01	D	63	QH	SOLID	30.01g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-025 CNXD2-1-01	D	63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/16/98	12/17/98	A8L030146-026 CNXD3-1-01	D	63	QH	SOLID	30.17g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/15/98	12/14/98	A8L040127-036 CP0TA-1-0FS	DR	63	QH	SOLID	30.14g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML 10PPM #3491 1ML .2/.2 #3529
COMMENTS:															
12/15/98	12/14/98	A8L040127-036 CP0TA-1-0GD	DR	63	QH	SOLID	30.10g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML 10PPM #3491 1ML .2/.2 #3529
COMMENTS:															
12/15/98	12/14/98	A8L040127-036 CP0TA-1-01	DR	63	QH	SOLID	30.11g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/15/98	12/14/98	A8L040127-037 CP0TC-1-01	DR	63	QH	SOLID	30.11g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 12/09/98
Time: 21:39:16

QC BATCH: 8342110

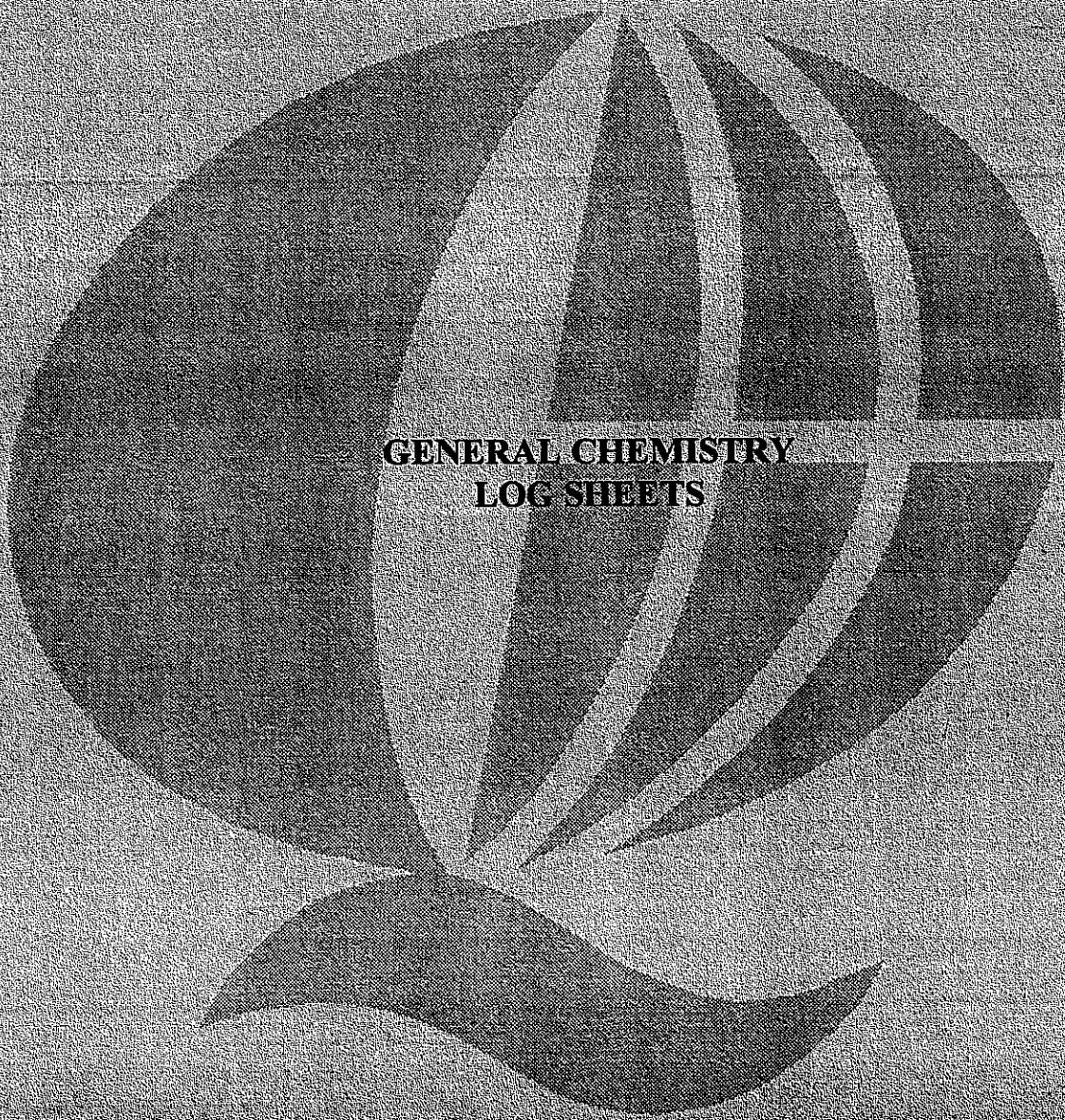
PREP DATE: 12/08/98
COMP DATE: 12/09/98

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
12/15/98	12/14/98	A8L040127-038 CP0TD-1-01	DR	63	QH	SOLID	30.14g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/15/98	12/14/98	A8L040127-039 CP0TF-1-01	DR	63	QH	SOLID	30.03g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/15/98	12/14/98	A8L040127-040 CP0TG-1-01	DR	63	QH	SOLID	30.01g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L080000-110 CP35A-1-01B		63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML .2/.2 #3529
COMMENTS:															
12/15/98	0/00/00	A8L080000-110 CP35A-1-02C		63	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	200.0	HEXANE	50.0	1ML 10PPM #3491 1ML .2/.2 #3529
COMMENTS:															

DCM# M38270 ACE# H451-KXRD NA2SO4# 8024-KXRB HEX# M22300
S/S BY DW

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 12



GENERAL CHEMISTRY LOG SHEETS

			Quanterra, North Canton			
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	% SOLIDS				Batch	8338290
Prep Date	12/4/98	Time In	3.00PM		Analyst	CKK/EKD
Anal date	12/7/98	Time Out	11:00		RL	0.1%
Sample Id	Tare wt	Sample g	Final wt	diff g	Result TS %	Result MS %
BLANK	1.0601	0	1.0589	-0.0012	ND	ND
CNX9X	1.0596	1.0843	2.0746	1.015	93.609	6.391
CNXA5	1.0651	1.0437	2.0348	0.9697	92.910	7.090
CNXA6	1.0501	1.1229	2.0773	1.0272	91.477	8.523
CNXAC	1.0538	1.0676	2.0231	0.9693	90.792	9.208
CNXAD	1.0713	1.2371	2.2109	1.1396	92.119	7.881
CNXAG	1.0402	1.1501	2.0886	1.0484	91.157	8.843
CNXAJ	1.0628	1.1304	2.0965	1.0337	91.446	8.554
CNXAL	1.0509	1.1649	2.0774	1.0265	88.119	11.881
CNXAN	1.0587	1.2234	2.1332	1.0745	87.829	12.171
CNXAR	1.0673	1.0921	2.016	0.9487	86.869	13.131
CNXAR-X	1.0432	1.0998	1.9968	0.9536	86.707	13.293
CNXAT	1.0617	1.0159	1.9131	0.8514	83.807	16.193
CNXAW	1.0677	1.3717	2.3392	1.2715	92.695	7.305
CNXC1	1.0697	1.1521	2.1222	1.0525	91.355	8.645
CNXCD	1.0499	1.3219	2.2338	1.1839	89.560	10.440
CNXCF	1.0404	1.0918	1.9865	0.9461	86.655	13.345
CNXCH	1.0494	1.0971	2.0072	0.9578	87.303	12.697
CNXCL	1.0703	1.2245	2.1396	1.0693	87.325	12.675
CNXCM	1.0621	1.2605	2.2233	1.1612	92.122	7.878
CNXCN	1.0784	1.6742	2.6363	1.5579	93.053	6.947
CNXCP	1.0514	1.4189	2.3113	1.2599	88.794	11.206
CNXCP-X	1.0714	1.6666	2.5568	1.4854	89.128	10.872
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!

Quanterra General Chemistry Data Review Checklist

Parameter(s): Percent Solids

Batch(es): 8338290

Review Items

A. Calibration/Instrument Run QC	Yes	No	N/A	2nd Level
1. Calibration/standardization performed per SOP and within specified limits?	✓			✓
2. ICV/CCV analyzed at appropriate frequency and within control limits ? (TRAACS Nitrate/Nitrite, Cyanide 85-115%; all others 90-110%)			✓	
3. ICB/CCB analyzed at appropriate frequency and within +/- RL ?			✓	
B. Sample Results				
1. Were samples with concentrations > the linear range diluted and reanalyzed ?			✓	
2. All reported results bracketed by in control QC ?	✓			
3. Sample analyses done within holding time ?	✓			
C. Preparation/Matrix QC				
1. LCS done per prep batch and within QC limits ? *(LCSD, where applicable)*			✓	
2. Method blank done per prep batch and < RL. Method blank RL supports the lowest RL reported for the batch?	✓			
3. MS/MSD run at required frequency and within limits ? MS/MSD reported properly and calculated correctly?			✓	
4. Duplicate samples run at required frequency (duplicate sample performed per matrix encountered)?	✓			
D. Other				
1. Are all nonconformances documented appropriately ?	✓			
2. Calculations checked for error ?	✓			
3. Transcriptions checked for error ?	✓			
4. All client/project specific requirements met ?	✓			
5. Date/time of analysis verified as correct ?	✓			
6. Units verified as correct?	✓			
7. Dilutions have been properly applied and RL's adjusted appropriately?			✓	

Level I Analyst: Erin Drummond Date: 12/7/98

Comments:

Level II Reviewer: [signature] Date: 921208

Comments:

			Quanterra, North Canton			
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	% SOLIDS				Batch	8338292
Prep Date	12/4/98	Time In	3.00PM		Analyst	CKK/EKD
Anal date	12/7/98	Time Out	12:00		RL	0.1 %
Sample	Tare	Sample	Final	diff	Result TS	Result MS
Id	wt	g	wt	g	%	%
BLANK	1.0623	0	1.0614	-0.0009	ND	ND
CNXCQ	1.0657	1.1739	2.2107	1.145	97.538	2.462
CNXCR	1.0502	1.1662	2.1097	1.0595	90.851	9.149
CNXDO	1.0705	1.1928	2.1504	1.0799	90.535	9.465
CNXD1	1.0698	1.3777	2.3296	1.2598	91.442	8.558
CNXD2	1.0625	1.2359	2.226	1.1635	94.142	5.858
CNXD3	1.0387	1.3415	2.245	1.2063	89.922	10.078
CNXD3-X	1.0543	1.7689	2.6544	1.6001	90.457	9.543
CN9RG	1.0451	5.3738	6.4079	5.3628	99.795	0.205
CNHXF	1.0447	5.1928	5.3617	4.317	83.134	16.866
CNHXG	1.0403	5.3994	5.0561	4.0158	74.375	25.625
CNHXH	1.0556	5.0905	4.9186	3.863	75.886	24.114
CNHXM	1.0633	5.1753	5.1365	4.0732	78.705	21.295
CNHXL	1.0382	5.4543	5.0338	3.9956	73.256	26.744
CNHXK	1.0393	5.3234	4.5925	3.5532	66.747	33.253
CNJMP	1.0671	5.4767	4.619	3.5519	64.855	35.145
CNJMR	1.0389	5.2189	5.0404	4.0015	76.673	23.327
CNJMT	1.0712	5.7877	5.2844	4.2132	72.796	27.204
CNJPO	1.0674	5.2299	5.618	4.5506	87.011	12.989
CNJPH	1.0669	5.3668	5.8641	4.7972	89.387	10.613
CNJPM	1.0641	5.5374	6.1781	5.114	92.354	7.646
CNJPP	1.0604	5.0836	5.637	4.5766	90.027	9.973
CNJPP-X	1.0709	5.1971	5.6776	4.6067	88.640	11.360
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!

Quanterra General Chemistry Data Review Checklist

Parameter(s): Percent Solids

Batch(es): 8338292

Review Items

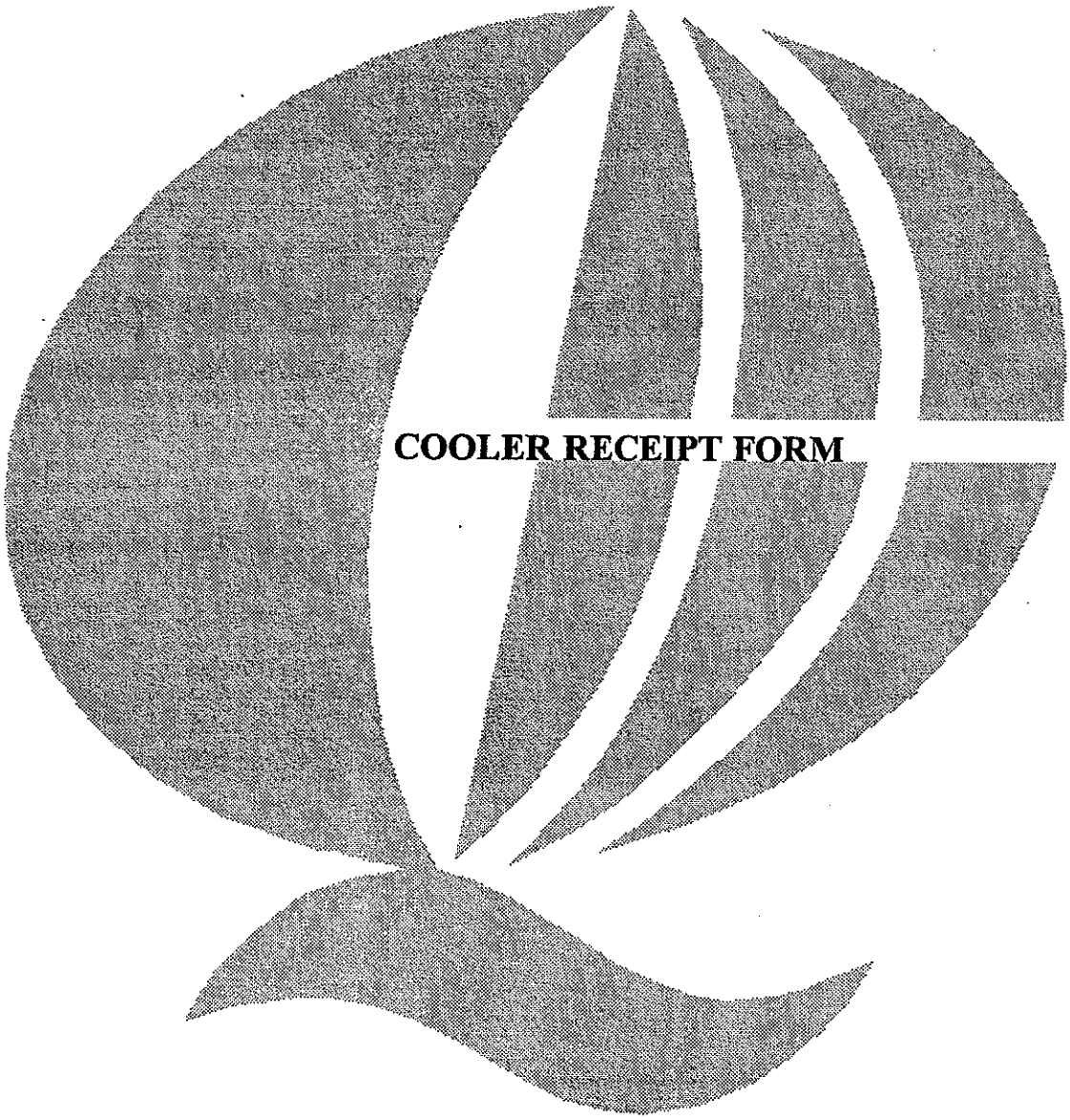
	Yes	No	N/A	2nd Level
A. Calibration/Instrument Run QC				
1. Calibration/standardization performed per SOP and within specified limits?	✓			✓
2. ICV/CCV analyzed at appropriate frequency and within control limits ? (TRAACS Nitrate/Nitrite, Cyanide 85-115%; all others 90-110%)			✓	
3. ICB/CCB analyzed at appropriate frequency and within +/- RL ?			✓	
B. Sample Results				
1. Were samples with concentrations > the linear range diluted and reanalyzed ?			✓	
2. All reported results bracketed by in control QC ?	✓			
3. Sample analyses done within holding time ?	✓			
C. Preparation/Matrix QC				
1. LCS done per prep batch and within QC limits ? *(LCSD, where applicable)*			✓	
2. Method blank done per prep batch and < RL. Method blank RL supports the lowest RL reported for the batch?	✓			
3. MS/MSD run at required frequency and within limits ? MS/MSD reported properly and calculated correctly?			✓	
4. Duplicate samples run at required frequency (duplicate sample performed per matrix encountered)?	✓			
D. Other				
1. Are all nonconformances documented appropriately ?	✓			
2. Calculations checked for error ?	✓			
3. Transcriptions checked for error ?	✓			
4. All client/project specific requirements met ?	✓			
5. Date/time of analysis verified as correct ?	✓			
6. Units verified as correct?	✓			
7. Dilutions have been properly applied and RL's adjusted appropriately?			✓	✓

Level I Analyst: Erin Drummond Date: 12/7/98

Comments:

Level II Reviewer: P. Mills Date: 981208

Comments:



COOLER RECEIPT FORM

Quanterra ® Cooler Receipt Form/Narrative
North Canton Facility

Client: CRA Project: Caterpillar Quote#: _____
C r Received on: 12-3-98 Opened on: 12-3-98 by: Jennifer Heard (Signature)

Fedx [X] Client Drop Off [ ] UPS [ ] Airborne [ ]
Other: _____

Cooler [ ] Safe [ ] Foam Box [ ] Client Cooler [X] Other: _____
Quanterra Shipper No#: _____

1. Were custody seals on the outside of the cooler and intact? Yes [X] No [X] 12/8/98
   If YES, Quantity 1 Location over lid
   Were the custody seals signed and dated? Yes [X] No [ ] NA [X] 12/8/98
2. Shipper's packing slip attached to this form? Yes [X] No [ ]
3. Were custody papers included inside the cooler and relinquished? Yes [X] No [ ]
4. Did you sign the custody papers in the appropriate place? Yes [X] No [ ]
5. Packing material used:
Peanuts [ ] Bubble Wrap [ ] Vermiculite [ ] Foam [ ] None [X] Other : _____
6. Cooler temperature upon receipt 0.1 °C (see back of form for multiple coolers/temp)
METHOD: Temperature Vial [ ] Coolant [X] Against Bottles [ ]
COOLANT: Wet Ice [X] Blue Ice [ ] Dry Ice [ ] None [ ]
7. Were all the bottles sealed in separate plastic bags? Yes [ ] No [X]
8. Did all bottles arrive in good condition (Unbroken)? Yes [X] No [ ]
9. Did all bottle labels and tags agree with the custody papers? Yes [X] No [ ]
10. Were samples at the correct pH? Yes [ ] No [ ] NA [X]
11. Were correct bottles used for the tests indicated? Yes [X] No [ ]
12. Were air bubbles >6 mm in any VOA vials? Yes [ ] No [ ] NA [X]
13. Was a sufficient amount of sample sent in each bottle? Yes [X] No [ ]

Contacted PM _____ Date: _____ by: _____ via Voice Mail [ ] Verbal [ ] Other [ ]
Concerning: _____

Check √	MACRO	MACRO
1. CHAIN OF CUSTODY		
√	SR1A	Samples were received under proper custody procedures and without discrepancies.
	SR1B	The chain of custody and sample bottles did not agree. The following discrepancies occurred _____
2. SAMPLE CONDITION		
	SR2A	Sample(s) _____ were received or requested after the recommended holding time had expired.
	SR2B	Sample(s) _____ were received with insufficient volume
	SR2C	Sample(s) _____ were received in a broken container.
3. SAMPLE PRESERVATION		
√	SR3A	The temperature of the cooler was _____ ° C
	SR3C	Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving.
	SR3D	Sample(s) _____ were received incorrectly preserved and split off in sample receiving.
	SR3E	Samples (s) _____ were received incorrectly preserved and were unable to be analyzed.
	SR3F	Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)
	N/A	See back for other anomalies

Quanterra ® Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler	Temp	Method	Comments

Discrepancies Cont.

Macro Name:

Macro Name:

Macro Name:

Other Anomalies:

INTERNAL CHAIN-OF-CUSTODY

RSR280

Quanterra Incorporated
Sample Control Record

Client: 1628

Lot #: A8L030146

Case Number/SDG: 13307

Storage Location: W19

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
CNX9X	GIRARDJ	12/03/98	Yes		Storage	
CNXA5	GIRARDJ	12/03/98	Yes		Storage	
CNXA6	GIRARDJ	12/03/98	Yes		Storage	
CNXAC	GIRARDJ	12/03/98	Yes		Storage	
CNXAD	GIRARDJ	12/03/98	Yes		Storage	
CNXAG	GIRARDJ	12/03/98	Yes		Storage	
CNXAJ	GIRARDJ	12/03/98	Yes		Storage	
CNXAL	GIRARDJ	12/03/98	Yes		Storage	
CNXAN	GIRARDJ	12/03/98	Yes		Storage	
CNXAR	GIRARDJ	12/03/98	Yes		Storage	
CNXAT	GIRARDJ	12/03/98	Yes		Storage	
CNXAW	GIRARDJ	12/03/98	Yes		Storage	
CNXC1	GIRARDJ	12/03/98	Yes		Storage	
CNXCD	GIRARDJ	12/03/98	Yes		Storage	
CNXCF	GIRARDJ	12/03/98	Yes		Storage	
CNXCH	GIRARDJ	12/03/98	Yes		Storage	
CNXCL	GIRARDJ	12/03/98	Yes		Storage	
CNXCM	GIRARDJ	12/03/98	Yes		Storage	
CNXCN	GIRARDJ	12/03/98	Yes		Storage	
CNXCP	GIRARDJ	12/03/98	Yes		Storage	
CNXCQ	GIRARDJ	12/03/98	Yes		Storage	
CNXCR	GIRARDJ	12/03/98	Yes		Storage	
CNXD0	GIRARDJ	12/03/98	Yes		Storage	

RSR280

Quanterra Incorporated
Sample Control Record

Client: 1628

Lot #: A8L030146

Case Number/SDG: 13307

Storage Location: W19

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
CNXD1	GIRARDJ	12/03/98	Yes		Storage	
CNXD2	GIRARDJ	12/03/98	Yes		Storage	
CNXD3	GIRARDJ	12/03/98	Yes		Storage	

LOT NUMBER	SAMPLE	SAMPLE SUFFIX	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	DATE OF TRANSFER	TRANSFERRED BY	ANALYSIS DATE	ANALYST
A8L030146	1		CNX9X101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L030146	2		CNXA5101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L030146	3		CNXA6101	GC8082_S	12/04/98	Eric Miller	12/10/98	Riley Salmons	12/17/98	Raymond Risden
A8L030146	4		CNXAC101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/23/98	Raymond Risden
A8L030146	5		CNXAD101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	6		CNXAG101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/23/98	Raymond Risden
A8L030146	7		CNXAJ101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	8		CNXAL101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	9		CNXAN101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	10		CNXAR101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	11		CNXAT101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	12		CNXAW101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	13		CNXC1101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	14		CNXCD101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	15		CNXCF101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	16		CNXCH101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	17		CNXCL101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	18		CNXCM101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	19		CNXCN101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	20		CNXCP101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	21		CNXCQ101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	22		CNXCR101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	23		CNXD0101	GC8082_S	12/04/98	Thomas Fausnight	12/13/98	Lee Nelmes	12/22/98	Raymond Risden
A8L030146	24		CNXD1101	GC8082_S	12/08/98	Thomas Fausnight	12/09/98	Lee Nelmes	12/15/98	Raymond Risden
A8L030146	25		CNXD2101	GC8082_S	12/08/98	Thomas Fausnight	12/09/98	Lee Nelmes	12/15/98	Raymond Risden

LOT NUMBER	SAMPLE	SAMPLE SUFFIX	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	DATE OF TRANSFER	TRANSFERRED BY	ANALYSIS DATE	ANALYST
A8L030146	26		CN003101	GC8082_S	12/08/98	Thomas Fausnight	12/09/98	Lee Nelmes	12/17/98	Raymond Risden

*** END OF REPORT ***

LOT NUMBER	SAMPLE	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	ANALYSIS DATE	ANALYST
A8L030146	1	CNX9X102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	2	CNXA5102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	3	CNXA6102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	4	CNXAC102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	5	CNXAD102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	6	CNXAG102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	7	CNXAJ102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	8	CNXAL102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	9	CNXAN102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	10	CNXAR102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	11	CNXAT102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	12	CNXAW102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	13	CNXC1102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	14	CNXCD102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	15	CNXCF102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	16	CNXCH102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	17	CNXCL102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	18	CNXCM102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	19	CNXCN102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	20	CNXCP102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	21	CNXCQ102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	22	CNXCR102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	23	CNXD0102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	24	CNXD1102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond
A8L030146	25	CNXD2102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond

LOT NUMBER	SAMPLE	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	ANALYSIS DATE	ANALYST
ABL030146	26	CNX03102	TS	12/04/98	Kumudu Kulasekere	12/07/98	Erin Drummond

*** END OF REPORT ***

CHAIN-OF-CUSTODY

p1of2

CRA
CONESTOGA–ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380–9933

SHIPPED TO (Laboratory Name): QuanTerra

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB's	REMARKS
	12/2/98		S-120298-JH-036	soil	1	✓	Extract & Archive
			037		1	✓	
			038		1	✓	
			039		1	✓	
			040		1	✓	
			041		1	✓	
			042		1	✓	
			043		1	✓	
			044		1	✓	
			045		1	✓	
			046		1	✓	
			047		1	✓	
			048		1	✓	
			049		1	✓	
			050		1	✓	
			TOTAL NUMBER OF CONTAINERS		15		

RELINQUISHED BY: ① John Hargens	DATE: 12/2/98 TIME: 1700	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed Ex AIR BILL No. 808686399248

White	–Fully Executed Copy
Yellow	–Receiving Laboratory Copy
Pink	–Shipper Copy
Goldenrod	–Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Jenny Guard
DATE: 98/12/5 TIME: 9:45

4046

1001(FORMS)–OCT 24/96–REV.0–(C)(F–01)

p 2 of 2

CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

CHAIN OF CUSTODY RECORD

SHIPPED TO (Laboratory Name): Quanterra

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS PCB	REMARKS
	12/2/98		S-120298-JH-051	Soil	1	✓	Extract & Archive
			052		1	✓	
			053		1	✓	
			054		1	✓	
			055		1	✓	
			056		1	✓	
			057		1	✓	
			058		1	✓	
			059		1	✓	
			060		1	✓	
			061		1	✓	
			TOTAL NUMBER OF CONTAINERS		11	+15 = 26	

RELINQUISHED BY: ① John Hargens	DATE: 12/2/98 TIME: 1700	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed Ex AIR BILL No. 808686399248

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Jenny Girard
DATE: 981203 TIME: 9:45

4047

1001(FOR OCT 24/96-REV.0-(C)(F-01)

Quanterra Incorporated
4101 Shuffel Drive, NW
North Canton, Ohio 44720

330 497-9396 Telephone
330 497-0772 Fax

MAR 15 1999
RECEIVED

ANALYTICAL REPORT

PROJECT NO. 13307

CATERPILLAR MAPLETON

Lot #: A9B240116

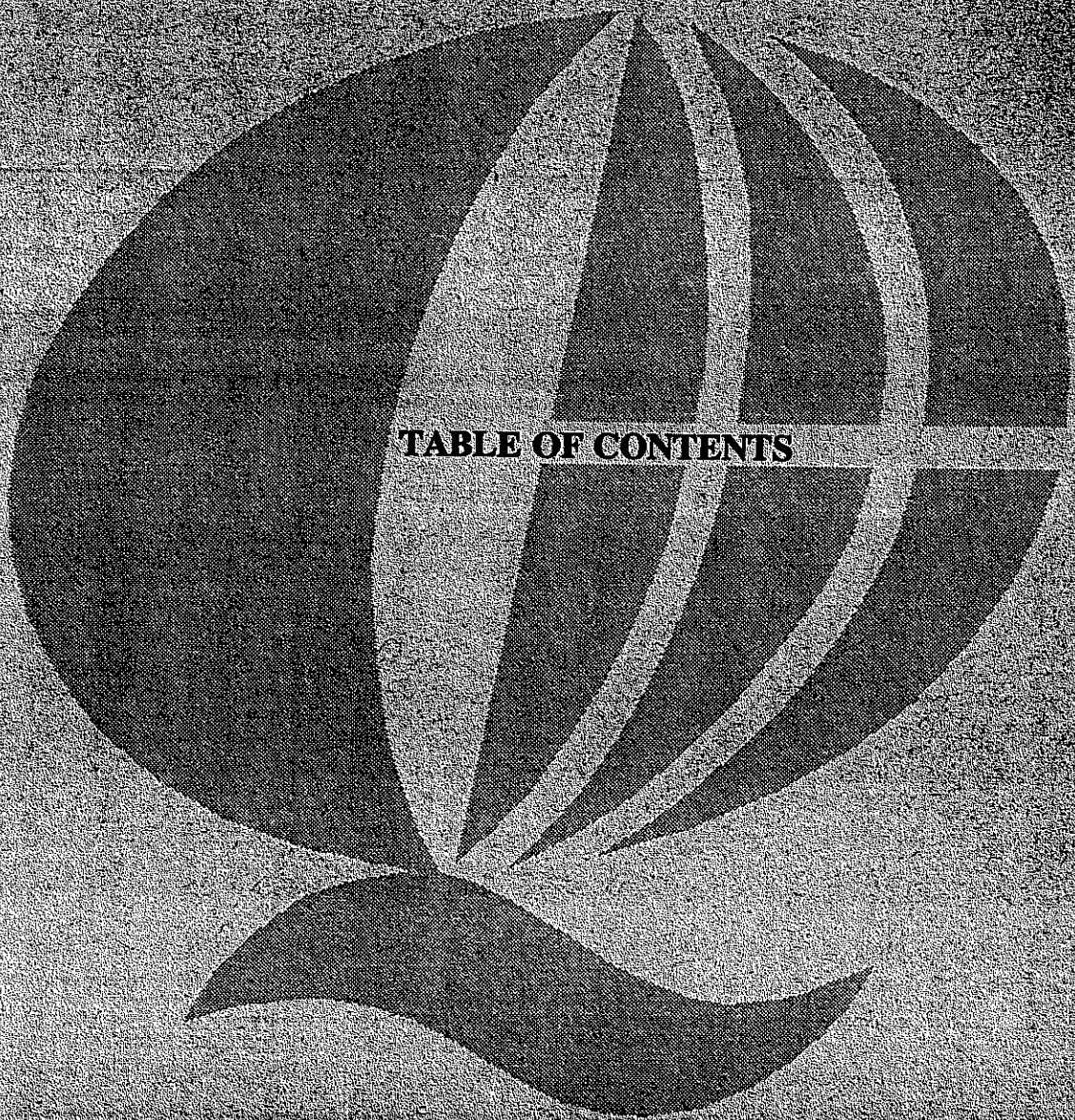
Steve Day

Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick
Project Manager

March 15, 1999



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Cooler Receipt Form
Internal Chain-of-Custody
Chain-of-Custody

CASE NARRATIVE

CASE NARRATIVE

The following report contains the analytical results for twenty solid samples submitted to Quanterra-North Canton by Conestoga-Rovers & Associates, Inc. from the Caterpillar-Mapleton Site, project number 13307. The samples were received February 24, 1999, according to documented sample acceptance procedures.

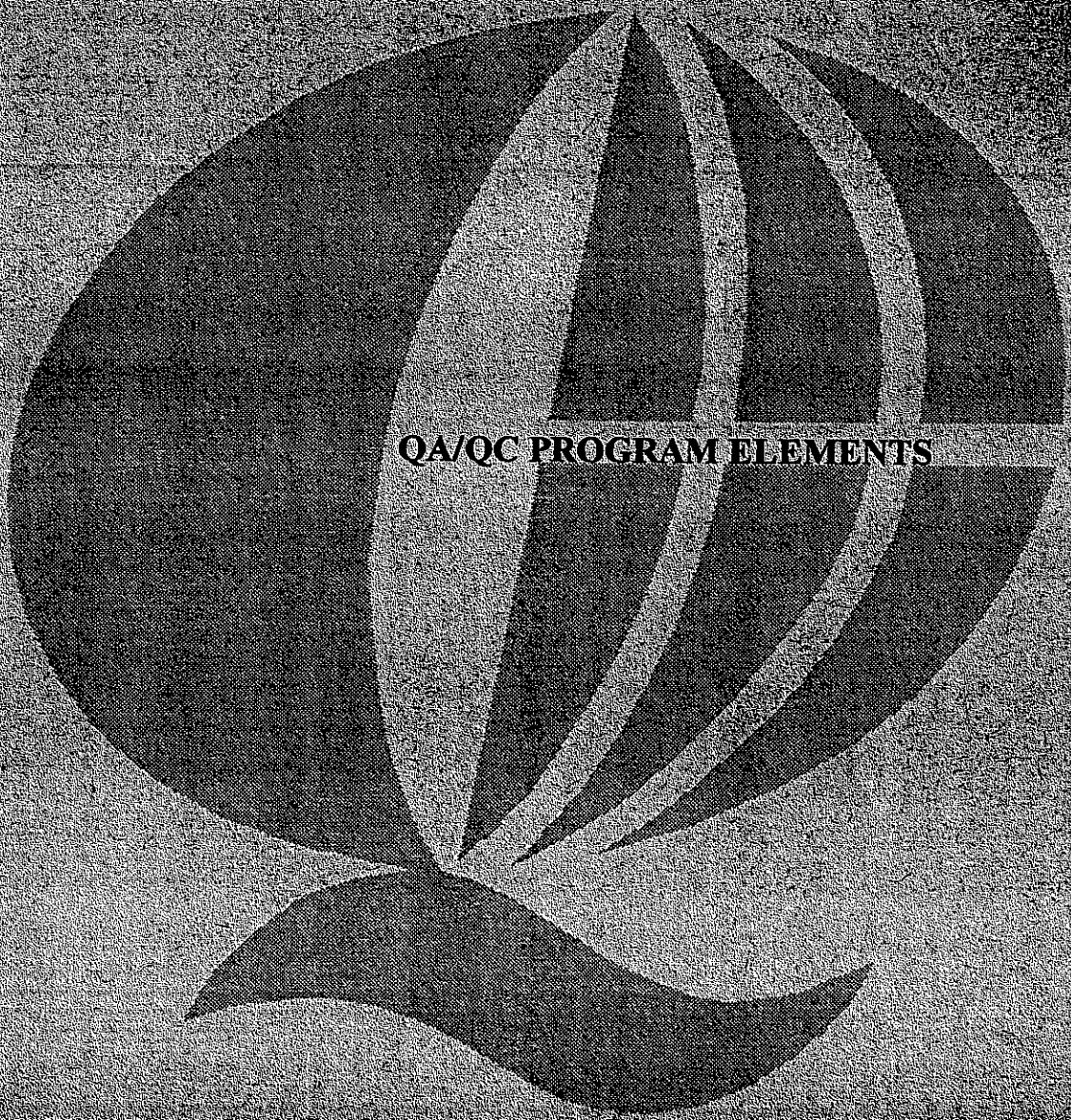
Quanterra utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Results were provided by facsimile transmission to Steve Day on March 10, 1999. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

GC SEMIVOLATILES

Due to insufficient sample volume, the client requested matrix spike/matrix spike duplicate on sample JH-078 could not be performed.



QA/QC PROGRAM ELEMENTS

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

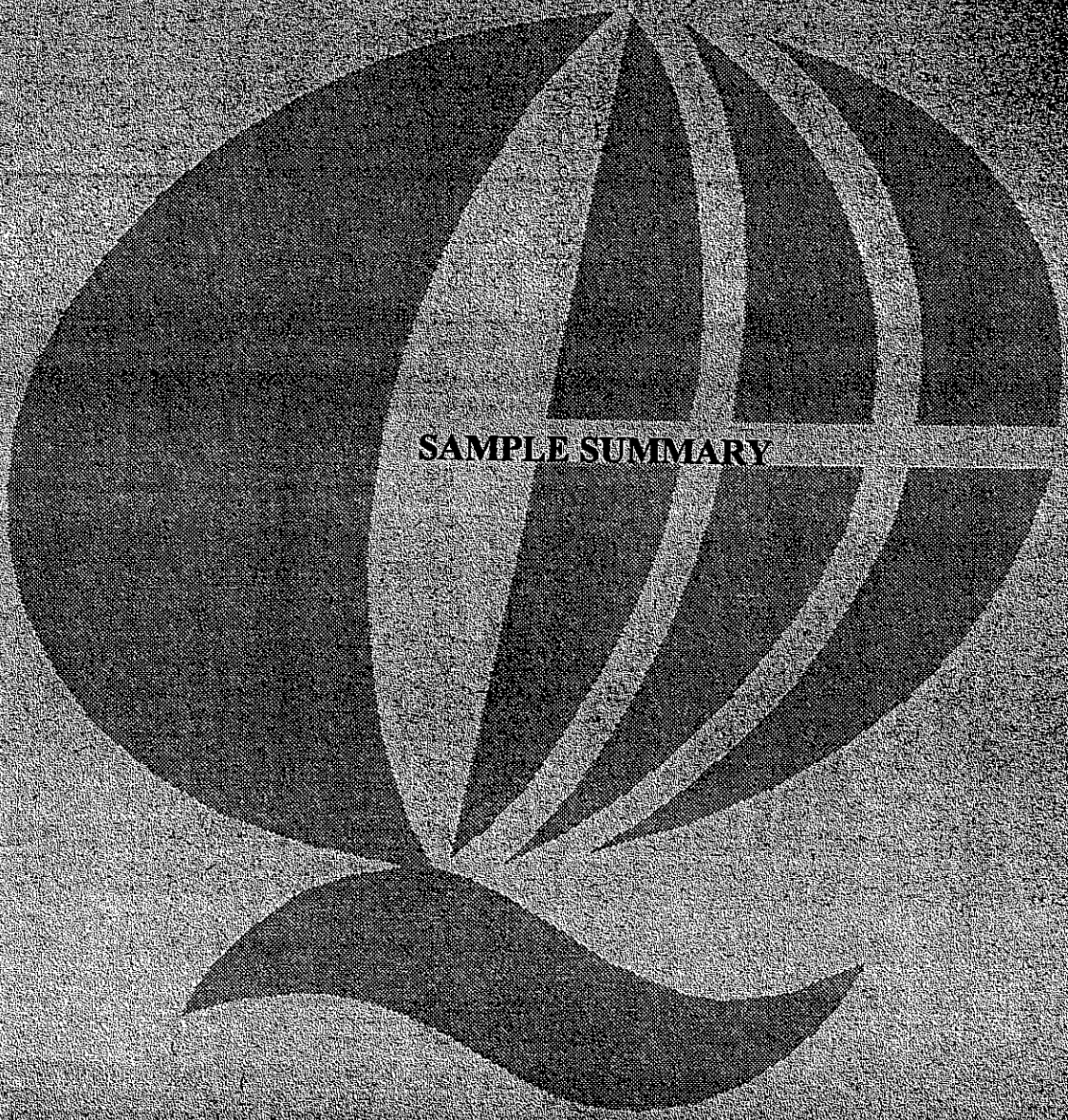
At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*



SAMPLE SUMMARY

SAMPLE SUMMARY

A9B240116

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CR2RC	001	S-022399-JH-062	02/23/99	
CR2RE	002	S-022399-JH-063	02/23/99	
CR2RF	003	S-022399-JH-064	02/23/99	
CR2RG	004	S-022399-JH-065	02/23/99	
CR2RH	005	S-022399-JH-066	02/23/99	
CR2RJ	006	S-022399-JH-067	02/23/99	
CR2RL	007	S-022399-JH-068	02/23/99	
CR2RM	008	S-022399-JH-069	02/23/99	
CR2RN	009	S-022399-JH-070	02/23/99	
CR2RP	010	S-022399-JH-071	02/23/99	
CR2RR	011	S-022399-JH-072	02/23/99	
CR2RT	012	S-022399-JH-073	02/23/99	
CR2RV	013	S-022399-JH-074	02/23/99	
CR2RX	014	S-022399-JH-075	02/23/99	
CR2T0	015	S-022399-JH-076	02/23/99	
CR2T1	016	S-022399-JH-077	02/23/99	
CR2T2	017	S-022399-JH-078	02/23/99	
CR2T4	018	S-022399-JH-079	02/23/99	
CR2T5	019	S-022399-JH-080	02/23/99	
CR2T6	020	S-022399-JH-081	02/23/99	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHOD REFERENCE

ANALYTICAL METHODS SUMMARY

A9B240116

PARAMETER	ANALYTICAL METHOD
PCBs	SW846 8082
Total Residue as Percent Solids	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

POLYCHLORINATED BIPHENYLS
QC SUMMARY DATA

SW846 8082 SURROGATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN QESSDG:

Lot #: A9B240116

	CLIENT ID.	SRG01	SRG02	TOT OUT
01	S-022399-JH-062	86 D	152D	01
02	S-022399-JH-063	76 D	129D	00
03	S-022399-JH-064	78	104	00
04	S-022399-JH-065	55	111	00
05	S-022399-JH-066	83 D	340D	01
06	S-022399-JH-067	289D	186D	02
07	S-022399-JH-068	544D	180D	02
08	S-022399-JH-069	440D	182D	02
09	S-022399-JH-070	82 D	166D	01
10	S-022399-JH-071	71	102	00
11	S-022399-JH-072	287D	359D	02
12	S-022399-JH-073	52	105	00
13	S-022399-JH-074	81	110	00
14	S-022399-JH-075	55	97	00
15	022399-JH-076	27	77	00
16	S-022399-JH-077	81	105	00
17	S-022399-JH-078	130D	370D	02
18	S-022399-JH-079	927D	305D	02
19	S-022399-JH-080	382D	178D	02
20	S-022399-JH-081	124D	301D	02
21	METHOD BLK. CR30K101	83	120	00
22	LCS CR30K103	74	123	00
23	LCSD CR30K104	69	130	00

SURROGATES		QC LIMITS
SRG01	= Tetrachloro-m-xylene	(10-129)
SRG02	= Decachlorobiphenyl	(10-138)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

SW846 8082 CHECK SAMPLE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

Lab Code: QESCAN SDG No:

Lot #: A9B240000 WO #: CR30K103
BATCH: 9055185

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	270	81	60- 133	
Aroclor 1260	330	360	107	59- 129	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 CHECK SAMPLE DUPLICATE RECOVERY

Lab Name: QUANTERRA Client: CONESTOGA-ROVERS & ASSOCIATES INC

La. ode: QESCAN SDG No:

Lot #: A9B240000 WO #: CR30K104
BATCH: 9055185

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Aroclor 1016	330	290	87	60- 133	
Aroclor 1260	330	370	112	59- 129	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

SW846 8082 METHOD BLANK SUMMARY

BLANK WORKORDER NO.: CR30K101

Lab Name: QUANTERRA

Lab Code: QESCAN

SDG Number:

Lab File ID: f048f4801

Lot Number: A9B240116

Matrix: SOLID

Extraction Method: 3550

Date Extracted: 02/24/99

Date Analyzed(1): 03/06/99

Date Analyzed(2): N/A

Time Analyzed(1): 04:43

Time Analyzed(2): N/A

Instrument ID(1): P2

Instrument ID(2): N/A

GC Column(1): N/A ID: N/A GC Column(2): N/A ID: N/A

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

	CLIENT ID.	SAMPLE WORK ORDER #	DATE ANALYZED(1)	DATE ANALYZED(2)
01	S-022399-JH-062	CR2RC101	03/05/99	N/A
02	S-022399-JH-063	CR2RE101	03/05/99	N/A
03	S-022399-JH-064	CR2RF101	03/05/99	N/A
04	S-022399-JH-065	CR2RG101	03/05/99	N/A
05	S-022399-JH-066	CR2RH101	03/05/99	N/A
06	S-022399-JH-067	CR2RJ101	03/05/99	N/A
07	S-022399-JH-068	CR2RL101	03/05/99	N/A
08	S-022399-JH-069	CR2RM101	03/05/99	N/A
09	S-022399-JH-070	CR2RN101	03/05/99	N/A
10	S-022399-JH-071	CR2RP101	03/05/99	N/A
11	S-022399-JH-072	CR2RR101	03/06/99	N/A
12	S-022399-JH-073	CR2RT101	03/06/99	N/A
13	S-022399-JH-074	CR2RV101	03/06/99	N/A
14	S-022399-JH-075	CR2RX101	03/06/99	N/A
15	S-022399-JH-076	CR2T0101	03/06/99	N/A
16	S-022399-JH-077	CR2T1101	03/06/99	N/A
17	S-022399-JH-078	CR2T2101	03/06/99	N/A
18	S-022399-JH-079	CR2T4101	03/06/99	N/A
19	S-022399-JH-080	CR2T5101	03/06/99	N/A
20	S-022399-JH-081	CR2T6101	03/06/99	N/A
21	CHECK SAMPLE	CR30K103 C	03/06/99	N/A
22	DUPLICATE CHECK	CR30K104 L	03/06/99	N/A

COMMENTS:

POLYCHLORINATED BIPHENYLS
SAMPLE DATA

CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 001

Sample WT/Vol: 30 / g
Work Order: CR2RC101
Dilution factor: 10
Moisture %:13

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-062

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	380	U
11104-28-2	Aroclor 1221	380	U
11141-16-5	Aroclor 1232	380	U
53469-21-9	**Aroclor 1242**	**550**	
12672-29-6	Aroclor 1248	380	U
11097-69-1	Aroclor 1254	380	U
11096-82-5	Aroclor 1260	380	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f022f2201.d
Report Date: 08-Mar-1999 12:28

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f022f2201.d
Lab Smp Id: CR2RC101 Client Smp ID: S-022399-JH-062
Inj Date : 05-MAR-1999 21:29
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RC101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 22
Dil Factor: 10.00000 Compound Sublist: REG.sub
Integrator: Falcon Sample Matrix: SOIL
Target Version: 3.40

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.850	1.848	0.002	1597755	0.00172	5.748	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	2.048	2.095	-0.047	575563	0.05290	176.3	80.00- 120.00	100.00(M)
	2.352	2.352	0.000	1857081	0.09899	330.0	124.30- 207.17	322.65
	2.484	2.501	-0.017	1712718	0.13771	459.0	71.73- 119.55	297.57
	2.695	2.695	0.000	4766228	0.12628	420.9	230.56- 384.27	828.10
	3.113	3.113	0.000	4934375	0.29827	994.2	104.79- 174.65	857.31
				Average of Peak Concentrations =		476.1		
6 AROCLOR-1248						CAS #: 12672-29-6		
	2.352	2.349	0.003	1857081	0.10711	623.7	80.00- 120.00	100.00(M)
	2.695	2.694	0.001	4766228	0.19989	666.3	161.12- 268.53	256.65
	2.953	2.950	0.003	5676698	0.22483	749.4	119.97- 199.95	305.00
	3.113	3.112	0.001	4934375	0.17744	591.4	186.75- 311.24	265.71

RLS 3-8-99
possible m
of 1242+12
pattern best
fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f022f2201.d
Report Date: 08-Mar-1999 12:28

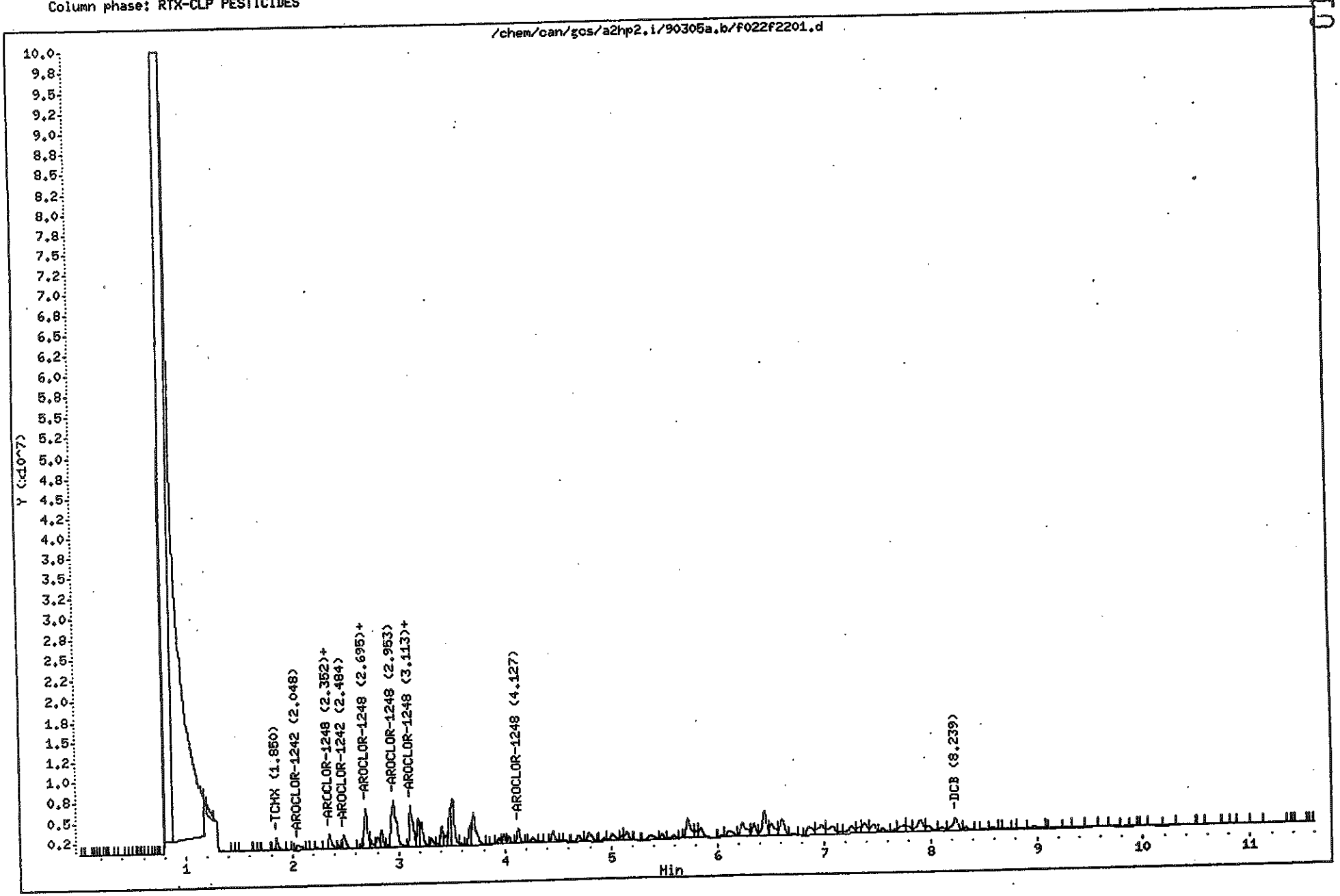
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.127	4.126	0.001	1902105	0.12795	426.5	101.05- 168.42	102.42
Average of Peak Concentrations =					611.5		
$ 9 DCB					CAS #: 2051-24-3		
8.239	8.238	0.001	1490532	0.00304	10.14	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f022f2201.d
Date : 05-MAR-1999 21:29
Client ID: S-022399-JH-062
Sample Info: CR2RC101.10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 002

Sample WT/Vol: 30.19 / g
Work Order: CR2RE101
Dilution factor: 10
Moisture %:11

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-063

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	370	U
11104-28-2	Aroclor 1221	370	U
11141-16-5	Aroclor 1232	370	U
53469-21-9	Aroclor 1242	620	
12672-29-6	Aroclor 1248	370	U
11097-69-1	Aroclor 1254	370	U
11096-82-5	Aroclor 1260	370	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f023f2301.d
Report Date: 08-Mar-1999 12:28

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f023f2301.d
Lab Smp Id: CR2RE101 Client Smp ID: S-022399-JH-063
Inj Date : 05-MAR-1999 21:45
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RE101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 23
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.190	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.850	1.848	0.002	1412658	0.00152	5.050	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	2.095	2.095	0.000	1091029	0.10027	332.1	80.00- 120.00	100.00(M)
	2.353	2.352	0.001	3383461	0.18036	597.4	124.30- 207.17	310.12
	2.500	2.501	-0.001	2099954	0.16884	559.3	71.73- 119.55	192.47
	2.695	2.695	0.000	4974609	0.13180	436.6	230.56- 384.27	455.96
	3.113	3.113	0.000	4034704	0.24388	807.8	104.79- 174.65	369.81
				Average of Peak Concentrations =		546.6		
6 AROCLOR-1248						CAS #: 12672-29-6		
	2.353	2.349	0.004	3383461	0.34091	1129	80.00- 120.00	100.00(M)
	2.695	2.694	0.001	4974609	0.20865	691.0	161.12- 268.53	147.03
	2.959	2.950	0.009	16263536	0.64414	2134	119.97- 199.95	480.68
	3.113	3.112	0.001	4034704	0.14509	480.6	186.75- 311.24	119.25

MLS 3-8-99 possible mix of 1242 & 1248 pattern best fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f023f2301.d
Report Date: 08-Mar-1999 12:28

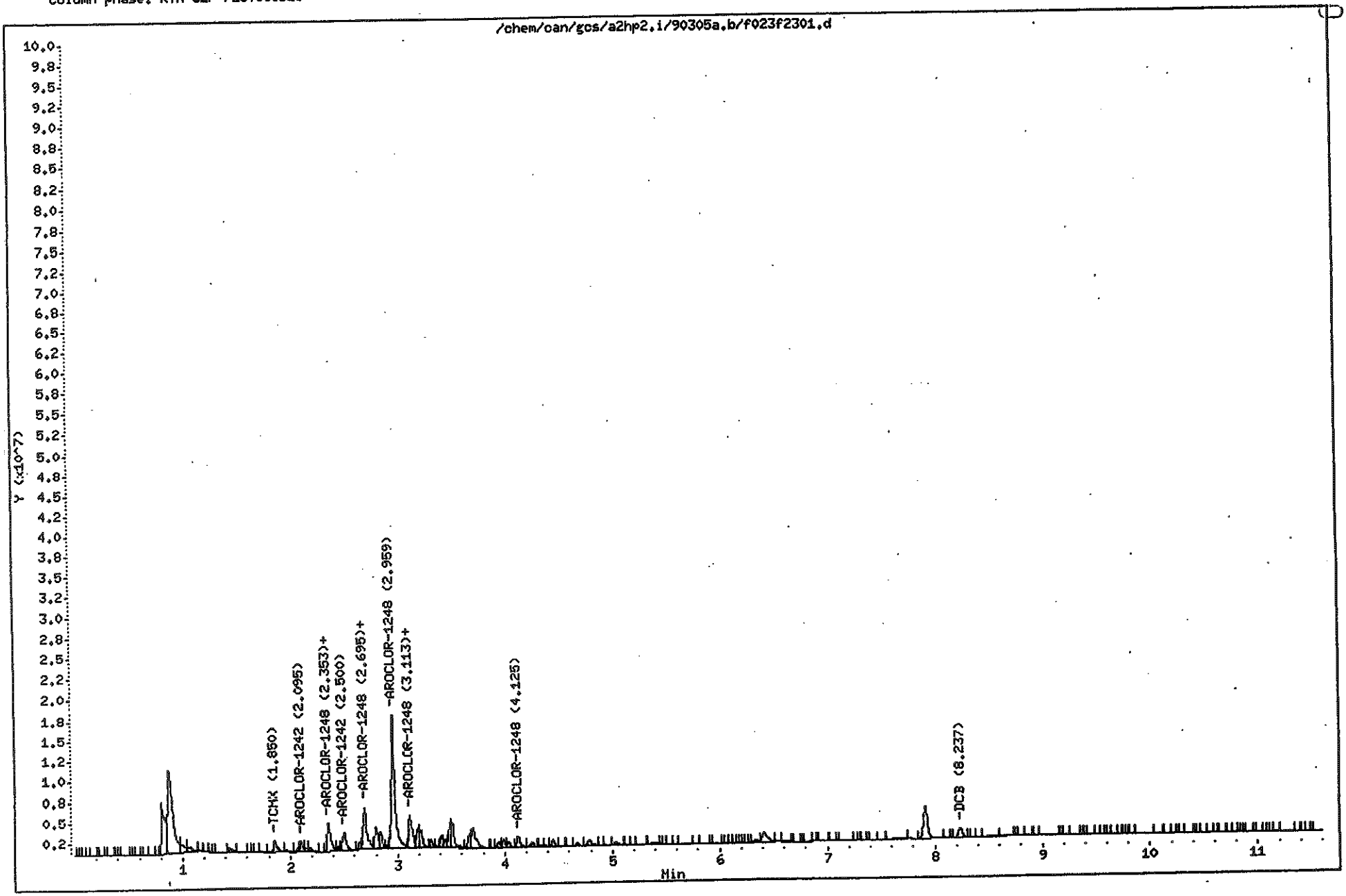
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
	6 AROCLOR-1248 (continued)							
	4.125	4.126	-0.001	1418243	0.09540	316.0	101.05- 168.42	41.92
	Average of Peak Concentrations =					950.1		
$	9 DCB					CAS #: 2051-24-3		
	8.237	8.238	-0.001	1268808	0.00259	8.579	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f023f2301.d
Date : 05-MAR-1999 21:45
Client ID: S-022399-JH-063
Sample Info: CR2RE101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 003

Sample WT/Vol: 30 / g
Work Order: CR2RF101
Dilution factor: 1
Moisture %:7.2

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-064

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	36	U
11104-28-2	Aroclor 1221	36	U
11141-16-5	Aroclor 1232	36	U
53469-21-9	Aroclor 1242	36	U
12672-29-6	Aroclor 1248	36	U
11097-69-1	Aroclor 1254	36	U
11096-82-5	Aroclor 1260	36	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f024f2401.d
Report Date: 08-Mar-1999 12:28

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f024f2401.d
Lab Smp Id: CR2RF101 Client Smp ID: S-022399-JH-064
Inj Date : 05-MAR-1999 22:02
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RF101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 24
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

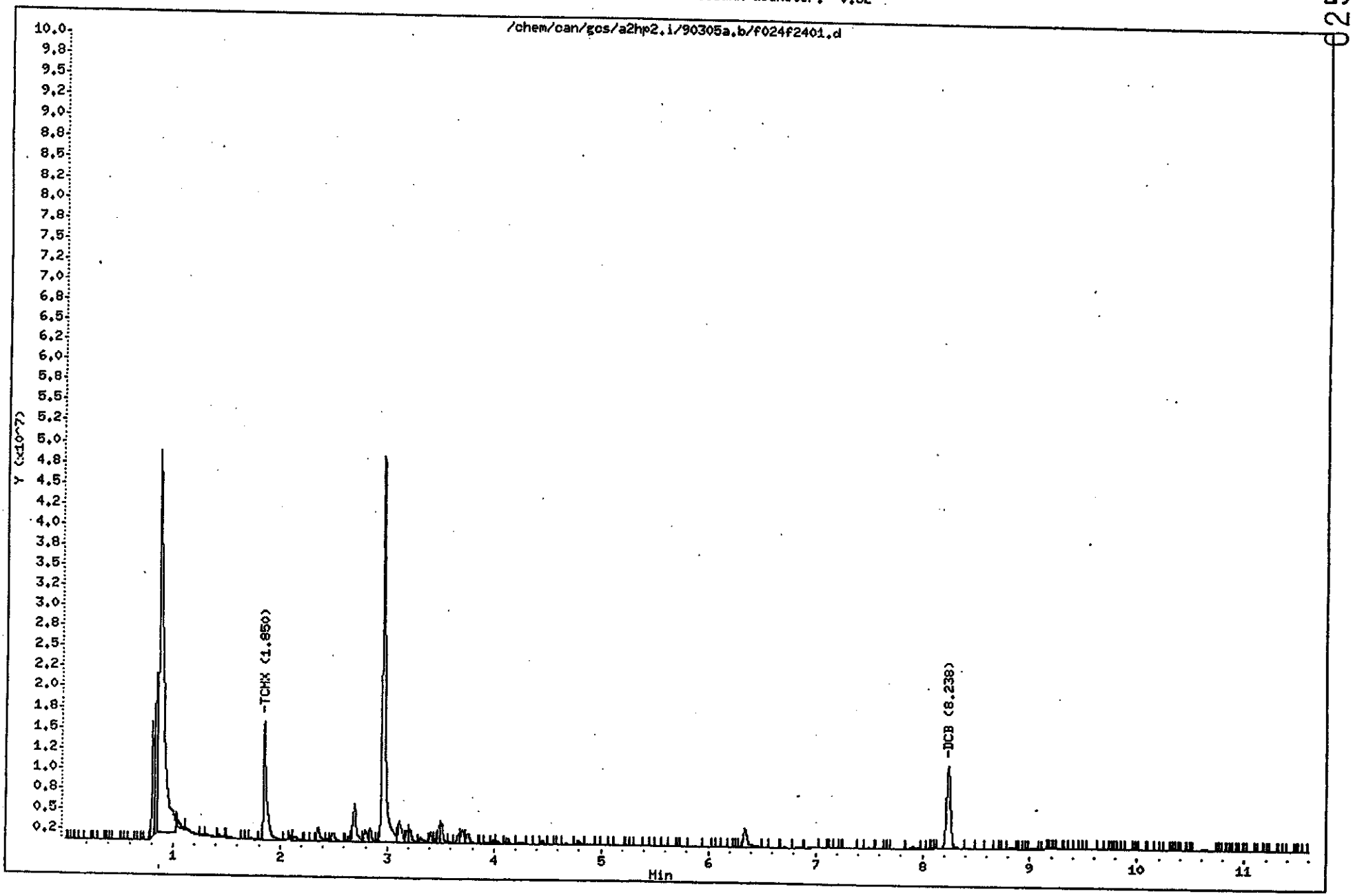
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.850	1.848	0.002	14437642	0.01558	5.194	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
8.238	8.238	0.000	10189152	0.02080	6.933	80.00- 120.00	100.00

F File: /chem/can/gos/a2hp2.i/90305a.b/f024f2401.d
L : 05-MAR-1999 22:02
Client ID: S-022399-JH-064
Sample Info: CR2RF101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 004

Sample WT/Vol: 30.09 / g
Work Order: CR2RG101
Dilution factor: 1
Moisture %:15

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-065

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg		Q
12674-11-2	Aroclor 1016		39	U
11104-28-2	Aroclor 1221		39	U
11141-16-5	Aroclor 1232		39	U
53469-21-9	Aroclor 1242		39	U
12672-29-6	Aroclor 1248		39	U
11097-69-1	Aroclor 1254		39	U
11096-82-5	Aroclor 1260		39	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f025f2501.d
Report Date: 08-Mar-1999 12:28

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f025f2501.d
Lab Smp Id: CR2RG101 Client Smp ID: S-022399-JH-065
Inj Date : 05-MAR-1999 22:19
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RG101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 25
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.090	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.850	1.848	0.002	10151189	0.01096	3.641	80.00- 120.00	100.00(R)
$ 9 DCB					CAS #: 2051-24-3		
8.239	8.238	0.001	10916501	0.02228	7.406	80.00- 120.00	100.00

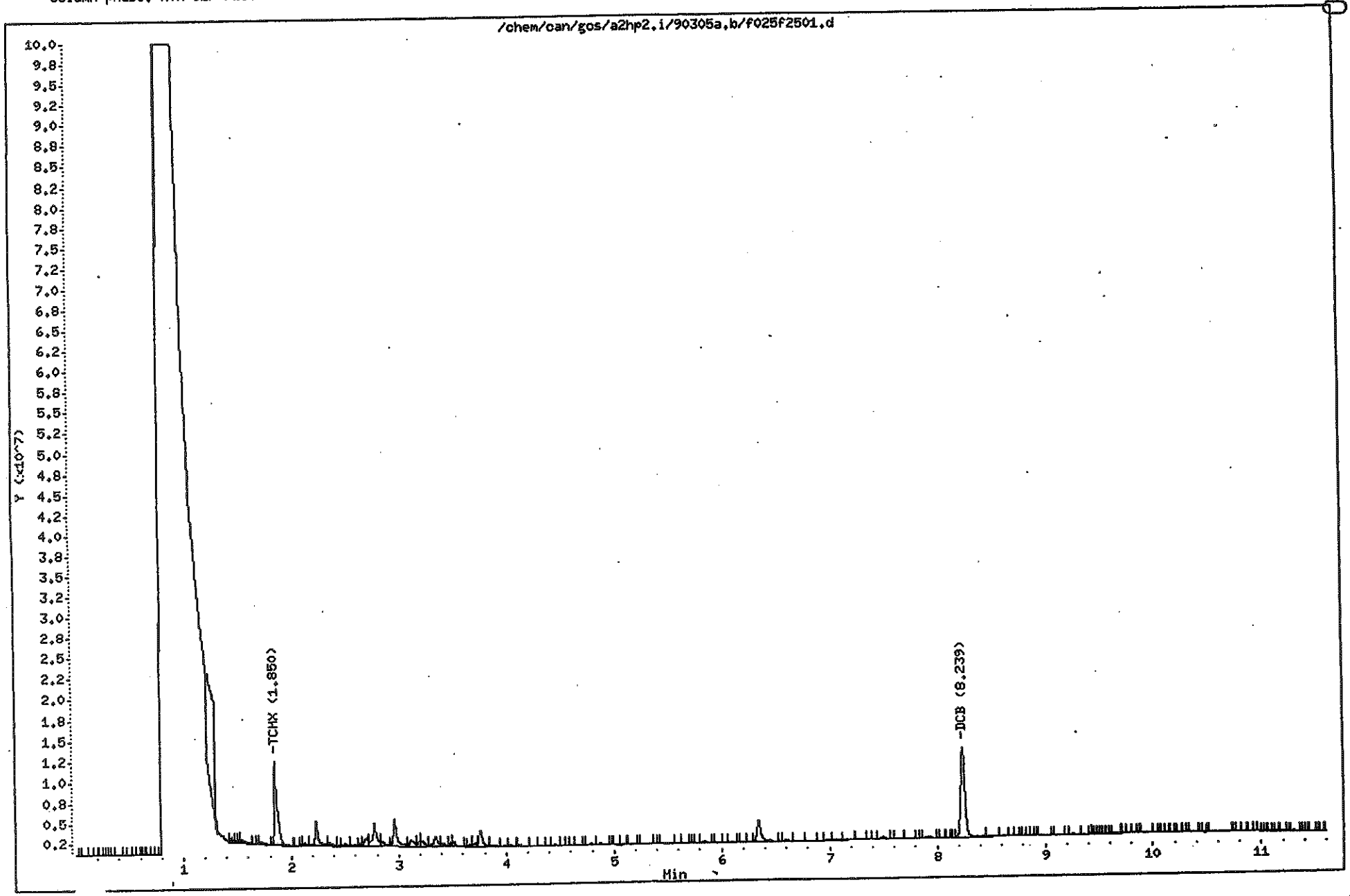
QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f025f2501.d
Date : 05-MAR-1999 22:19
Client ID: S-022399-JH-065
Sample Info: CR2RG101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

028



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 005

Sample WT/Vol: 30 / g
Work Order: CR2RH101
Dilution factor: 10
Moisture %:6.2

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-066

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	350	U
11104-28-2	Aroclor 1221	350	U
11141-16-5	Aroclor 1232	350	U
53469-21-9	Aroclor 1242	3200	
12672-29-6	Aroclor 1248	350	U
11097-69-1	Aroclor 1254	350	U
11096-82-5	Aroclor 1260	350	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f026f2601.d
Report Date: 08-Mar-1999 12:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f026f2601.d
Lab Smp Id: CR2RH101 Client Smp ID: S-022399-JH-066
Inj Date : 05-MAR-1999 22:35
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RH101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 26
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.850	1.848	0.002	1538373	0.00166	5.534	80.00- 120.00	100.00
5 AROCLOR-1242					CAS #: 53469-21-9		
2.095	2.095	0.000	2192704	0.20152	671.7	80.00- 120.00	100.00(M)
2.354	2.352	0.002	11292554	0.60197	2006	124.30- 207.17	515.01
2.486	2.501	-0.015	11111148	0.89338	2978	71.73- 119.55	506.73
2.696	2.695	0.001	35355041	0.93669	3122	230.56- 384.27	1612.39
3.114	3.113	0.001	30173648	1.82389	6080	104.79- 174.65	1376.09
		Average of Peak Concentrations =			2972		
6 AROCLOR-1248					CAS #: 12672-29-6		
2.354	2.349	0.005	11292554	1.13781	3793	80.00- 120.00	100.00(M)
2.696	2.694	0.002	35355041	1.48272	4942	161.12- 268.53	313.08
2.959	2.950	0.009	89745703	3.55452	11850	119.97- 199.95	794.73
3.114	3.112	0.002	30173648	1.08502	3617	186.75- 311.24	267.20

RLS 5-8-99
possible mix of 1242 + 1254 pattern best fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f026f2601.d
Report Date: 08-Mar-1999 12:29

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.126	4.126	0.000	10432804	0.70179	2339	101.05- 168.42	92.39
Average of Peak Concentrations =					5308		
$ 9 DCB					CAS #: 2051-24-3		
8.252	8.238	0.014	3334974	0.00681	22.69	80.00- 120.00	100.00(R)

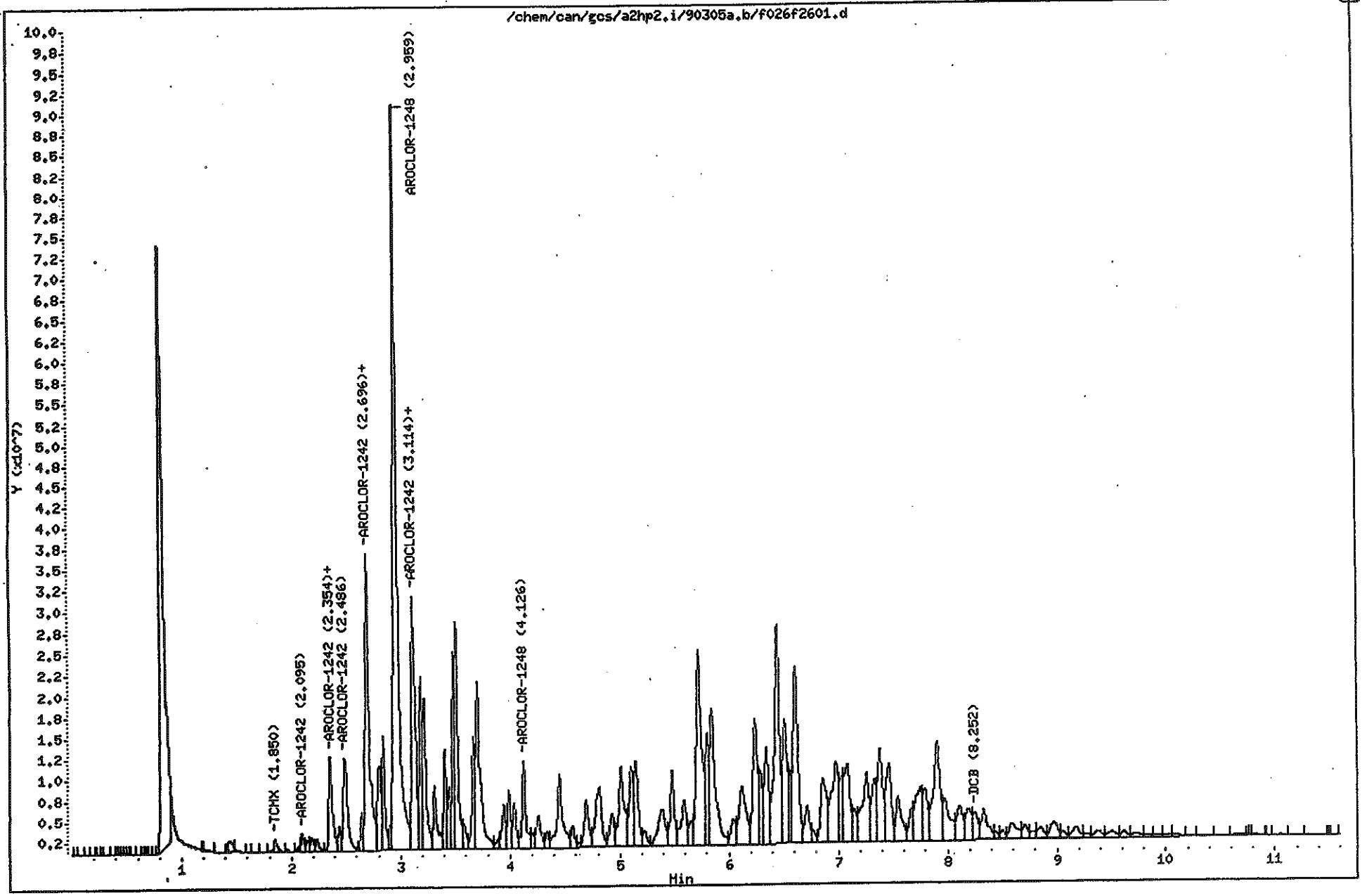
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data /chem/can/gcs/a2hp2.i/90305a.b/f026f2601.d
Date 16-MAR-1999 22:35
Client ID: S-022399-JH-066
Sample Info: CR2RH101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

032



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 006

Sample WT/Vol: 30 / g
Work Order: CR2RJ101
Dilution factor: 100
Moisture %:11

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-067

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3700	U
11104-28-2	Aroclor 1221	3700	U
11141-16-5	Aroclor 1232	3700	U
53469-21-9	Aroclor 1242	40000	
12672-29-6	Aroclor 1248	3700	U
11097-69-1	Aroclor 1254	3700	U
11096-82-5	Aroclor 1260	3700	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f027f2701.d
Report Date: 08-Mar-1999 12:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f027f2701.d
Lab Smp Id: CR2RJ101 Client Smp ID: S-022399-JH-067
Inj Date : 05-MAR-1999 22:52
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RJ101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 27
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.823	1.848	-0.025	535540	0.000578	19.27	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
2.093	2.095	-0.002	3124863	0.28718	9573	80.00- 120.00	100.00(M)
2.350	2.352	-0.002	23179541	1.23562	41190	124.30- 207.17	741.78
2.500	2.501	-0.001	13883381	1.11628	37210	71.73- 119.55	444.29
2.695	2.695	0.000	49606470	1.31426	43810	230.56- 384.27	1587.48
3.112	3.113	-0.001	23461812	1.41819	47270	104.79- 174.65	750.81
Average of Peak Concentrations =					35810		
6 AROCLOR-1248					CAS #: 12672-29-6		
2.350	2.349	0.001	23179541	2.33551	77850	80.00- 120.00	100.00(M)
2.695	2.694	0.001	49606470	2.08040	69350	161.12- 268.53	214.01
2.950	2.950	0.000	19223417	0.76137	25380	119.97- 199.95	82.93
3.112	3.112	0.000	23461812	0.84367	28120	186.75- 311.24	101.22

RLS 3-8-99
possible mix of 1242 - 1248 pattern best fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f027f2701.d
Report Date: 08-Mar-1999 12:29

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.126	4.126	0.000	5419972	0.36459	12150	101.05- 168.42	23.38
Average of Peak Concentrations =					42570		
$ 9 DCB					CAS #: 2051-24-3		
8.237	8.238	-0.001	182346	0.000372	12.41	80.00- 120.00	100.00(R)

QC Flag Legend

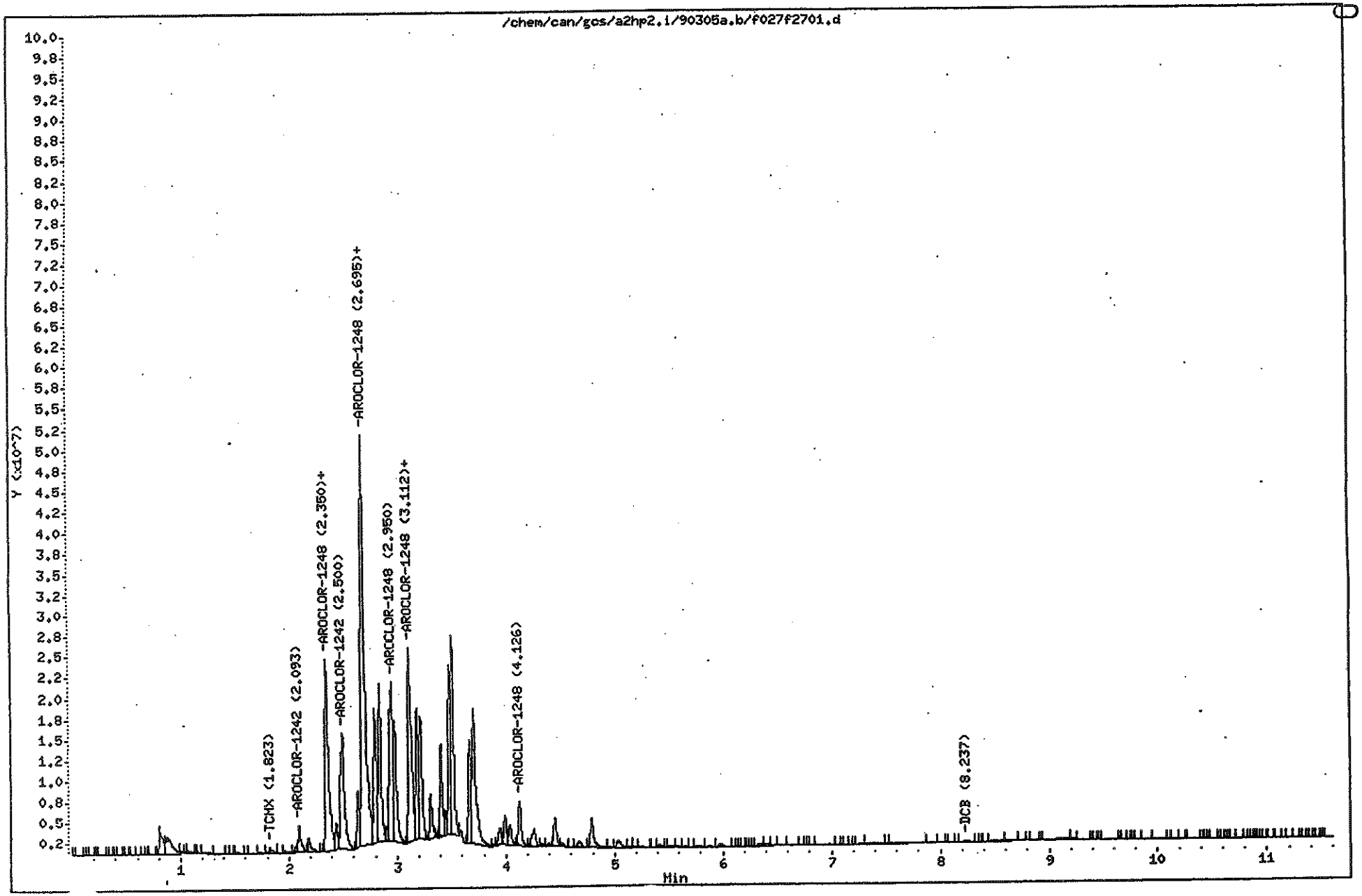
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f027f2701.d
Date : 05-MAR-1999 22:52
Client ID: S-022399-JH-067
Sample Info: CR2RJ101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

036



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 007

Sample WT/Vol: 30.1 / g
Work Order: CR2RL101
Dilution factor: 100
Moisture %:7.7

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-068

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3600	U
11104-28-2	Aroclor 1221	3600	U
11141-16-5	Aroclor 1232	3600	U
53469-21-9	**Aroclor 1242**	**38000**	
12672-29-6	Aroclor 1248	3600	U
11097-69-1	Aroclor 1254	3600	U
11096-82-5	Aroclor 1260	3600	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f028f2801.d
Report Date: 08-Mar-1999 12:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f028f2801.d
Lab Smp Id: CR2RL101 Client Smp ID: S-022399-JH-068
Inj Date : 05-MAR-1999 23:09
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RL101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 28
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.100	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.824	1.848	-0.024	1007783	0.00109	36.14	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	2.095	2.095	0.000	9159417	0.84178	27960	80.00- 120.00	100.00(M)
	2.353	2.352	0.001	20924050	1.11539	37060	124.30- 207.17	228.44
	2.500	2.501	-0.001	13232422	1.06394	35350	71.73- 119.55	144.47
	2.695	2.695	0.000	41426272	1.09754	36460	230.56- 384.27	452.28
	3.113	3.113	0.000	18688335	1.12965	37530	104.79- 174.65	204.03
		Average of Peak Concentrations =				34870		
6 AROCLOR-1248						CAS #: 12672-29-6		
	2.353	2.349	0.004	20924050	2.10825	70040	80.00- 120.00	100.00(M)
	2.695	2.694	0.001	41426272	1.73734	57720	161.12- 268.53	197.98
	2.957	2.950	0.007	32650567	1.29318	42960	119.97- 199.95	156.04
	3.113	3.112	0.001	18688335	0.67202	22330	186.75- 311.24	89.32

RLS 3-8-99
possible mi.
of 1242 - 124
pattern best
fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f028f2801.d
Report Date: 08-Mar-1999 12:29

				CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
RT	EXP RT	DLT RT	RESPONSE				
6 AROCLOR-1248 (continued)							
4.127	4.126	0.001	4918204	0.33084	10990	101.05- 168.42	23.51
	Average of Peak Concentrations =				40810		
$ 9 DCB					CAS #: 2051-24-3		
8.239	8.238	0.001	175942	0.000359	11.93	80.00- 120.00	100.00(R)

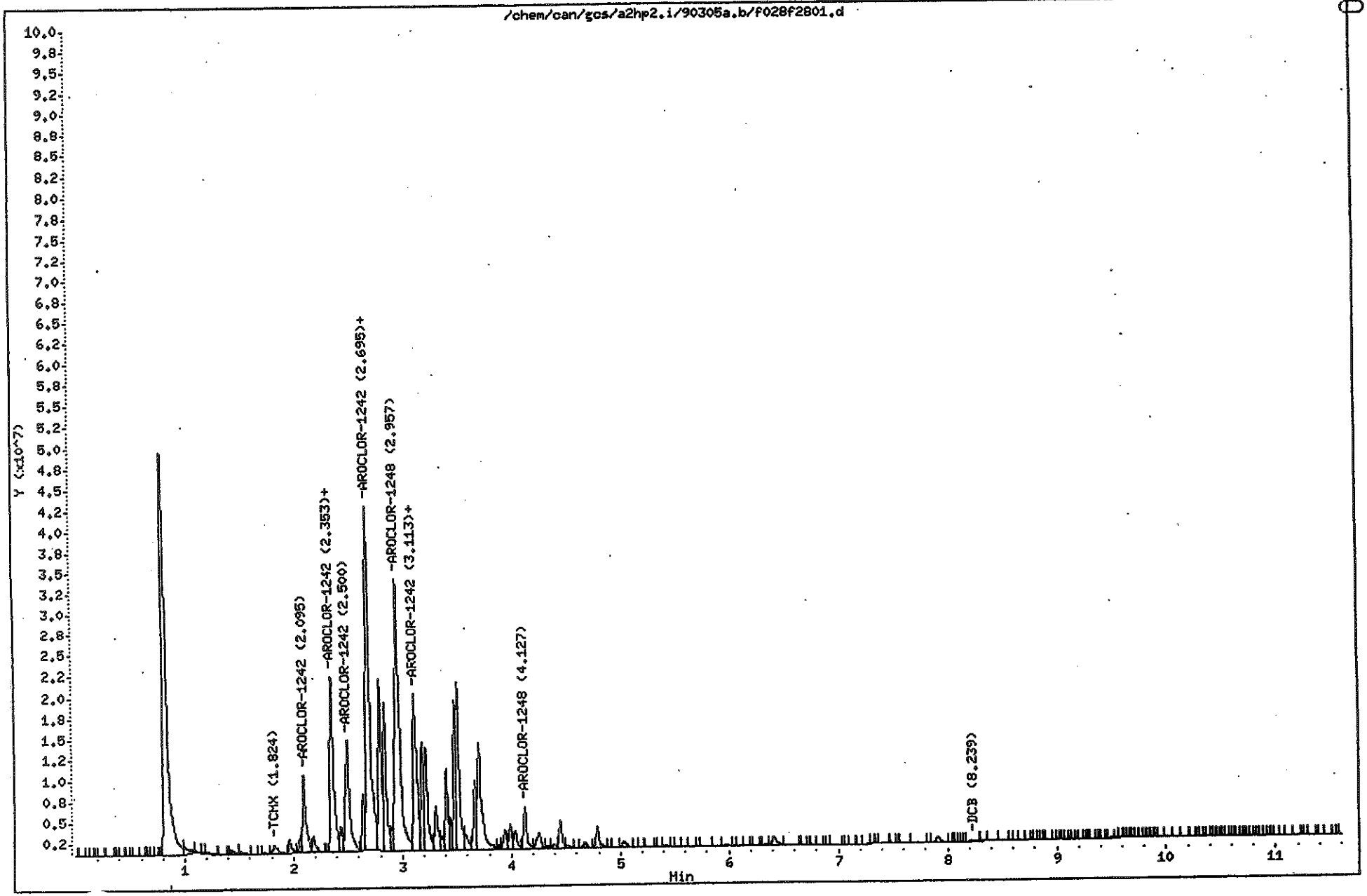
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f028f2801.d
Date : 05-MAR-1999 23:09
Client ID: S-022399-JH-068
Sample Info: CR2RL101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

040



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 008

Sample WT/Vol: 30.04 / g
Work Order: CR2RM101
Dilution factor: 100
Moisture %:15

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-069

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3900	U
11104-28-2	Aroclor 1221	3900	U
11141-16-5	Aroclor 1232	3900	U
53469-21-9	**Aroclor 1242**	**36000**	
12672-29-6	Aroclor 1248	3900	U
11097-69-1	Aroclor 1254	3900	U
11096-82-5	Aroclor 1260	3900	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f029f2901.d
Report Date: 10-Mar-1999 13:10

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f029f2901.d
Lab Smp Id: CR2RM101 Client Smp ID: S-022399-JH-069
Inj Date : 05-MAR-1999 23:25
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RM101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 29
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.040	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.824	1.848	-0.024	815319	0.00088	29.29	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
2.094	2.095	-0.001	8840538	0.81247	27050	80.00- 120.00	100.00(M)
2.354	2.352	0.002	20358664	1.08525	36130	124.30- 207.17	230.29
2.495	2.501	-0.006	9890583	0.79524	26470	71.73- 119.55	111.88
2.694	2.695	-0.001	40278157	1.06712	35520	230.56- 384.27	455.61
3.112	3.113	-0.001	13492531	0.81558	27150	104.79- 174.65	152.62
Average of Peak Concentrations =					30460		
6 AROCLOR-1248					CAS #: 12672-29-6		
2.354	2.349	0.005	20358664	2.05129	68280	80.00- 120.00	100.00(M)
2.694	2.694	0.000	40278157	1.68919	56230	161.12- 268.53	197.84
2.956	2.950	0.006	21379285	0.84676	28190	119.97- 199.95	105.01
3.112	3.112	0.000	13492531	0.48518	16150	186.75- 311.24	66.27

ALS 3-9-99 possible m of 1242 + 1248 pattern be fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f029f2901.d
Report Date: 10-Mar-1999 13:10

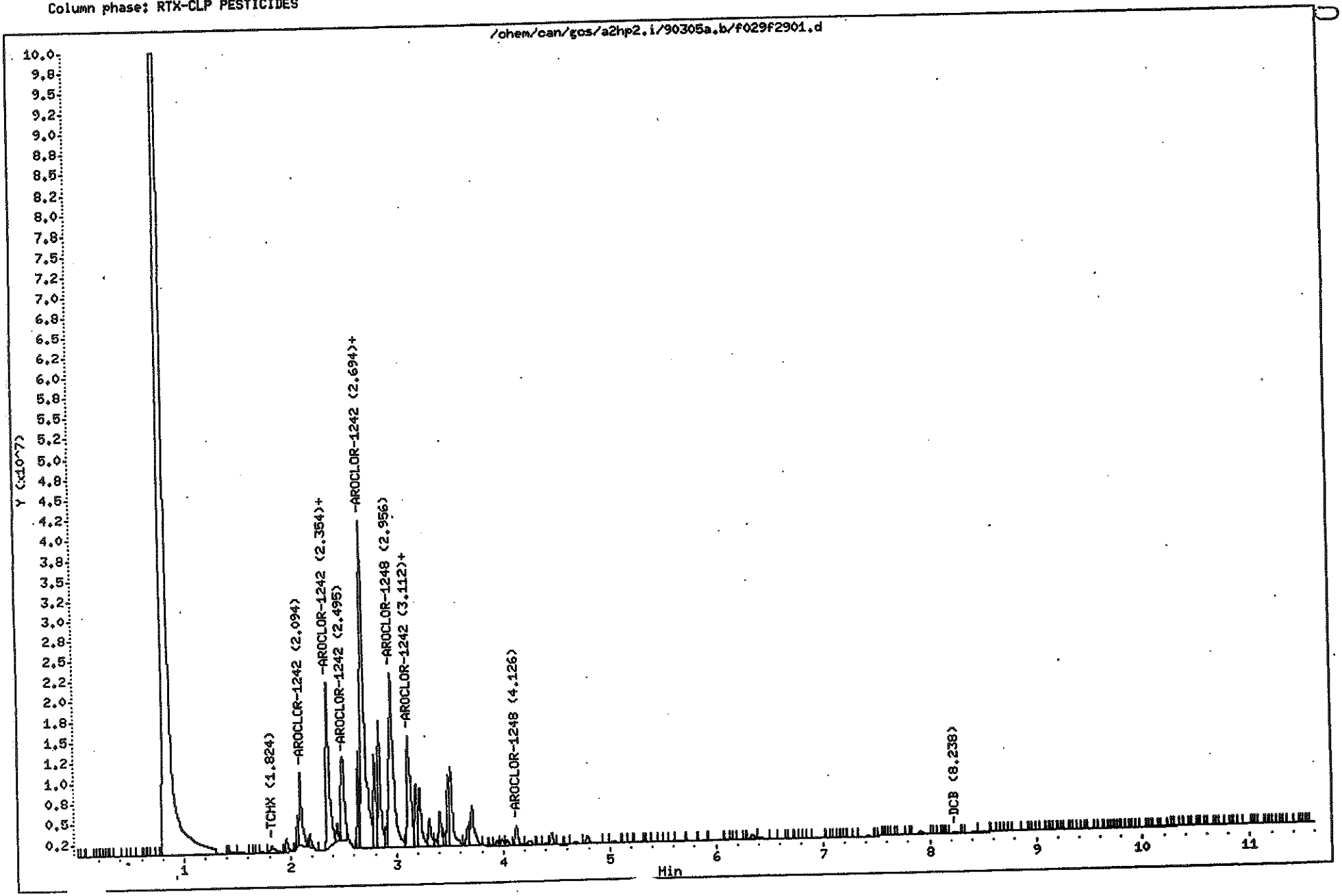
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.126	4.126	0.000	2387720	0.16062	5347	101.05- 168.42	11.73
Average of Peak Concentrations =					34840		
$ 9 DCB					CAS #: 2051-24-3		
8.238	8.238	0.000	178360	0.000364	12.12	80.00- 120.00	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f029f2901.d
Date : 05-MAR-1999 23:25
Client ID: S-022399-JH-069
Sample Info: CR2RM101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 009

Sample WT/Vol: 30.01 / g
Work Order: CR2RN101
Dilution factor: 10
Moisture %:30

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-070

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	470	U
11104-28-2	Aroclor 1221	470	U
11141-16-5	Aroclor 1232	470	U
53469-21-9	**Aroclor 1242**	**1600**	
12672-29-6	Aroclor 1248	470	U
11097-69-1	Aroclor 1254	470	U
11096-82-5	Aroclor 1260	470	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f030f3001.d
Report Date: 08-Mar-1999 12:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f030f3001.d
Lab Smp Id: CR2RN101 Client Smp ID: S-022399-JH-070
Inj Date : 05-MAR-1999 23:42
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RN101,10
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 30
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	10.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.010	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.850	1.848	0.002	1516474	0.00164	5.454	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	2.094	2.095	-0.001	851238	0.07823	260.7	80.00- 120.00	100.00(M)
	2.352	2.352	0.000	1968615	0.10494	349.7	124.30- 207.17	231.26
	2.501	2.501	0.000	0			71.73- 119.55	0.00
	2.695	2.695	0.000	5659616	0.14994	499.6	230.56- 384.27	664.87
	2.959	3.113	-0.154	17374747	1.05024	3500	104.79- 174.65	2041.12
		Average of Peak Concentrations =				1152		
6 AROCLOR-1248						CAS #: 12672-29-6		
	2.352	2.349	0.003	1968615	0.19835	661.0	80.00- 120.00	100.00(M)
	2.695	2.694	0.001	5659616	0.23735	790.9	164.12- 268.53	287.49
	2.959	2.950	0.009	17374747	0.68815	2293	119.97- 199.95	882.59
	3.114	3.112	0.002	5324589	0.19147	638.0	186.75- 311.24	270.47

BLS 3-8-99
possible mix of 1242 + 1221 pattern best fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f030f3001.d
Report Date: 08-Mar-1999 12:29

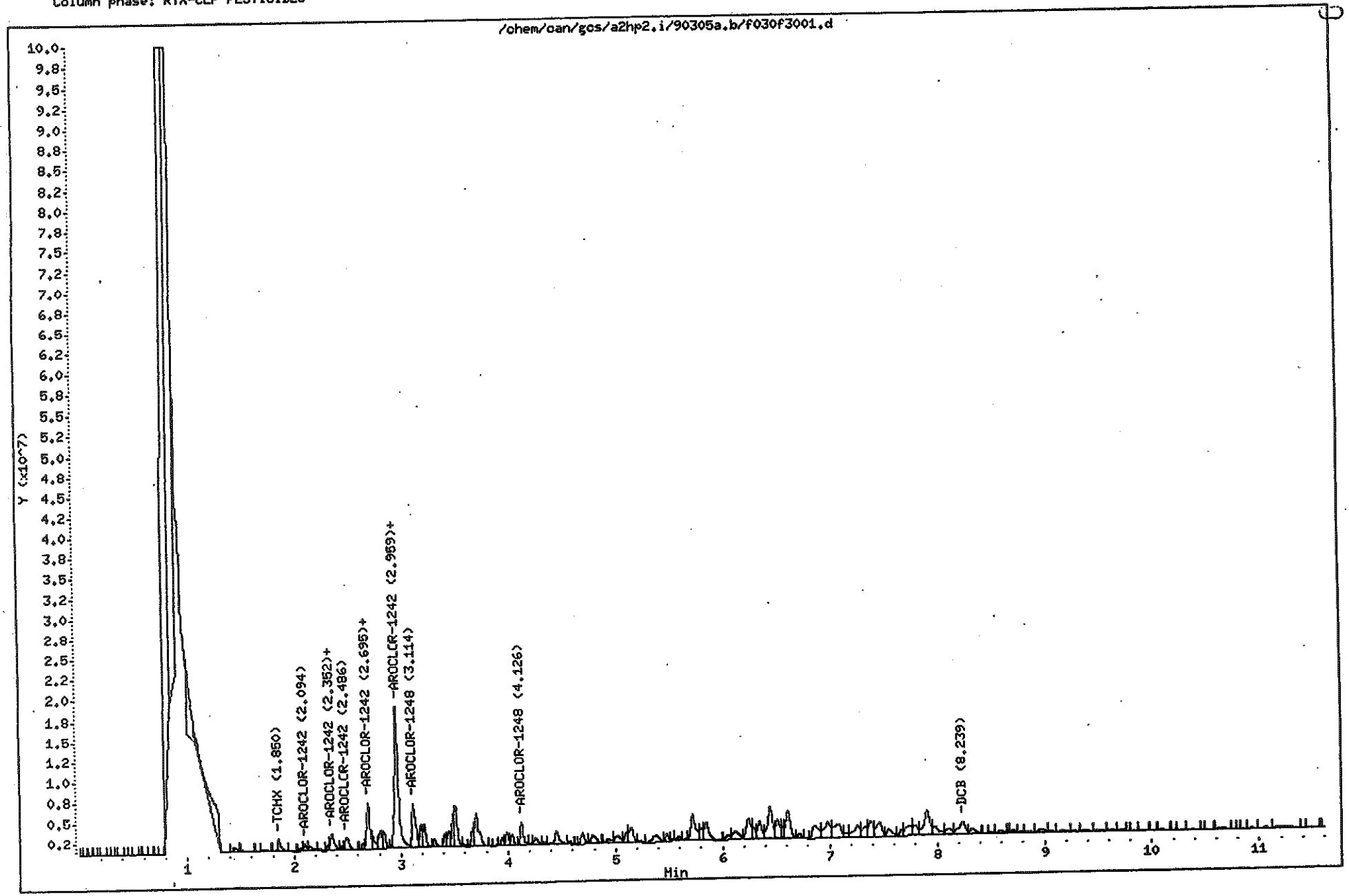
				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
**	******	********	********	*******	*******	**********	*****
6 AROCLOR-1248 (continued)							
4.126	4.126	0.000	2782014	0.18714	623.6	101.05- 168.42	141.32
Average of Peak Concentrations =					1001		
$ 9 DCB					CAS #: 2051-24-3		
8.239	8.238	0.001	1621082	0.00331	11.03	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f030f3001.d
Date : 05-MAR-1999 23:42
Client ID: S-022399-JH-070
Sample Info: CR2RN101,10
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 010

Sample WT/Vol: 30.15 / g
Work Order: CR2RP101
Dilution factor: 1
Moisture %:12

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/05/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-071

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38	U
11104-28-2	Aroclor 1221	38	U
11141-16-5	Aroclor 1232	38	U
53469-21-9	Aroclor 1242	80	
12672-29-6	Aroclor 1248	38	U
11097-69-1	Aroclor 1254	38	U
11096-82-5	Aroclor 1260	38	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f031f3101.d
Report Date: 08-Mar-1999 12:29

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f031f3101.d
Lab Smp Id: CR2RP101 Client Smp ID: S-022399-JH-071
Inj Date : 05-MAR-1999 23:59
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RP101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 31
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.150	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.850	1.848	0.002	13147911	0.01419	4.706	80.00- 120.00	100.00
5 AROCLOR-1242						CAS #: 53469-21-9		
	2.093	2.095	-0.002	1317130	0.12105	40.15	80.00- 120.00	100.00(M)
	2.351	2.352	-0.001	4571647	0.24370	80.83	124.30- 207.17	347.09
	2.500	2.501	-0.001	2928613	0.23547	78.10	71.73- 119.55	222.35
	2.695	2.695	0.000	8026569	0.21265	70.53	230.56- 384.27	609.40
	3.181	3.113	0.068	4064531	0.24569	81.49	104.79- 174.65	308.59
		Average of Peak Concentrations =				70.22		
6 AROCLOR-1248						CAS #: 12672-29-6		
	2.351	2.349	0.002	4571647	0.46063	152.8	80.00- 120.00	100.00(M)
	2.695	2.694	0.001	8026569	0.33662	111.6	161.12- 268.53	175.57
	2.950	2.950	0.000	0			119.97- 199.95	0.00
	3.181	3.112	0.069	4064531	0.14616	48.48	186.75- 311.24	88.91

MLS 3-8-99
possible mix of 1242+1248 pattern best fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f031f3101.d
Report Date: 08-Mar-1999 12:29

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.126	4.126	0.000	1479973	0.09955	33.02	101.05- 168.42	32.37
	Average of Peak Concentrations =				86.48		
$ 9 DCB					CAS #: 2051-24-3		
8.238	8.238	0.000	9978466	0.02037	6.756	80.00- 120.00	100.00

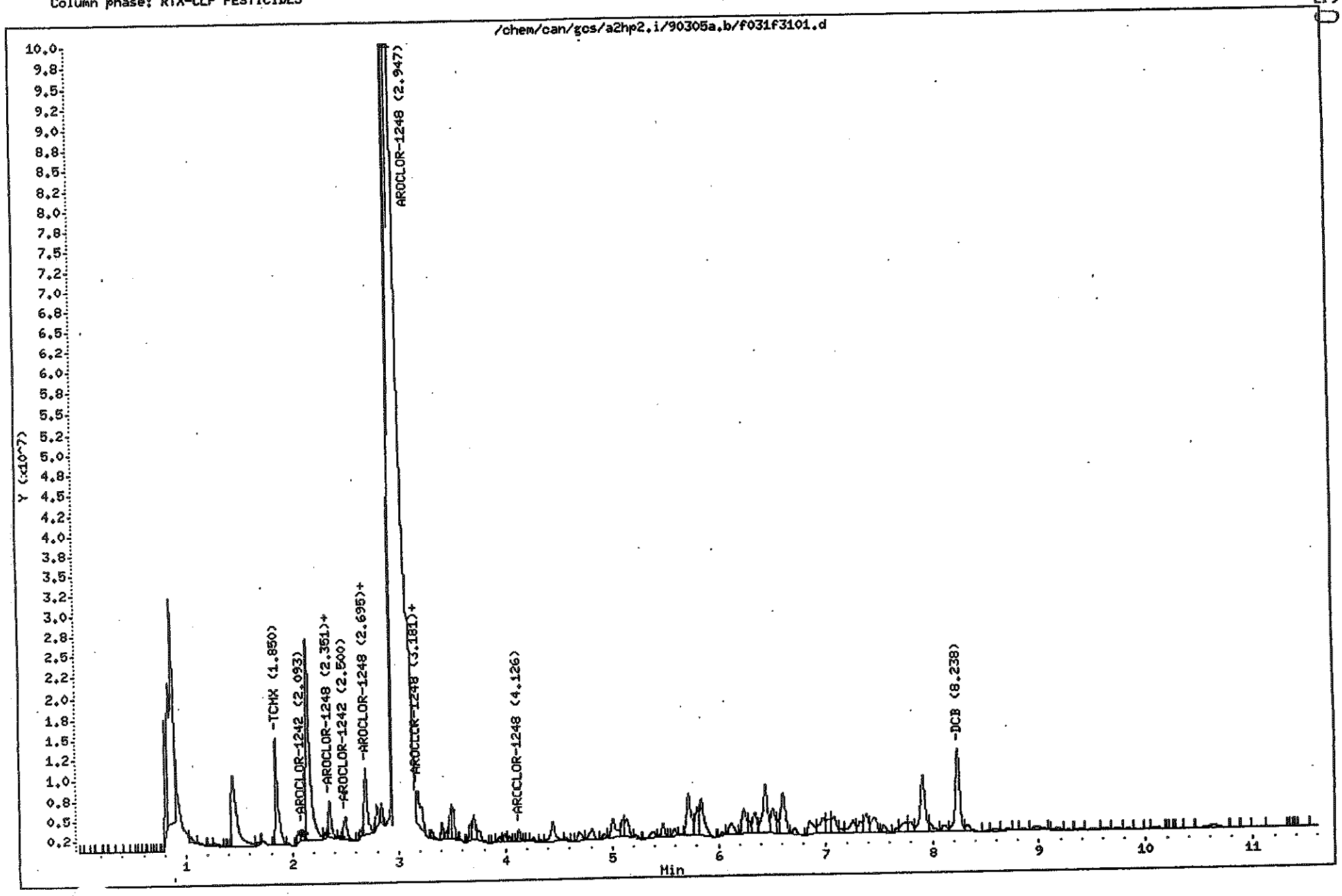
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f031f3101.d
Date : 05-MAR-1999 23:59
Client ID: S-022399-JH-071
Sample Info: CR2RP101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

052



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 011

Sample WT/Vol: 30.03 / g
Work Order: CR2RR101
Dilution factor: 100
Moisture %:7.4

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-072

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3600	U
11104-28-2	Aroclor 1221	3600	U
11141-16-5	Aroclor 1232	3600	U
53469-21-9	**Aroclor 1242**	**17000**	
12672-29-6	Aroclor 1248	3600	U
11097-69-1	Aroclor 1254	3600	U
11096-82-5	Aroclor 1260	3600	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f035f3501.d
Report Date: 08-Mar-1999 12:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f035f3501.d
Lab Smp Id: CR2RR101 Client Smp ID: S-022399-JH-072
Inj Date : 06-MAR-1999 01:06
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RR101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 35
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.030	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.824	1.848	-0.024	531726	0.000574	19.11	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	2.094	2.095	-0.001	4480099	0.41173	13710	80.00- 120.00	100.00(M)
	2.352	2.352	0.000	9103148	0.48526	16160	124.30- 207.17	203.19
	2.500	2.501	-0.001	5441568	0.43752	14570	71.73- 119.55	121.46
	2.694	2.695	-0.001	17697596	0.46888	15610	230.56- 384.27	395.03
	3.113	3.113	0.000	8225084	0.49718	16560	104.79- 174.65	183.59
				Average of Peak Concentrations =		15320		
6 AROCLOR-1248						CAS #: 12672-29-6		
	2.352	2.349	0.003	9103148	0.91721	30540	80.00- 120.00	100.00(M)
	2.694	2.694	0.000	17697596	0.74220	24720	161.12- 368.53	194.41
	2.979	2.950	0.029	5298233	0.20984	6988	119.97- 199.95	58.20
	3.113	3.112	0.001	8225084	0.29577	9849	186.75- 311.24	90.35

ALS 3-8-99
possible mix of 1242 + 1248 pattern best fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f035f3501.d
Report Date: 08-Mar-1999 12:30

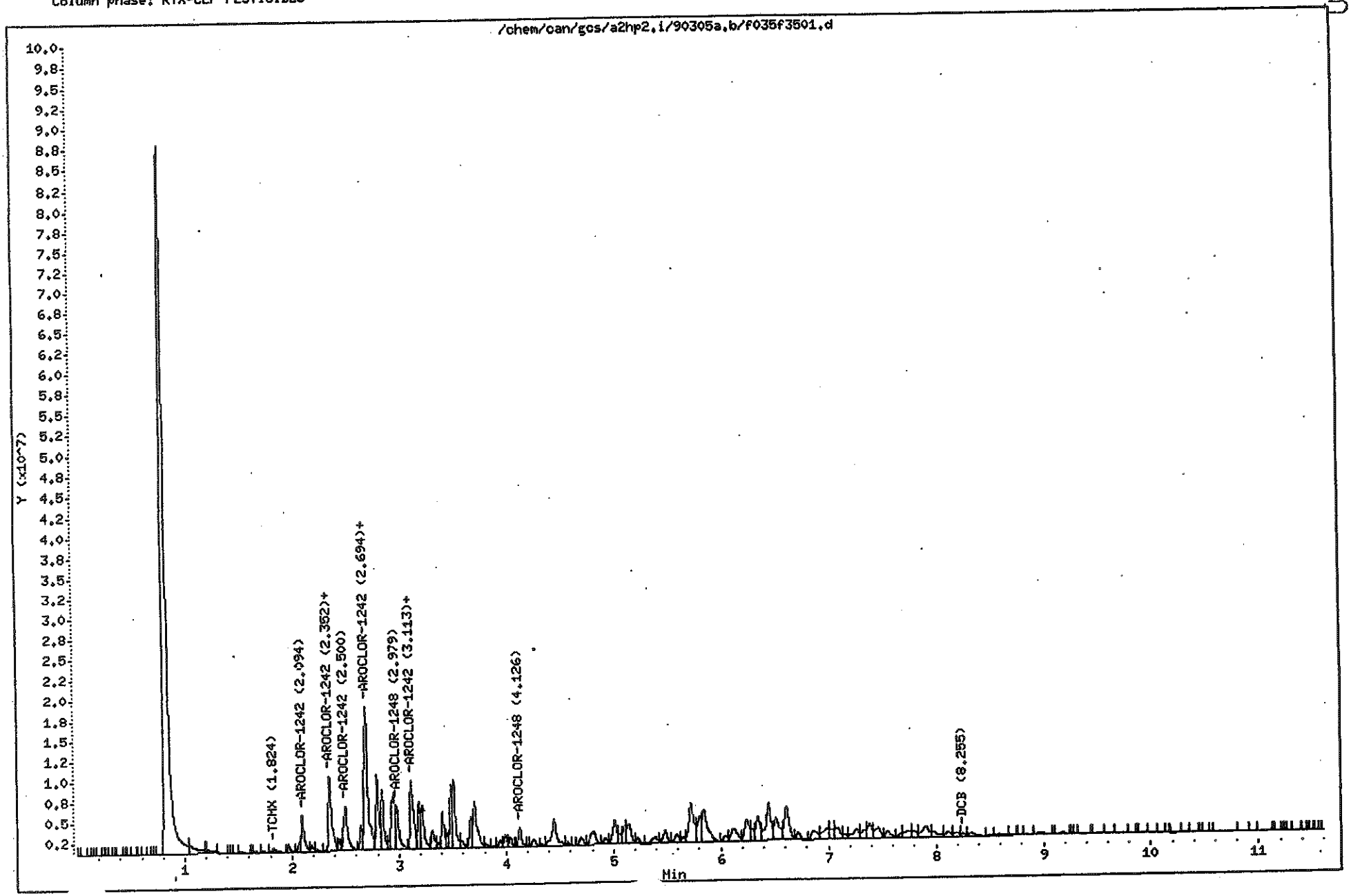
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.126	4.126	0.000	2296993	0.15451	5145	101.05- 168.42	25.23
Average of Peak Concentrations =					15450		
$ 9 DCB					CAS #: 2051-24-3		
8.255	8.238	0.017	351797	0.000718	23.91	80.00- 120.00	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f035f3501.d
Date : 06-MAR-1999 01:06
Client ID: S-022399-JH-072
Sample Info: CR2RR101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 012

Sample WT/Vol: 30.02 / g
Work Order: CR2RT101
Dilution factor: 1
Moisture %:9.8

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-073

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	37	U
11104-28-2	Aroclor 1221	37	U
11141-16-5	Aroclor 1232	37	U
53469-21-9	**Aroclor 1242**	**370**	
12672-29-6	Aroclor 1248	37	U
11097-69-1	Aroclor 1254	37	U
11096-82-5	Aroclor 1260	37	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f036f3601.d
Report Date: 08-Mar-1999 12:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f036f3601.d
Lab Smp Id: CR2RT101 Client Smp ID: S-022399-JH-073
Inj Date : 06-MAR-1999 01:22
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RT101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 36
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.020	initial volume

CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE	ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.850	1.848	0.002	9704511	0.01047	3.489	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
2.065	2.095	-0.030	1500509	0.13790	45.94	80.00- 120.00	100.00(M)
2.350	2.352	-0.002	23384728	1.24656	415.2	124.30- 207.17	1558.45
2.500	2.501	-0.001	13879275	1.11595	371.7	71.73- 119.55	924.97
2.694	2.695	-0.001	24629989	0.65254	217.4	230.56- 384.27	1641.44
3.111	3.113	-0.002	30643415	1.85229	617.0	104.79- 174.65	2042.20
		Average of Peak Concentrations =			333.5		
6 AROCLOR-1248					CAS #: 12672-29-6		
2.350	2.349	0.001	23384728	2.35619	784.9	80.00- 120.00	100.00(M)
2.694	2.694	0.000	24629989	1.03294	344.1	161.12- 268.53	105.33
2.945	2.950	-0.005	0			119.97- 199.95	0.00
3.111	3.112	-0.001	30643415	1.10192	367.1	186.75- 311.24	131.04

ALS 3-8-99
possible mix
of 1242 &
1248 patter
best fits
1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f036f3601.d
Report Date: 08-Mar-1999 12:30

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.125	4.126	-0.001	7080645	0.47630	158.7	101.05- 168.42	30.28
		Average of Peak Concentrations =			413.7		
$ 9 DCB					CAS #: 2051-24-3		
8.240	8.238	0.002	10272428	0.02097	6.985	80.00- 120.00	100.00

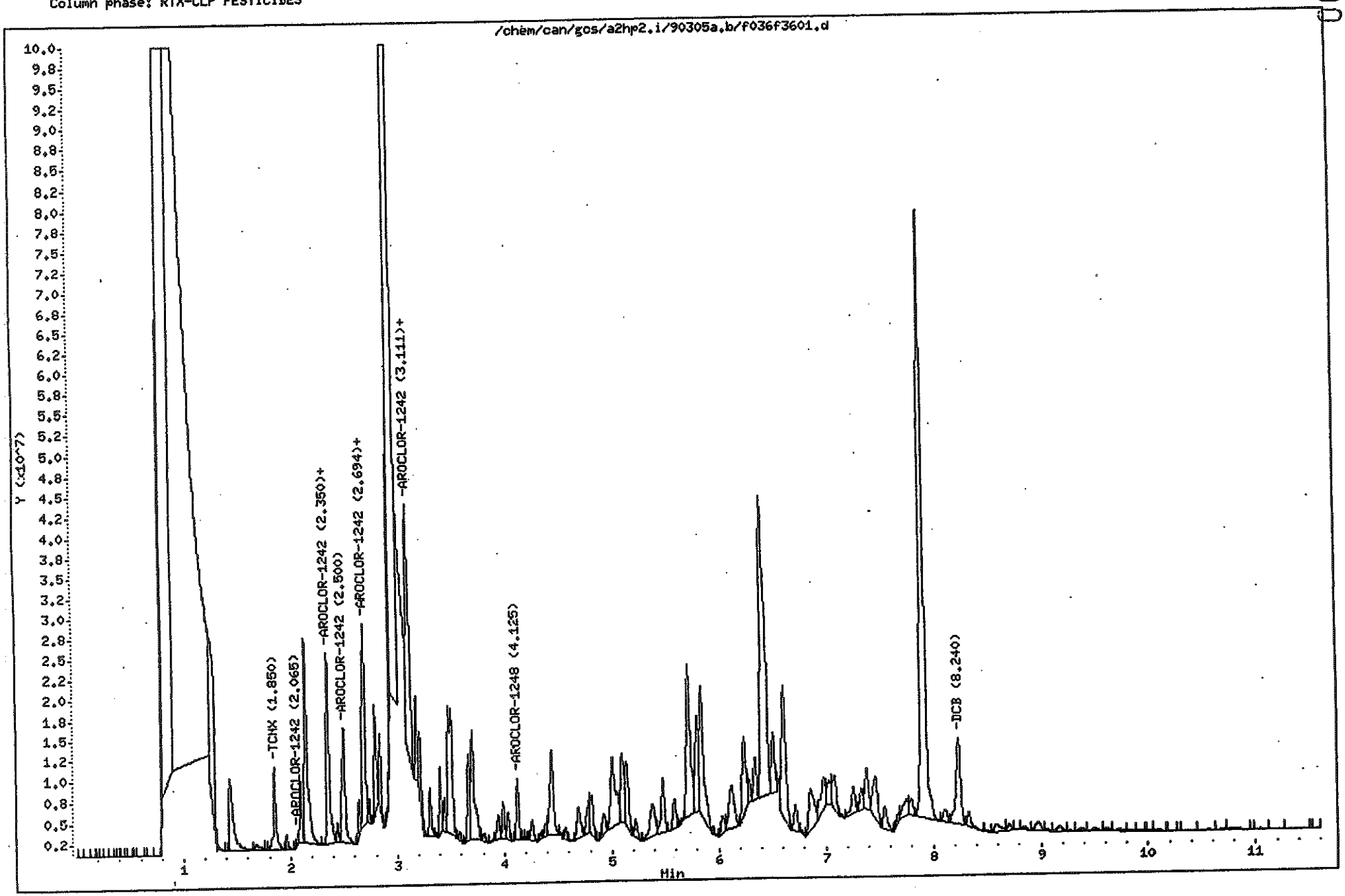
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f036f3601.d
Date : 06-MAR-1999 01:22
Client ID: S-022399-JH-073
Sample Info: CR2RT101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

090



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 013

Sample WT/Vol: 30.19 / g
Work Order: CR2RV101
Dilution factor: 1
Moisture %:13

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-074

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38	U
11104-28-2	Aroclor 1221	38	U
11141-16-5	Aroclor 1232	38	U
53469-21-9	Aroclor 1242	38	U
12672-29-6	Aroclor 1248	38	U
11097-69-1	Aroclor 1254	38	U
11096-82-5	Aroclor 1260	38	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f037f3701.d
Report Date: 08-Mar-1999 12:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f037f3701.d
Lab Smp Id: CR2RV101 Client Smp ID: S-022399-JH-074
Inj Date : 06-MAR-1999 01:39
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RV101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 37
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

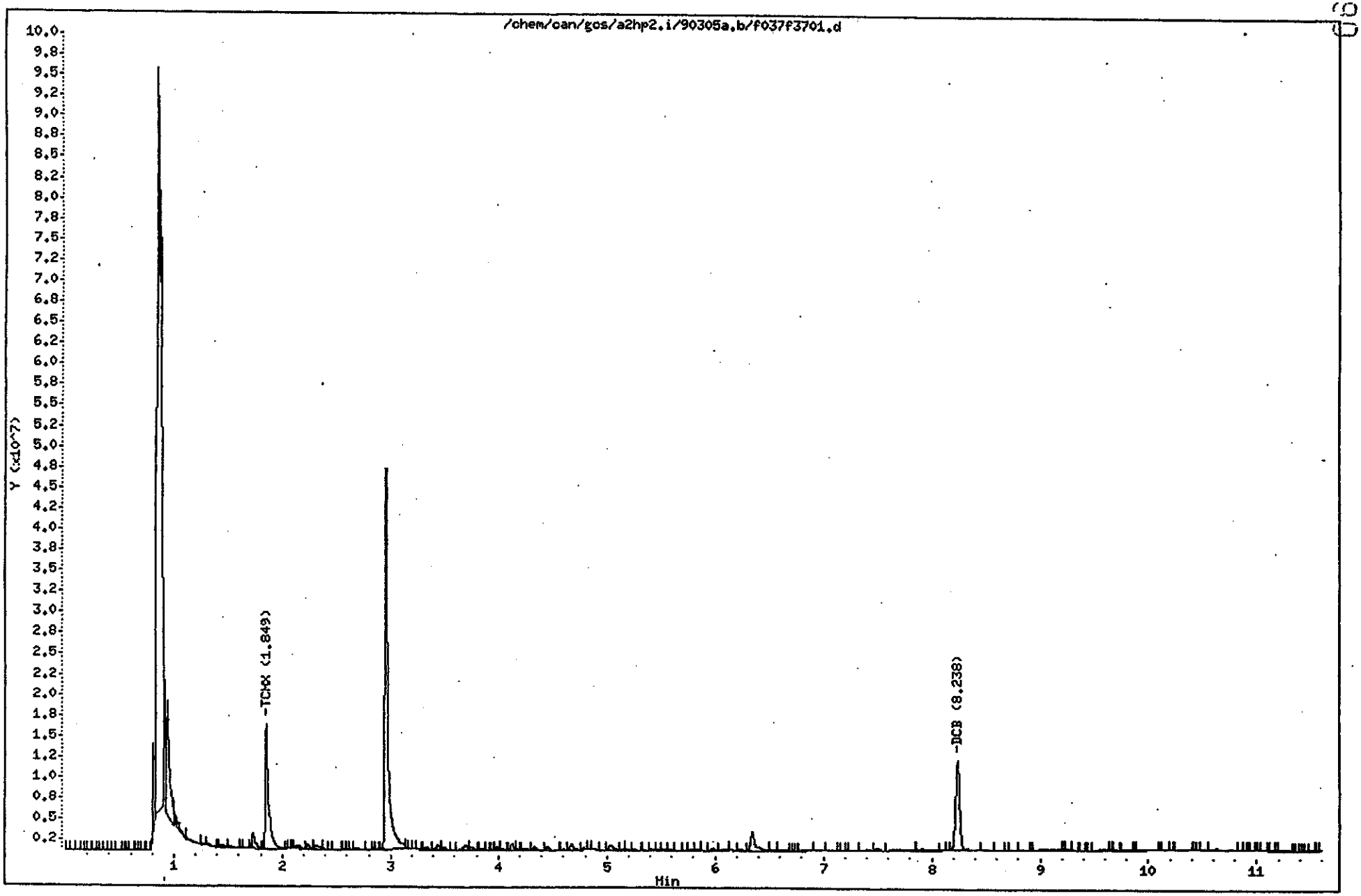
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.190	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.849	1.848	0.001	15012769	0.01620	5.367	80.00- 120.00	100.00
$ 9 DCB						CAS #: 2051-24-3		
	8.238	8.238	0.000	10764849	0.02197	7.278	80.00- 120.00	100.00

Data File: /chem/can/gos/a2hp2.i/90305a.b/f037f3701.d
Date . 06-MAR-1999 01:39
Client ID: S-022399-JH-074
Sample Info: CR2RV101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 014

Sample WT/Vol: 30.06 / g
Work Order: CR2RX101
Dilution factor: 1
Moisture %:0.63

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-075

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	33	U
11104-28-2	Aroclor 1221	33	U
11141-16-5	Aroclor 1232	33	U
53469-21-9	Aroclor 1242	33	U
12672-29-6	Aroclor 1248	33	U
11097-69-1	Aroclor 1254	33	U
11096-82-5	Aroclor 1260	33	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f038f3801.d
Report Date: 08-Mar-1999 12:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f038f3801.d
Lab Smp Id: CR2RX101 Client Smp ID: S-022399-JH-075
Inj Date : 06-MAR-1999 01:56
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2RX101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 38
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

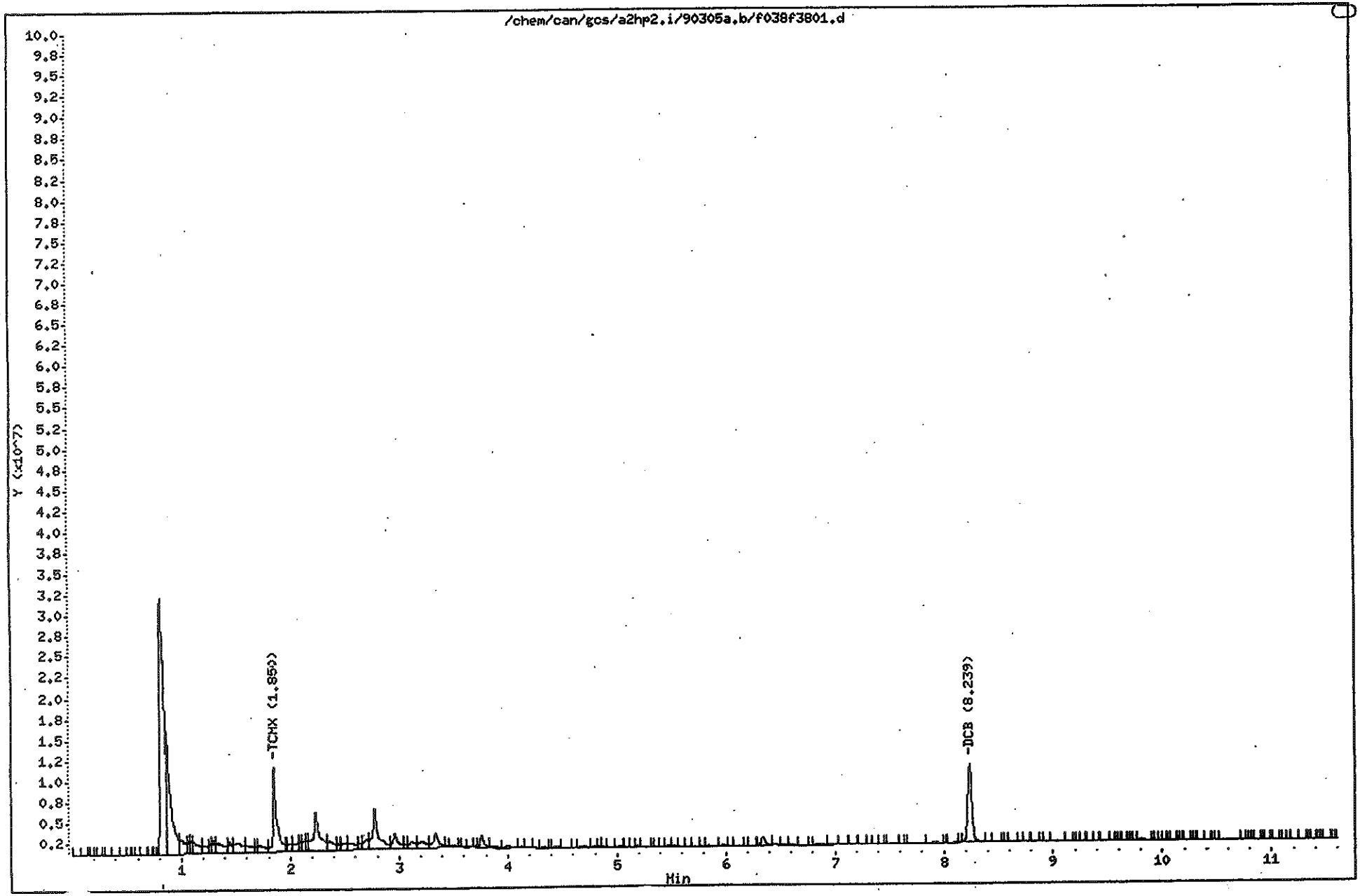
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.060	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.850	1.848	0.002	10194756	0.01100	3.660	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
8.239	8.238	0.001	9494846	0.01938	6.448	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f038f3801.d
Date : 06-MAR-1999 01:56
Client ID: S-022399-JH-075
Sample Info: CR2RX101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 015

Sample WT/Vol: 30.08 / g
Work Order: CR2T0101
Dilution factor: 1
Moisture %:16

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-076

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	39	U
11104-28-2	Aroclor 1221	39	U
11141-16-5	Aroclor 1232	39	U
53469-21-9	Aroclor 1242	39	U
12672-29-6	Aroclor 1248	39	U
11097-69-1	Aroclor 1254	39	U
11096-82-5	Aroclor 1260	39	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f039f3901.d
Report Date: 08-Mar-1999 12:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f039f3901.d
Lab Smp Id: CR2T0101 Client Smp ID: S-022399-JH-076
Inj Date : 06-MAR-1999 02:12
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2T0101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 39
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.080	initial volume

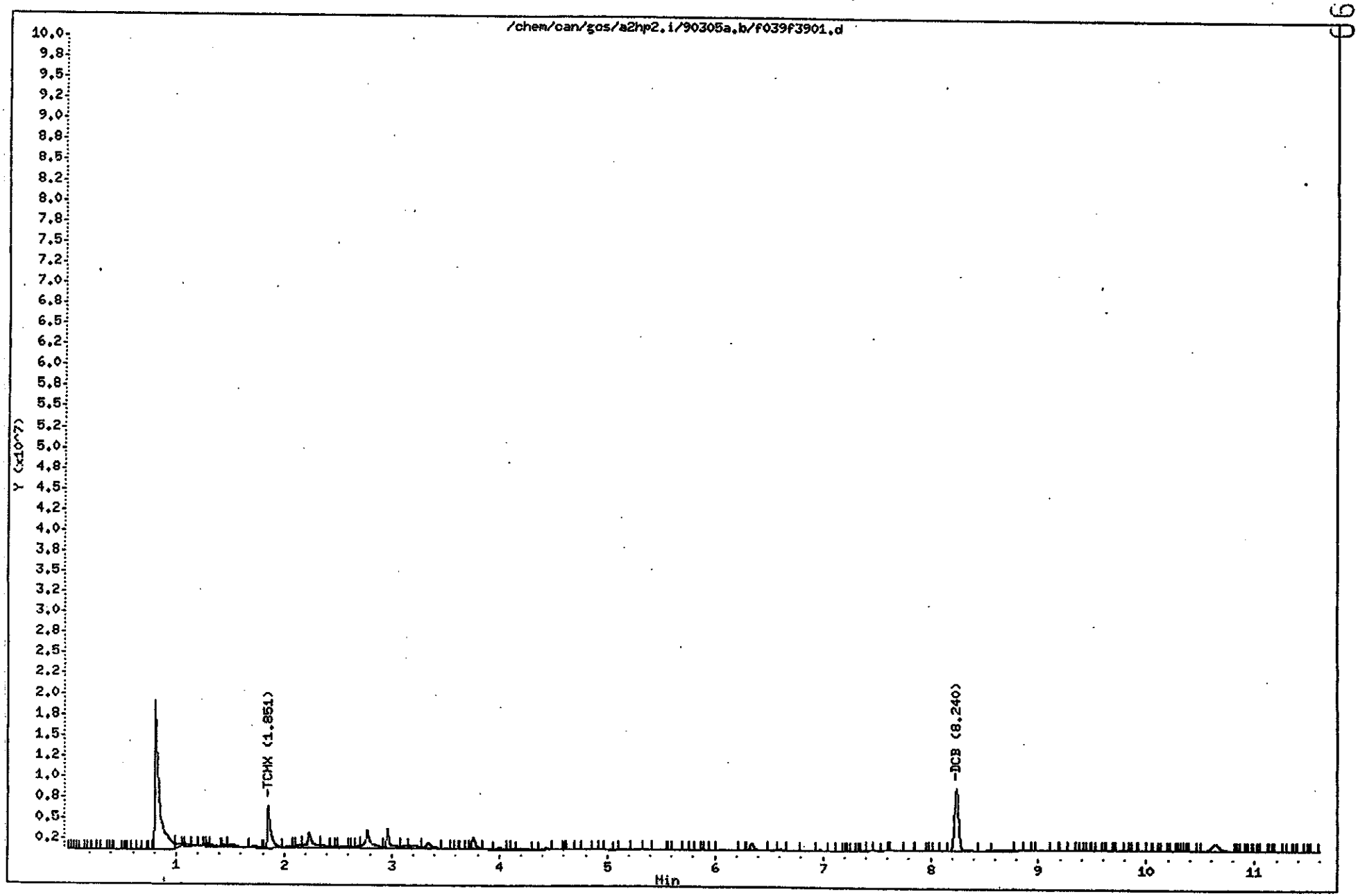
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.851	1.848	0.003	5052680	0.00545	1.813	80.00- 120.00	100.00(R)
$ 9 DCB						CAS #: 2051-24-3		
	8.240	8.238	0.002	7524056	0.01536	5.106	80.00- 120.00	100.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

le: /chem/can/gcs/a2hp2.i/90305a.b/f039f3901.d
Date : 06-MAR-1999 02:12
Client ID: S-022399-JH-076
Sample Info: CR2T0101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 016

Sample WT/Vol: 30.11 / g
Work Order: CR2T1101
Dilution factor: 1
Moisture %:16

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-077

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	39	U
11104-28-2	Aroclor 1221	39	U
11141-16-5	Aroclor 1232	39	U
53469-21-9	Aroclor 1242	39	U
12672-29-6	Aroclor 1248	39	U
11097-69-1	Aroclor 1254	39	U
11096-82-5	Aroclor 1260	39	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f040f4001.d
Report Date: 08-Mar-1999 12:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f040f4001.d
Lab Smp Id: CR2T1101 Client Smp ID: S-022399-JH-077
Inj Date : 06-MAR-1999 02:29
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2T1101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 40
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

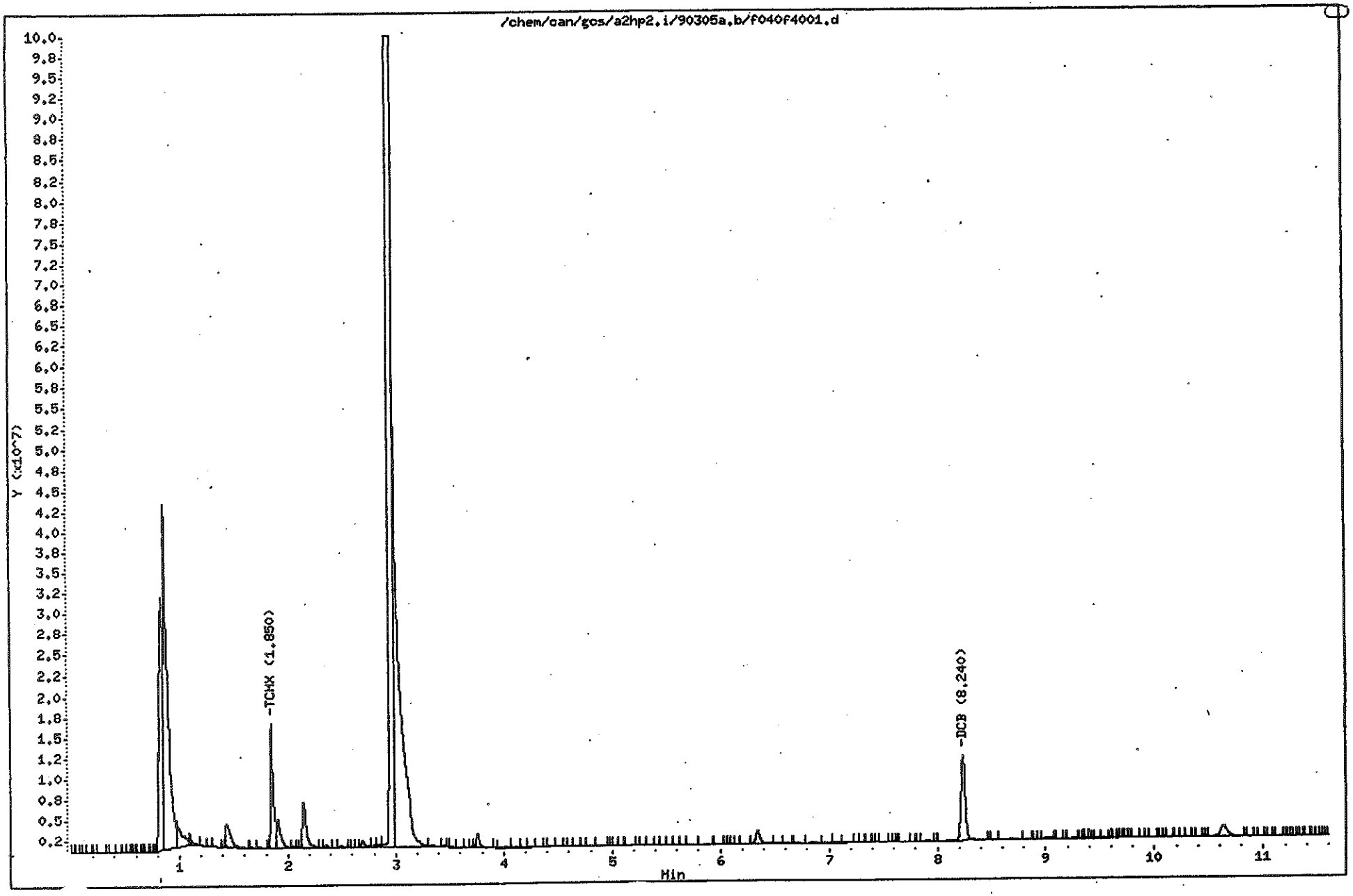
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.110	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.850	1.848	0.002	15071389	0.01627	5.402	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
8.240	8.238	0.002	10311232	0.02105	6.990	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f040f4001.d
Date : 06-MAR-1999 02:29
Client ID: S-022399-JH-077
Sample Info: CR2T1101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 017

Sample WT/Vol: 30.19 / g
Work Order: CR2T2101
Dilution factor: 100
Moisture %:10

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-078

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3700	U
11104-28-2	Aroclor 1221	3700	U
11141-16-5	Aroclor 1232	3700	U
53469-21-9	Aroclor 1242	17000	
12672-29-6	Aroclor 1248	3700	U
11097-69-1	Aroclor 1254	3700	U
11096-82-5	Aroclor 1260	3700	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f041f4101.d
Report Date: 08-Mar-1999 12:30

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f041f4101.d
Lab Smp Id: CR2T2101 Client Smp ID: S-022399-JH-078
Inj Date : 06-MAR-1999 02:46
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2T2101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 41
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.190	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$	1 TCMX					CAS #: 877-09-8		
	1.850	1.848	0.002	240058	0.000259	8.582	80.00- 120.00	100.00
	5 AROCLOR-1242					CAS #: 53469-21-9		
	2.095	2.095	0.000	2039311	0.18742	6208	80.00- 120.00	100.00(M)
	2.352	2.352	0.000	8131117	0.43344	14360	124.30- 207.17	398.72
	2.485	2.501	-0.016	4759602	0.38269	12680	71.73- 119.55	233.39
	2.695	2.695	0.000	20553758	0.54455	18040	230.56- 384.27	1007.88
	3.113	3.113	0.000	11606046	0.70155	23240	104.79- 174.65	569.12
		Average of Peak Concentrations =				14900		
	6 AROCLOR-1248					CAS #: 12672-29-6		
	2.352	2.349	0.003	8131117	0.81927	27140	80.00- 120.00	100.00(M)
	2.695	2.694	0.001	20553758	0.86199	28550	161.12- 268.53	252.78
	2.953	2.950	0.003	12427748	0.49222	16300	119.97- 199.95	152.84
	3.113	3.112	0.001	11606046	0.41735	13820	186.75- 311.24	142.74

BLS 3-8-99
possible mix of 1242's
1248 pattern
best fits
1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f041f4101.d
Report Date: 08-Mar-1999 12:30

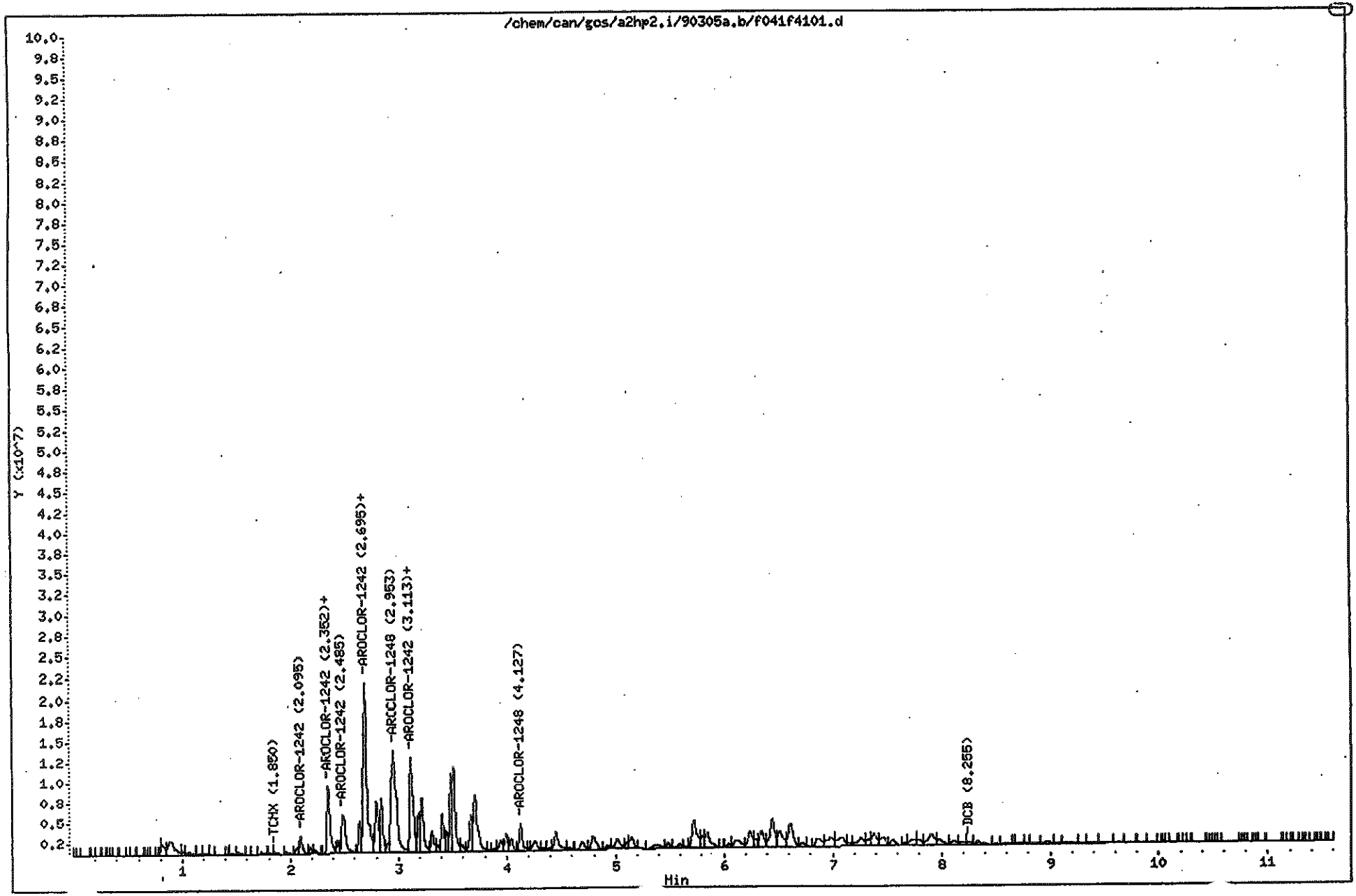
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
	6 AROCLOR-1248 (continued)							
	4.127	4.126	0.001	3174315	0.21353	7073	101.05- 168.42	39.04
	Average of Peak Concentrations =					18580		
$	9 DCB					CAS #: 2051-24-3		
	8.255	8.238	0.017	362695	0.00074	24.52	80.00- 120.00	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f041f4101.d
Date : 06-MAR-1999 02:46
Client ID: S-022399-JH-078
Sample Info: CR2T2101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 018

Sample WT/Vol: 30.01 / g
Work Order: CR2T4101
Dilution factor: 500
Moisture %:7.8

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-079

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	18000	U
11104-28-2	Aroclor 1221	18000	U
11141-16-5	Aroclor 1232	18000	U
53469-21-9	**Aroclor 1242**	**58000**	
12672-29-6	Aroclor 1248	18000	U
11097-69-1	Aroclor 1254	18000	U
11096-82-5	Aroclor 1260	18000	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f042f4201.d
Report Date: 08-Mar-1999 12:31

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f042f4201.d
Lab Smp Id: CR2T4101 Client Smp ID: S-022399-JH-079
Inj Date : 06-MAR-1999 03:03
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2T4101,500
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 42
Dil Factor: 500.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	500.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.010	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.821	1.848	-0.027	343501	0.000371	61.77	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
2.092	2.095	-0.003	3104802	0.28534	47540	80.00- 120.00	100.00(M)
2.350	2.352	-0.002	6703356	0.35733	59540	124.30- 207.17	215.90
2.498	2.501	-0.003	3780044	0.30393	50640	71.73- 119.55	121.75
2.693	2.695	-0.002	12272702	0.32515	54170	230.56- 384.27	395.28
3.111	3.113	-0.002	5593042	0.33808	56330	104.79- 174.65	180.14
		Average of Peak Concentrations =			53640		
6 AROCLOR-1248					CAS #: 12672-29-6		
2.350	2.349	0.001	6703356	0.67541	112500	80.00- 120.00	100.00(M)
2.693	2.694	-0.001	12272702	0.51469	85750	161.12- 268.53	183.08
2.949	2.950	-0.001	4575929	0.18124	30200	119.97- 199.95	68.26
3.111	3.112	-0.001	5593042	0.20112	33510	186.75- 311.24	83.44

RLS 3-8-99
possible mi
of 1242 -
1248 patte
best fits
1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f042f4201.d
Report Date: 08-Mar-1999 12:31

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
	6 AROCLOR-1248 (continued)							
	4.125	4.126	-0.001	1537548	0.10343	17230	101.05- 168.42	22.94
	Average of Peak Concentrations =					55840		
$	9 DCB					CAS #: 2051-24-3		
	8.255	8.238	0.017	59749	0.000122	20.32	80.00- 120.00	100.00(R)

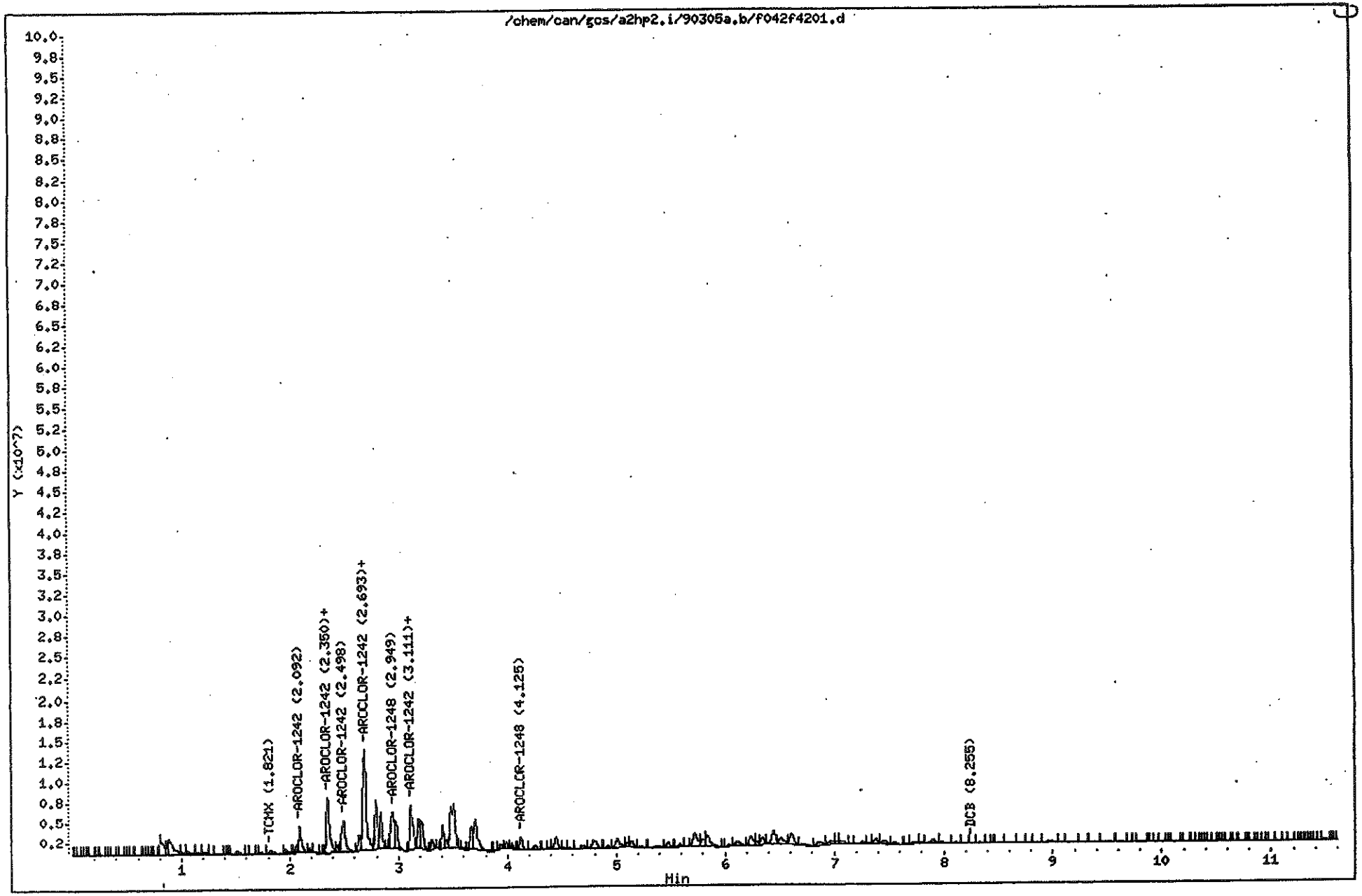
QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f042f4201.d
Date : 06-MAR-1999 03:03
Client ID: S-022399-JH-079
Sample Info: CR2T4101,500
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

080



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 019

Sample WT/Vol: 30.1 / g
Work Order: CR2T5101
Dilution factor: 100
Moisture %:5.2

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-080

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	3500	U
11104-28-2	Aroclor 1221	3500	U
11141-16-5	Aroclor 1232	3500	U
53469-21-9	**Aroclor 1242**	**13000**	
12672-29-6	Aroclor 1248	3500	U
11097-69-1	Aroclor 1254	3500	U
11096-82-5	Aroclor 1260	3500	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f043f4301.d
Report Date: 08-Mar-1999 12:31

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f043f4301.d
Lab Smp Id: CR2T5101 Client Smp ID: S-022399-JH-080
Inj Date : 06-MAR-1999 03:19
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2T5101,100
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 43
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	100.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.100	initial volume

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX						CAS #: 877-09-8		
	1.823	1.848	-0.025	707446	0.000764	25.37	80.00- 120.00	100.00(R)
5 AROCLOR-1242						CAS #: 53469-21-9		
	2.094	2.095	-0.001	4324805	0.39746	13200	80.00- 120.00	100.00(M)
	2.352	2.352	0.000	9559898	0.50961	16930	124.30- 207.17	221.05
	2.499	2.501	-0.002	4978008	0.40025	13300	71.73- 119.55	115.10
	2.694	2.695	-0.001	10489942	0.27792	9233	230.56- 384.27	242.55
	3.113	3.113	0.000	4711692	0.28481	9462	104.79- 174.65	108.95
Average of Peak Concentrations =						12420		
6 AROCLOR-1248						CAS #: 12672-29-6		
	2.352	2.349	0.003	9559898	0.96323	32000	80.00- 120.00	100.00(M)
	2.694	2.694	0.000	10489942	0.43993	14620	161.12- 268.53	109.73
	2.950	2.950	0.000	4613573	0.18273	6071	119.97- 199.95	48.20
	3.113	3.112	0.001	4711692	0.16943	5629	186.75- 311.24	49.29

RLS 3-8-99
possible mix of 1242 + 1248 pattern fits best 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f043f4301.d
Report Date: 08-Mar-1999 12:31

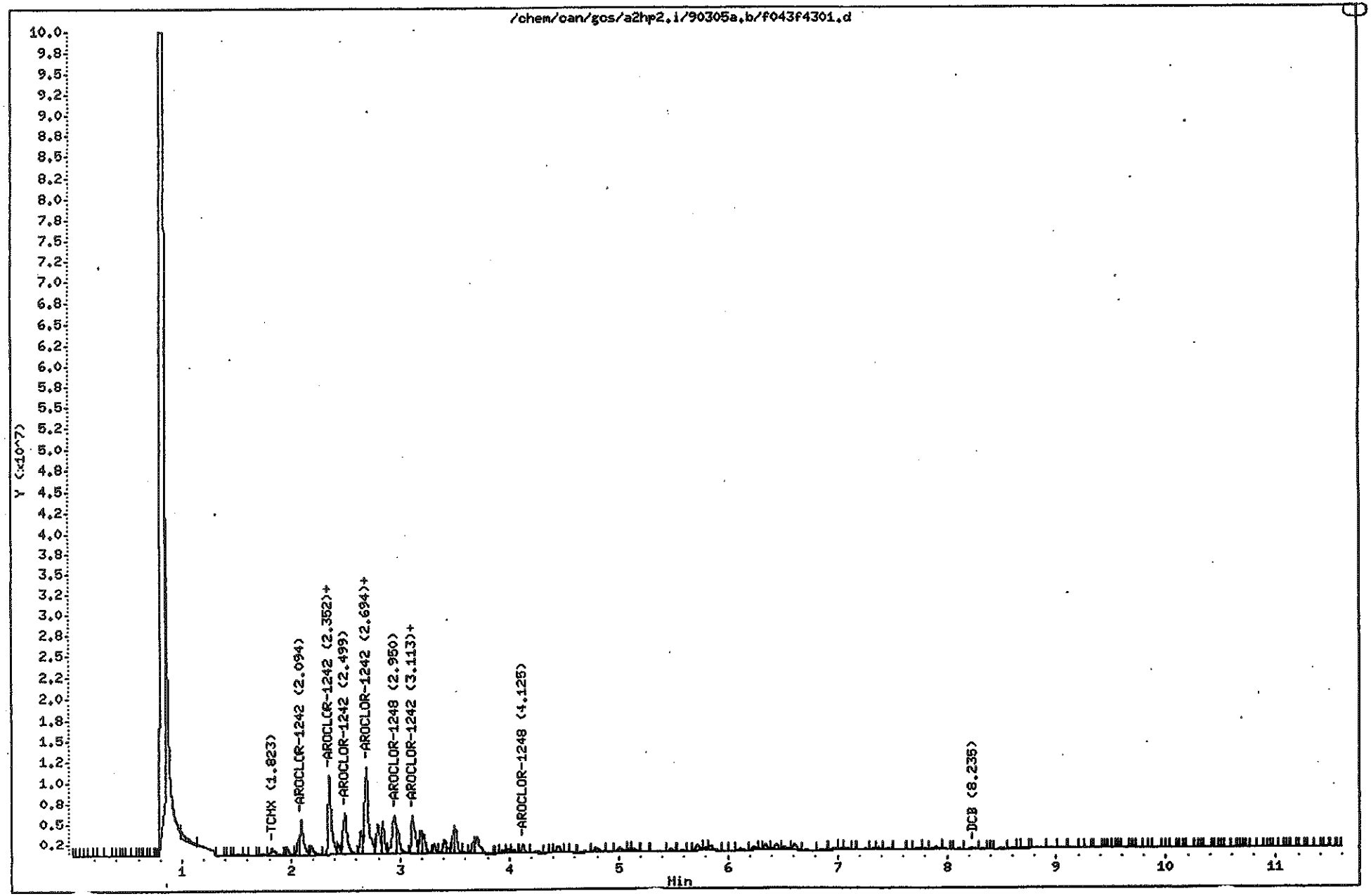
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.125	4.126	-0.001	1003668	0.06751	2243	101.05- 168.42	10.50
Average of Peak Concentrations =					12110		
$ 9 DCB					CAS #: 2051-24-3		
8.235	8.238	-0.003	174236	0.000356	11.82	80.00- 120.00	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f043f4301.d
Date : 06-MAR-1999 03:19
Client ID: S-022399-JH-080
Sample Info: CR2T5101,100
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240116 020

Sample WT/Vol: 30.04 / g
Work Order: CR2T6101
Dilution factor: 1000
Moisture %:14

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: S-022399-JH-081

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	38000	U
11104-28-2	Aroclor 1221	38000	U
11141-16-5	Aroclor 1232	38000	U
53469-21-9	**Aroclor 1242**	**180000**	
12672-29-6	Aroclor 1248	38000	U
11097-69-1	Aroclor 1254	38000	U
11096-82-5	Aroclor 1260	38000	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f044f4401.d
Report Date: 08-Mar-1999 12:31

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f044f4401.d
Lab Smp Id: CR2T6101 Client Smp ID: S-022399-JH-081
Inj Date : 06-MAR-1999 03:36
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR2T6101,1000
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 44
Dil Factor: 1000.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1000.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.040	initial volume

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	CONCENTRATIONS FINAL (ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.822	1.848	-0.026	2300000	0.00248	826.3	80.00- 120.00	100.00(R)
5 AROCLOR-1242					CAS #: 53469-21-9		
2.093	2.095	-0.002	10834547	0.99572	331500	80.00- 120.00	100.00(M)
2.357	2.352	0.005	10047203	0.53558	178300	124.30- 207.17	92.73
2.483	2.501	-0.018	7942805	0.63863	212600	71.73- 119.55	73.31
2.678	2.695	-0.017	1602886	0.04247	14140	230.56- 384.27	14.79
3.133	3.113	0.020	1103750	0.06672	22210	104.79- 174.65	10.19
Average of Peak Concentrations =					151700		
6 AROCLOR-1248					CAS #: 12672-29-6		
2.357	2.349	0.008	10047203	1.01233	337000	80.00- 120.00	100.00(M)
2.678	2.694	-0.016	1602886	0.06722	22380	161.18- 268.53	15.95
2.975	2.950	0.025	4252829	0.16844	56070	119.97- 199.95	42.33
3.133	3.112	0.021	1103750	0.03969	13210	186.75- 311.24	10.99

ALS 3-8-99. possible mix of 1242 & 1248 patte best fits 1242

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f044f4401.d
Report Date: 08-Mar-1999 12:31

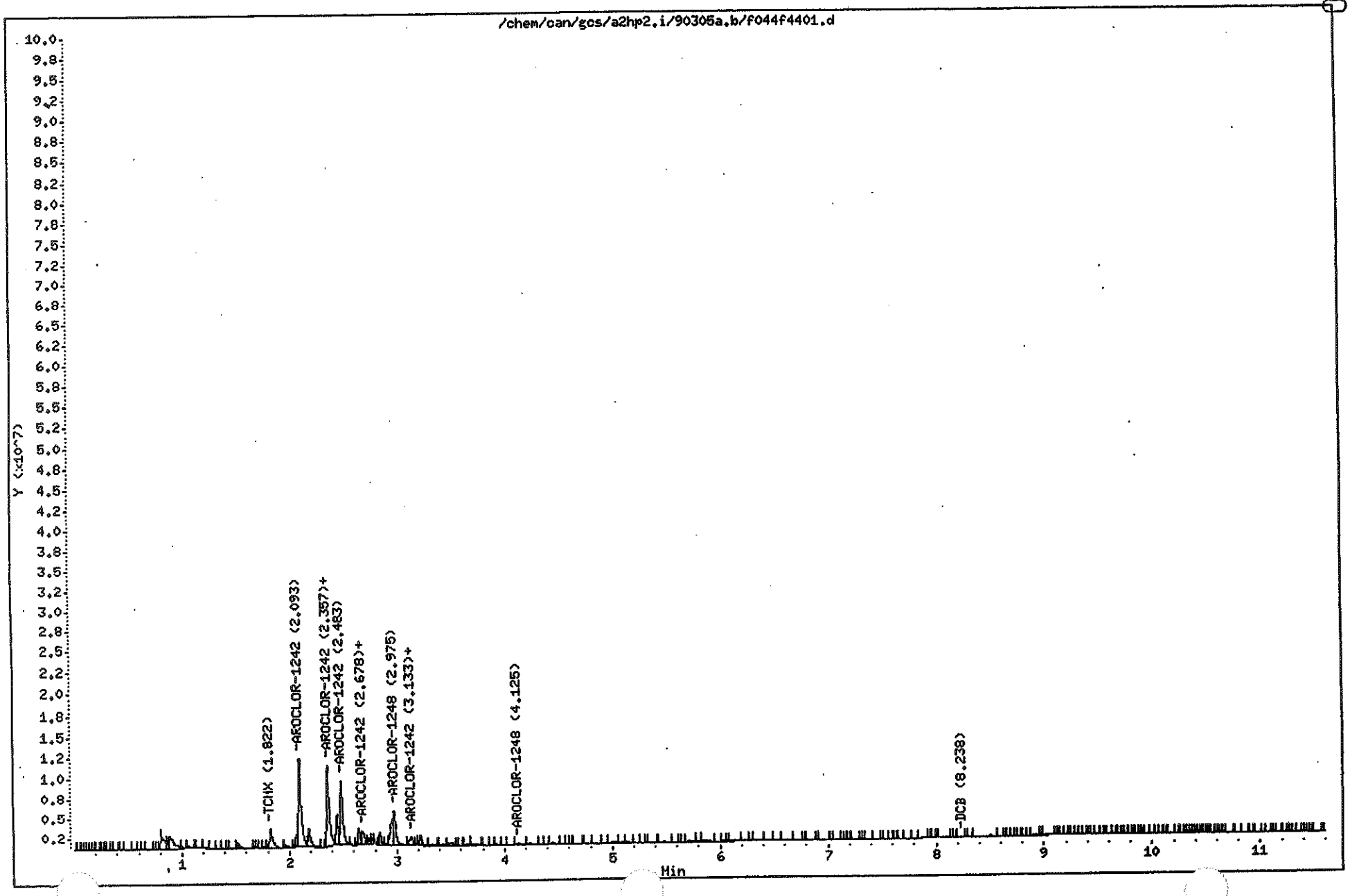
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
6 AROCLOR-1248 (continued)							
4.125	4.126	-0.001	105885	0.00712	2371	101.05- 168.42	1.05
	Average of Peak Concentrations =				86200		
$ 9 DCB					CAS #: 2051-24-3		
8.238	8.238	0.000	29511	<0.0	20.05	80.00- 120.00	100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f044f4401.d
Date : 06-MAR-1999 03:36
Client ID: S-022399-JH-081
Sample Info: CR2T6101,1000
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



POLYCHLORINATED BIPHENYLS
STANDARD DATA

Report Date : 04-Mar-1999 15:28

QUANTERRA-NORTH CANTON

INITIAL CALIBRATION DATA

Start Cal Date : 05-FEB-1999 10:01
End Cal Date : 05-FEB-1999 17:50
Quant Method : ESTD
Origin : Disabled
Target Version : 3.40
Integrator : Falcon
Method file : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Cal Date : 03-Mar-1999 09:44 a
Curve Type : Average

Calibration File Names:
Level 1: /chem/can/gcs/a2hp2.i/90205a.b/f024f0701.d
Level 2: /chem/can/gcs/a2hp2.i/90205a.b/f025f0801.d
Level 3: /chem/can/gcs/a2hp2.i/90205a.b/f026f0901.d
Level 4: /chem/can/gcs/a2hp2.i/90205a.b/f027f1001.d
Level 5: /chem/can/gcs/a2hp2.i/90205a.b/f028f1101.d

Compound	0.10000 Level 1	0.20000 Level 2	0.50000 Level 3	1.000 Level 4	2.000 Level 5	RRF	% RSD
2 AROCLOR-1221 (1)	8607930	10219030	9659562	7814153	7586954	8777526	13.027
(2)	6330870	7124795	6437752	5229857	4970157	6018686	14.903
(3)	23073690	25801740	24139482	20664962	19911142	22718203	10.726
3 AROCLOR-1016 (1)	16185890	15935755	14599002	15368362	12195376	14856877	10.823
(2)	27736710	27709690	26667280	26200593	23082882	26279431	7.256
(3)	56012490	55320960	51826012	50674945	48022182	52371318	6.336
(4)	25732680	25772495	24717196	23970112	22303657	24499228	5.876
(5)	23163500	23127835	21766504	20871536	19760960	21738067	6.755
4 AROCLOR-1232 (1)	19875390	16195415	18216640	14806445	13837076	16586193	14.877
(2)	13027220	10977520	11568390	10434993	9518926	11105410	11.818
(3)	22664660	21044180	22678854	21319380	19862942	21514003	5.532
(4)	11648400	10275075	10785620	9889187	9148306	10349318	9.087
(5)	8098570	7389230	7905108	7318774	6852490	7512834	6.608
5 AROCLOR-1242 (1)	11319750	10447090	10882090	11445157	10311236	10881065	4.649
(2)	19876230	19384100	18026992	19073332	17436193	18759369	5.346
(3)	13260610	12778010	12518602	12044066	11584844	12437226	5.214
(4)	38341160	38759915	38094758	37296301	36231810	37744789	2.649
(5)	17478750	17450660	16177998	16202202	15408090	16543540	5.438
6 AROCLOR-1248 (1)	11754790	9649880	9801726	8744982	9672748	9924825	11.146
(2)	25639430	23392820	24992002	22371593	22827473	23844664	5.911
(3)	29276130	26467525	25554542	22602451	22341044	25248338	11.420
(4)	30678750	26948310	28666126	25742691	27010180	27809212	6.874
(5)	16253410	14446750	15487000	13947100	14195556	14865963	6.539
7 AROCLOR-1254 (1)	30140900	30027225	27856724	27314728	25790230	28225961	6.583
(2)	28461950	27022900	22897906	26695987	25512274	26118203	7.982
(3)	50109040	50239485	40542450	47827595	45136248	46770964	8.669
(4)	33823510	33647950	26573694	32457824	30423024	31385200	9.597
(5)	31367250	31081560	24375040	28582817	26822412	28445816	10.355

Report Date : 04-Mar-1999 15:28

QUANTERRA-NORTH CANTON

INITIAL CALIBRATION DATA

Start Cal Date : 05-FEB-1999 10:01
End Cal Date : 05-FEB-1999 17:50
Quant Method : ESTD
Origin : Disabled
Target Version : 3.40
Integrator : Falcon
Method file : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Cal Date : 03-Mar-1999 09:44 a
Curve Type : Average

Compound	0.10000 Level 1	0.20000 Level 2	0.50000 Level 3	1.000 Level 4	2.000 Level 5	RRF	% RSD	
8 AROCLOR-1260 (1)	39174250	38629730	35736660	34405500	32413920	36072012	7.894	
(2)	54469040	54174275	50681216	48844142	46140844	50861904	6.977	
(3)	45150460	45685250	43402792	41720100	40246982	43241117	5.289	
(4)	56551940	58395975	54461798	53813084	51802580	55005075	4.623	
(5)	30357370	31150210	28852334	28318320	27279323	29191511	5.343	
10 AROCLOR-1262 (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
11 AROCLOR-1268 (1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	<-
$ 1 TCMX	917803600	971209800	954506200	1.019e+09	769962820	926549248	10.234	
$ 9 DCB	532323000	553316700	477183840	444449120	442206800	489895892	10.370	

Report Date: 05-Mar-1999 08:02

Calibration History

:hod : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Start Cal Date: 05-FEB-1999 10:01
End Cal Date : 05-FEB-1999 17:50

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.1000		
05-FEB-1999 16:43	AR1660td	f024f0701.d
05-FEB-1999 15:20	AR2154	f019f0201.d
05-FEB-1999 12:48	AR1248	f014f1401.d
05-FEB-1999 11:25	AR1242	f009f0901.d
05-FEB-1999 10:01	AR1232	f004f0401.d
Cal Level: 2 , Cal Amount: 0.2000		
05-FEB-1999 17:00	AR1660td	f025f0801.d
05-FEB-1999 15:37	AR2154	f020f0301.d
05-FEB-1999 14:10	AR1248	f015f0201.d
05-FEB-1999 11:41	AR1242	f010f1001.d
05-FEB-1999 10:18	AR1232	f005f0501.d
Cal Level: 3 , Cal Amount: 0.5000		
05-FEB-1999 17:17	AR1660td	f026f0901.d
05-FEB-1999 15:53	AR2154	f021f0401.d
05-FEB-1999 14:27	AR1248	f016f0301.d
05-FEB-1999 11:58	AR1242	f011f1101.d
05-FEB-1999 10:35	AR1232	f006f0601.d
Cal Level: 4 , Cal Amount: 1.000		
05-FEB-1999 17:33	AR1660td	f027f1001.d
05-FEB-1999 16:10	AR2154	f022f0501.d
05-FEB-1999 14:43	AR1248	f017f0401.d
05-FEB-1999 12:15	AR1242	f012f1201.d
05-FEB-1999 10:51	AR1232	f007f0701.d
Cal Level: 5 , Cal Amount: 2.000		
05-FEB-1999 17:50	AR1660td	f028f1101.d
05-FEB-1999 16:27	AR2154	f023f0601.d
05-FEB-1999 15:03	AR1248	f018f0101.d
05-FEB-1999 12:31	AR1242	f013f1301.d
05-FEB-1999 11:08	AR1232	f008f0801.d

Continuing Calibration

05-FEB-1999 17:17	AR1660td	f026f0901.d
05-FEB-1999 15:53	AR2154	f021f0401.d
05-FEB-1999 14:27	AR1248	f016f0301.d
05-FEB-1999 11:58	AR1242	f011f1101.d
05-FEB-1999 10:35	AR1232	f006f0601.d

Data File: /chem/can/gcs/a2hp2.i/90205a.b/f004f0401.d
Report Date: 05-Mar-1999 10:14

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f004f0401.d
Lab Smp Id: 1232 0.1
Inj Date : 05-FEB-1999 10:01 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1232 0.1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 10:01 Cal File: f004f0401.d
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None

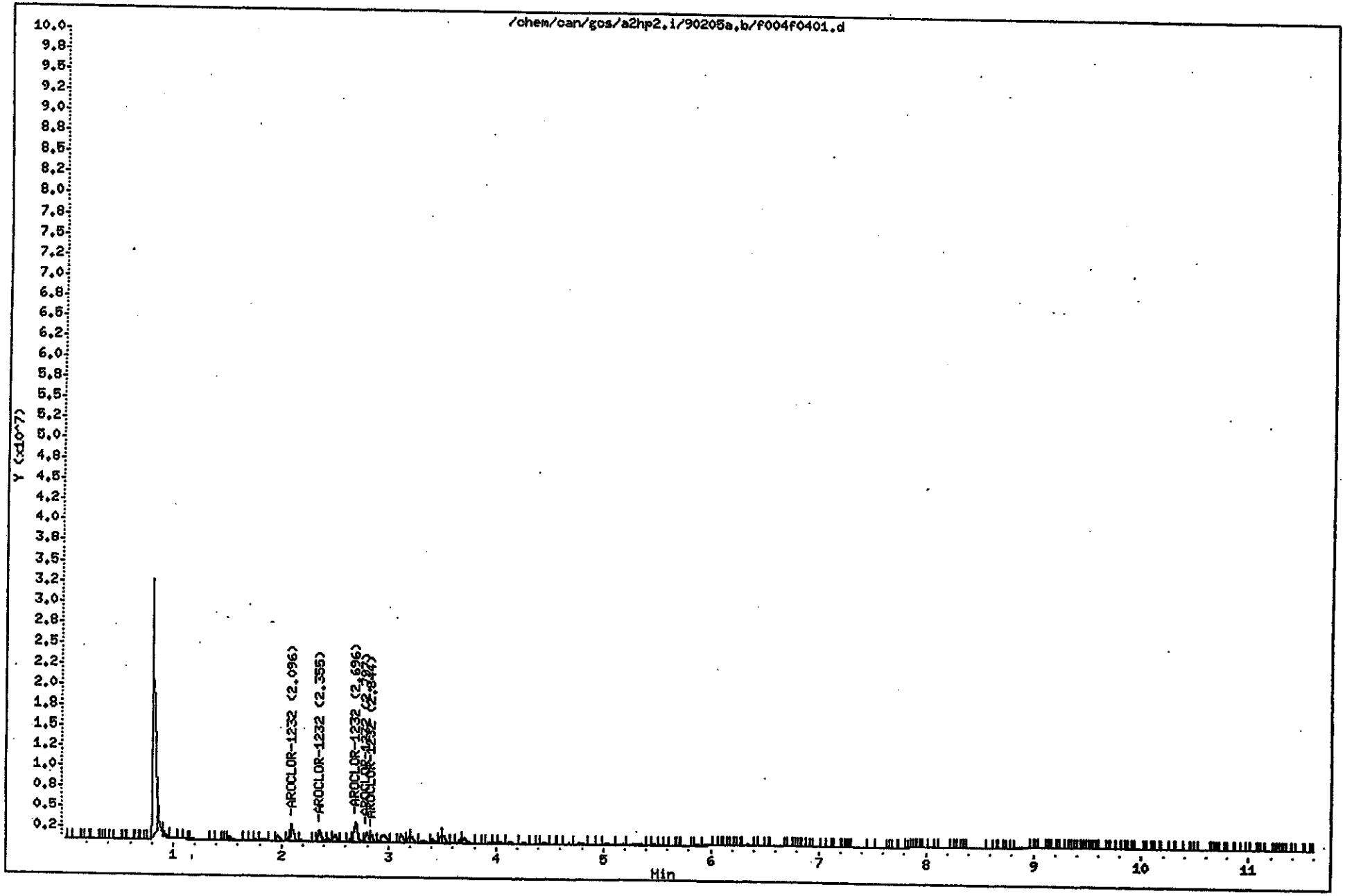
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
4 AROCLOR-1232					CAS #: 11141-16-5			
2.096	2.097	-0.001	1987539	0.10000	0.1000	75.00-	125.00	100.00
2.355	2.359	-0.004	1302722	0.10000	0.1000	47.63-	79.38	65.54
2.696	2.697	-0.001	2266466	0.10000	0.1000	93.37-	155.62	114.03
2.797	2.800	-0.003	1164840	0.10000	0.1000	44.41-	74.01	58.61
2.844	2.847	-0.003	809857	0.10000	0.1000	32.55-	54.24	40.75
		Average of Peak Amounts =			0.1			

Data : /chem/can/gcs/a2hp2.i/90205a.b/f004f0401.d
Date : 05-FEB-1999 10:01
Client ID:
Sample Info: 1232 0.1

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f005f0501.d
Report Date: 05-Mar-1999 10:14

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f005f0501.d
Lab Smp Id: 1232 0.2
Inj Date : 05-FEB-1999 10:18 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1232 0.2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 10:18 Cal File: f005f0501.d
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None

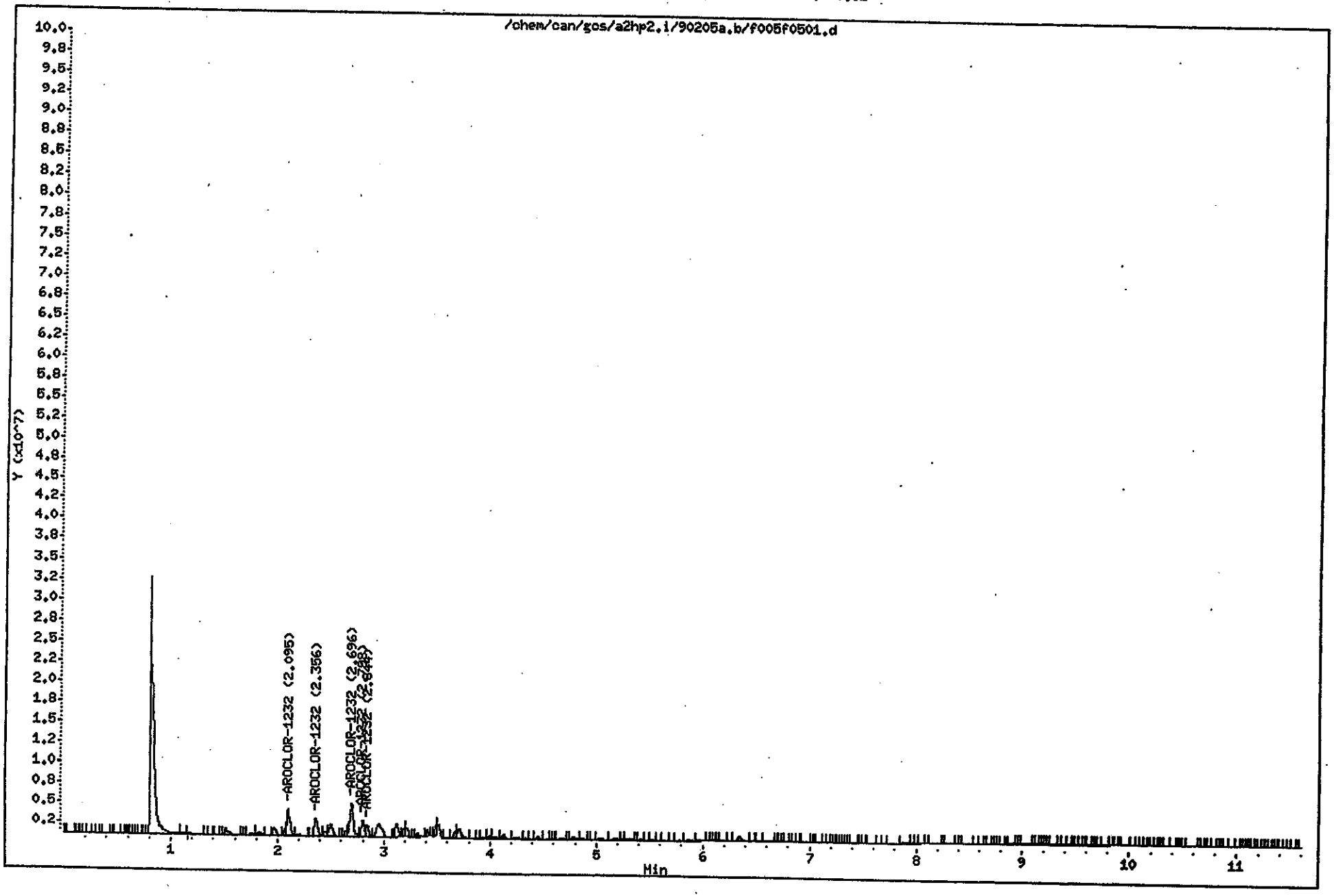
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
2.095	2.097	-0.002	3239083	0.20000	0.1796	75.00- 125.00	100.00
2.356	2.359	-0.003	2195504	0.20000	0.1829	47.63- 79.38	67.78
2.696	2.697	-0.001	4208836	0.20000	0.1926	93.37- 155.62	129.94
2.798	2.800	-0.002	2055015	0.20000	0.1875	44.41- 74.01	63.44
2.844	2.847	-0.003	1477846	0.20000	0.1908	32.55- 54.24	45.63
		Average of Peak Amounts =			0.187		

Data ...e: /chem/can/gcs/a2hp2.i/90205a.b/f005f0501.d
Date : 05-FEB-1999 10:18
Client ID:
Sample Info: 1232 0.2

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f006f0601.d
Report Date: 05-Mar-1999 10:14

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f006f0601.d
Lab Smp Id: 1232 0.5
Inj Date : 05-FEB-1999 10:35 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1232 0.5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 10:35 Cal File: f006f0601.d
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None

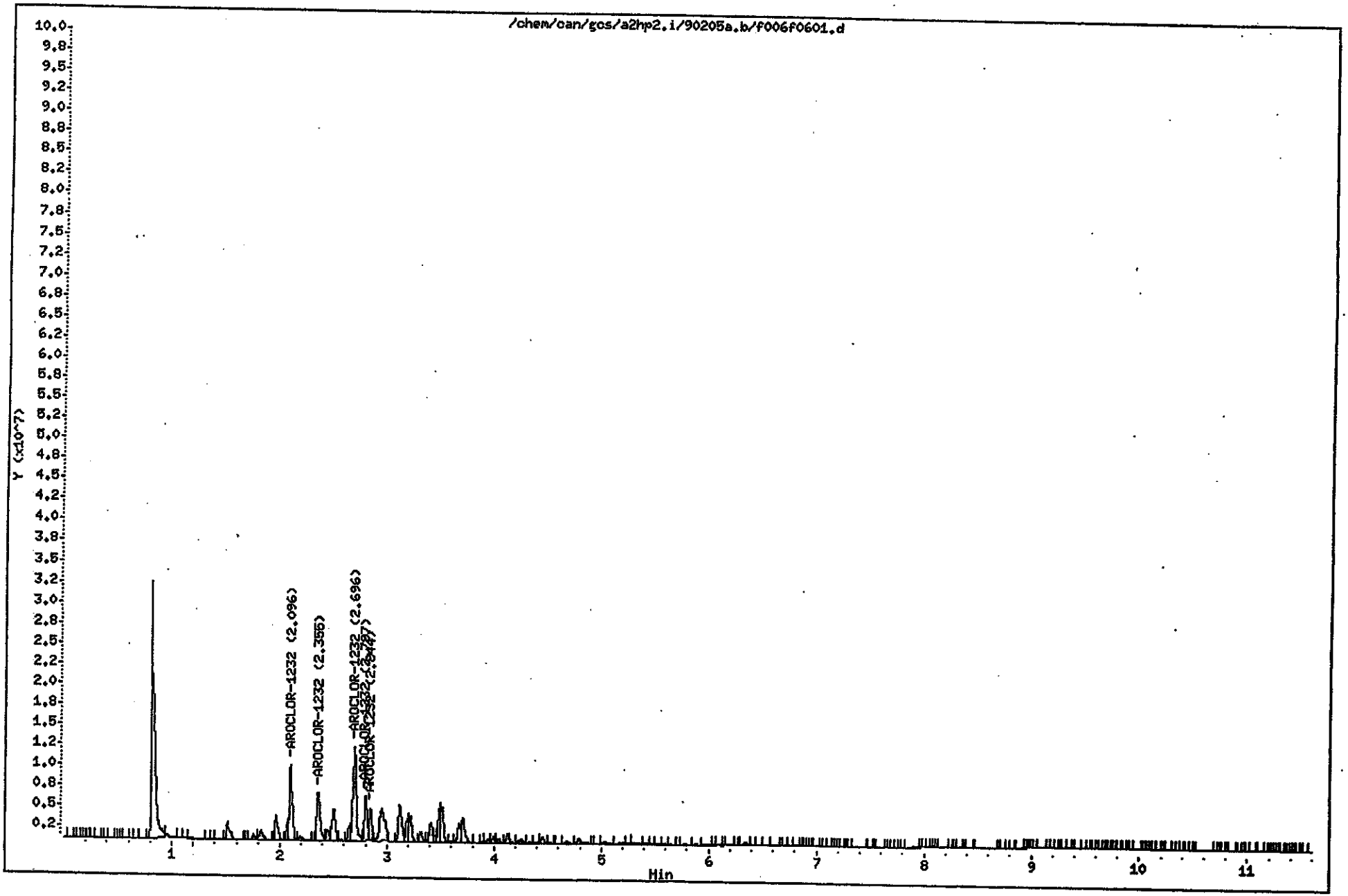
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
2.096	2.097	-0.001	9108320	0.50000	0.5033	75.00- 125.00	100.00
2.355	2.359	-0.004	5784195	0.50000	0.4878	47.63- 79.38	63.50
2.696	2.697	-0.001	11339427	0.50000	0.5124	93.37- 155.62	124.50
2.797	2.800	-0.003	5392810	0.50000	0.4946	44.41- 74.01	59.21
2.844	2.847	-0.003	3952554	0.50000	0.5069	32.55- 54.24	43.39
		Average of Peak Amounts =			0.501		

Data File: /chem/can/gcs/a2hp2.i/90205a.b/f006f0601.d
Date : 05-FEB-1999 10:35
Client ID:
Sample Info: 1232 0.5

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f007f0701.d
Report Date: 05-Mar-1999 10:14

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f007f0701.d
Lab Smp Id: 1232 1.0
Inj Date : 05-FEB-1999 10:51 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1232 1.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 10:51 Cal File: f007f0701.d
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None

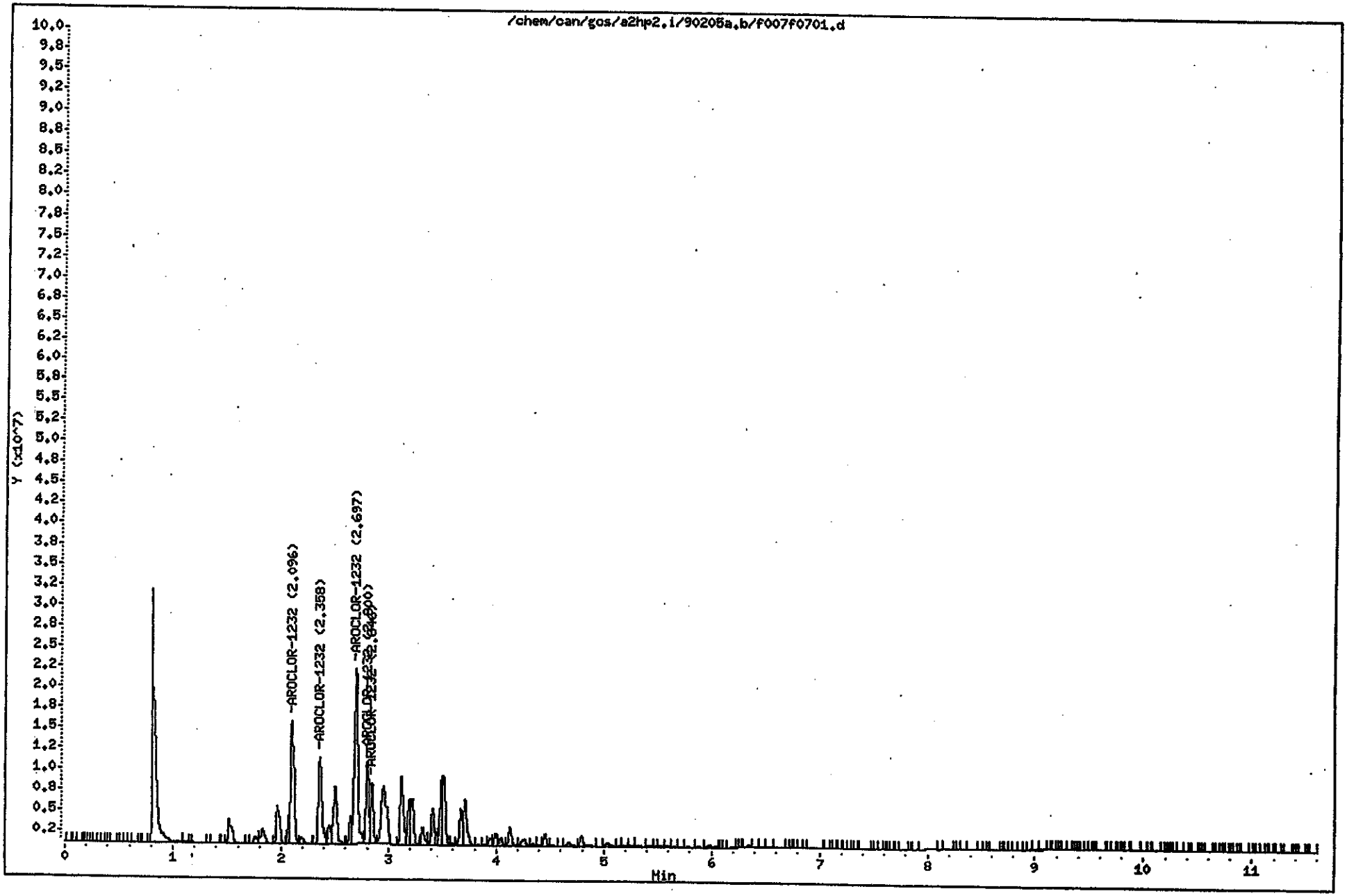
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
2.096	2.097	-0.001	14806445	1.00000	0.8572	75.00- 125.00	100.00
2.358	2.359	-0.001	10434993	1.00000	0.9072	47.63- 79.38	70.48
2.697	2.697	0.000	21319380	1.00000	0.9723	93.37- 155.62	143.99
2.800	2.800	0.000	9889187	1.00000	0.9286	44.41- 74.01	66.79
2.846	2.847	-0.001	7318774	1.00000	0.9532	32.55- 54.24	49.43
		Average of Peak Amounts =			0.924		

Data : /chem/can/gcs/a2hp2.i/90205a.b/f007f0701.d
Date : 05-FEB-1999 10:51
Client ID:
Sample Info: 1232 1.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f008f0801.d
Report Date: 05-Mar-1999 10:14

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f008f0801.d
Lab Smp Id: 1232 2.0
Inj Date : 05-FEB-1999 11:08 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1232 2.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 11:08 Cal File: f008f0801.d
Als bottle: 8 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: None

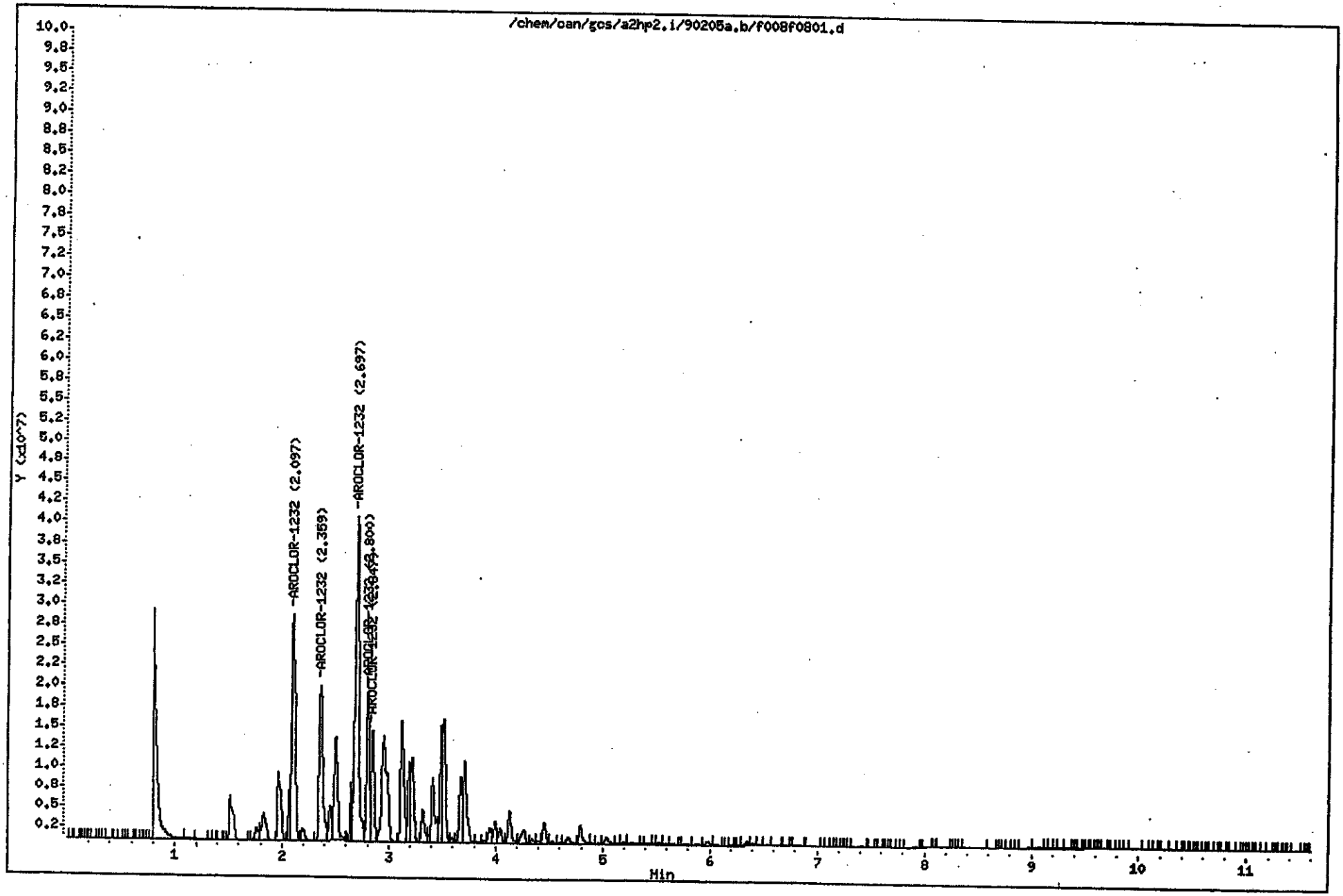
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
4 AROCLOR-1232					CAS #: 11141-16-5			
2.097	2.097	0.000	27674153	2.00000	1.668	75.00-	125.00	100.00
2.359	2.359	0.000	19037851	2.00000	1.714	47.63-	79.38	68.79
2.697	2.697	0.000	39725883	2.00000	1.846	93.37-	155.62	143.55
2.800	2.800	0.000	18296613	2.00000	1.768	44.41-	74.01	66.11
2.847	2.847	0.000	13704981	2.00000	1.824	32.55-	54.24	49.52
		Average of Peak Amounts =			1.76			

Data F...e: /chem/oan/gcs/a2hp2.i/90205a.b/f008f0801.d
Date : 05-FEB-1999 11:08
Client ID:
Sample Info: 1232 2.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f009f0901.d
Report Date: 05-Mar-1999 10:14

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f009f0901.d
Lab Smp Id: 1242 0.1
Inj Date : 05-FEB-1999 11:25 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1242 0.1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 11:25 Cal File: f009f0901.d
Als bottle: 9 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None

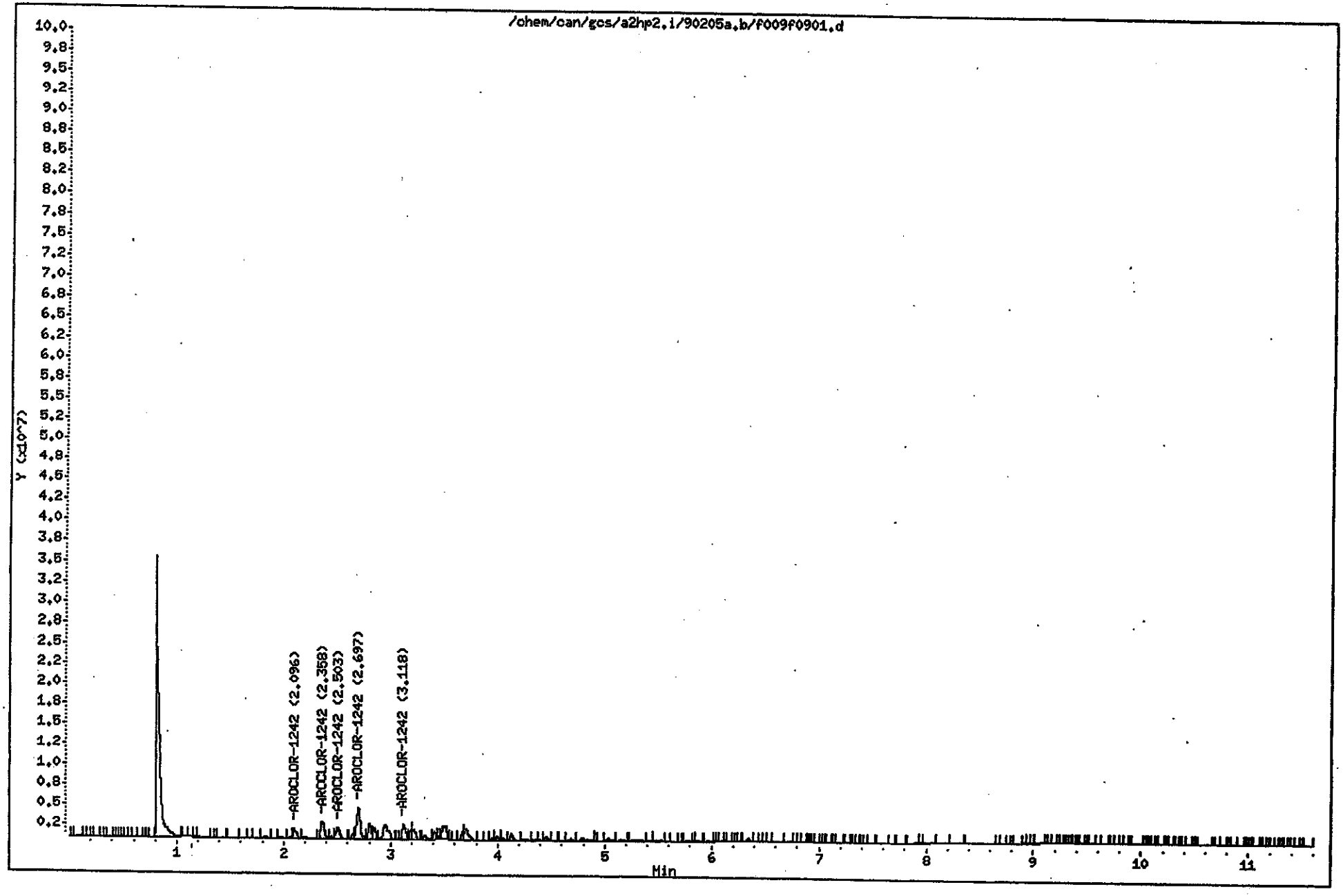
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
5 AROCLOR-1242						CAS #: 53469-21-9		
2.096	2.095	0.001	1131975	0.10000	0.1000	75.00-	125.00	100.00
2.358	2.354	0.004	1987623	0.10000	0.1000	124.24-	207.07	175.59
2.503	2.503	0.000	1326061	0.10000	0.1000	86.28-	143.80	117.15
2.697	2.696	0.001	3834116	0.10000	0.1000	262.55-	437.59	338.71
3.118	3.116	0.002	1747875	0.10000	0.1000	111.50-	185.83	154.41
		Average of Peak Amounts =			0.1			

Data ...e: /chem/can/gcs/a2hp2.i/90205a.b/f009f0901.d
Date : 05-FEB-1999 11:25
Client ID:
Sample Info: 1242 0.1

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f010f1001.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f010f1001.d
Lab Smp Id: 1242 0.2
Inj Date : 05-FEB-1999 11:41 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1242 0.2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 11:41 Cal File: f010f1001.d
Als bottle: 10 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None

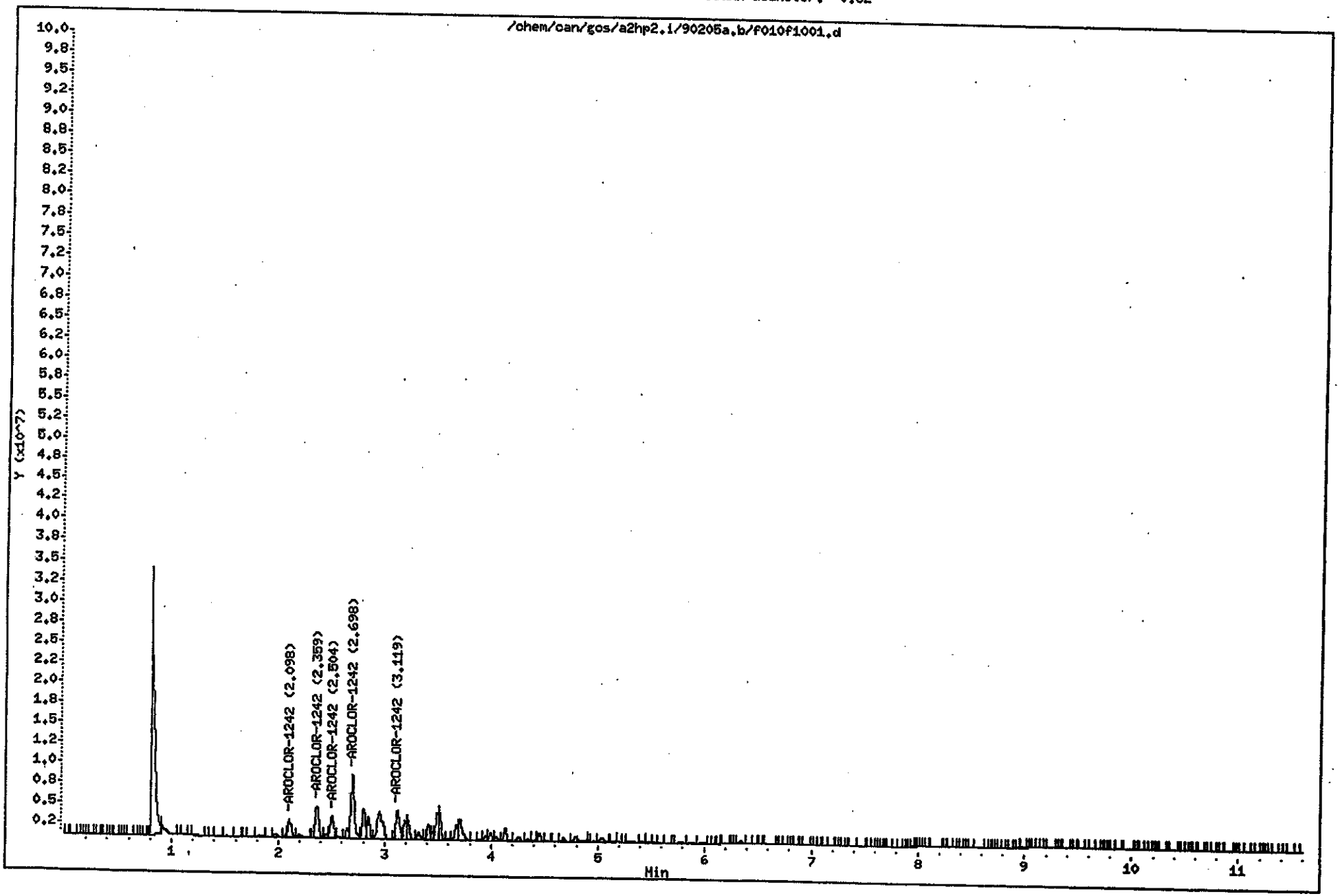
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
2.098	2.095	0.003	2089418	0.20000	0.1920	75.00- 125.00	100.00
2.359	2.354	0.005	3876820	0.20000	0.1975	124.24- 207.07	185.55
2.504	2.503	0.001	2555602	0.20000	0.1963	86.28- 143.80	122.31
2.698	2.696	0.002	7751983	0.20000	0.2011	262.55- 437.59	371.01
3.119	3.116	0.003	3490132	0.20000	0.1998	111.50- 185.83	167.04
Average of Peak Amounts =					0.197		

Data : /chem/can/gcs/a2hp2.i/90205a.b/f010f1001.d
Date : 05-FEB-1999 11:41
Client ID:
Sample Info: 1242 0.2

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f011f1101.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f011f1101.d
Lab Smp Id: 1242 0.5
Inj Date : 05-FEB-1999 11:58 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1242 0.5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 11:58 Cal File: f011f1101.d
Als bottle: 11 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None

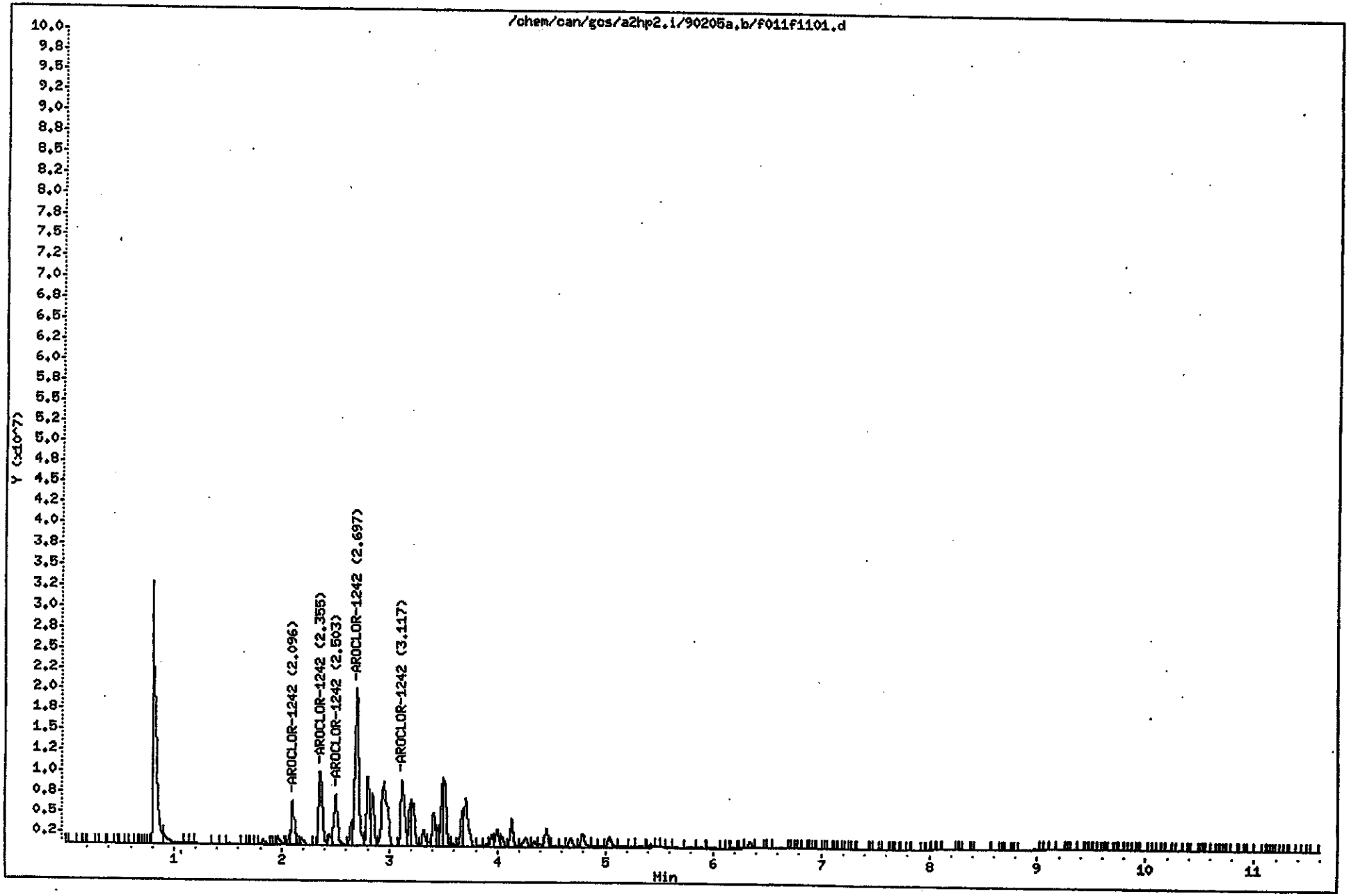
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
2.096	2.095	0.001	5441045	0.50000	0.5000	75.00- 125.00	100.00
2.355	2.354	0.001	9013496	0.50000	0.4720	124.24- 207.07	165.66
2.503	2.503	0.000	6259301	0.50000	0.4870	86.28- 143.80	115.04
2.697	2.696	0.001	19047379	0.50000	0.4960	262.55- 437.59	350.07
3.117	3.116	0.001	8088999	0.50000	0.4748	111.50- 185.83	148.67
Average of Peak Amounts =					0.486		

Data File: /chem/can/gos/a2hp2.i/90205a.b/f011f1101.d
Date : 05-FEB-1999 11:58
Client ID:
Sample Info: 1242 0.5

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f012f1201.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f012f1201.d
Lab Smp Id: 1242 1.0
Inj Date : 05-FEB-1999 12:15 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1242 1.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 12:15 Cal File: f012f1201.d
Als bottle: 12 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None

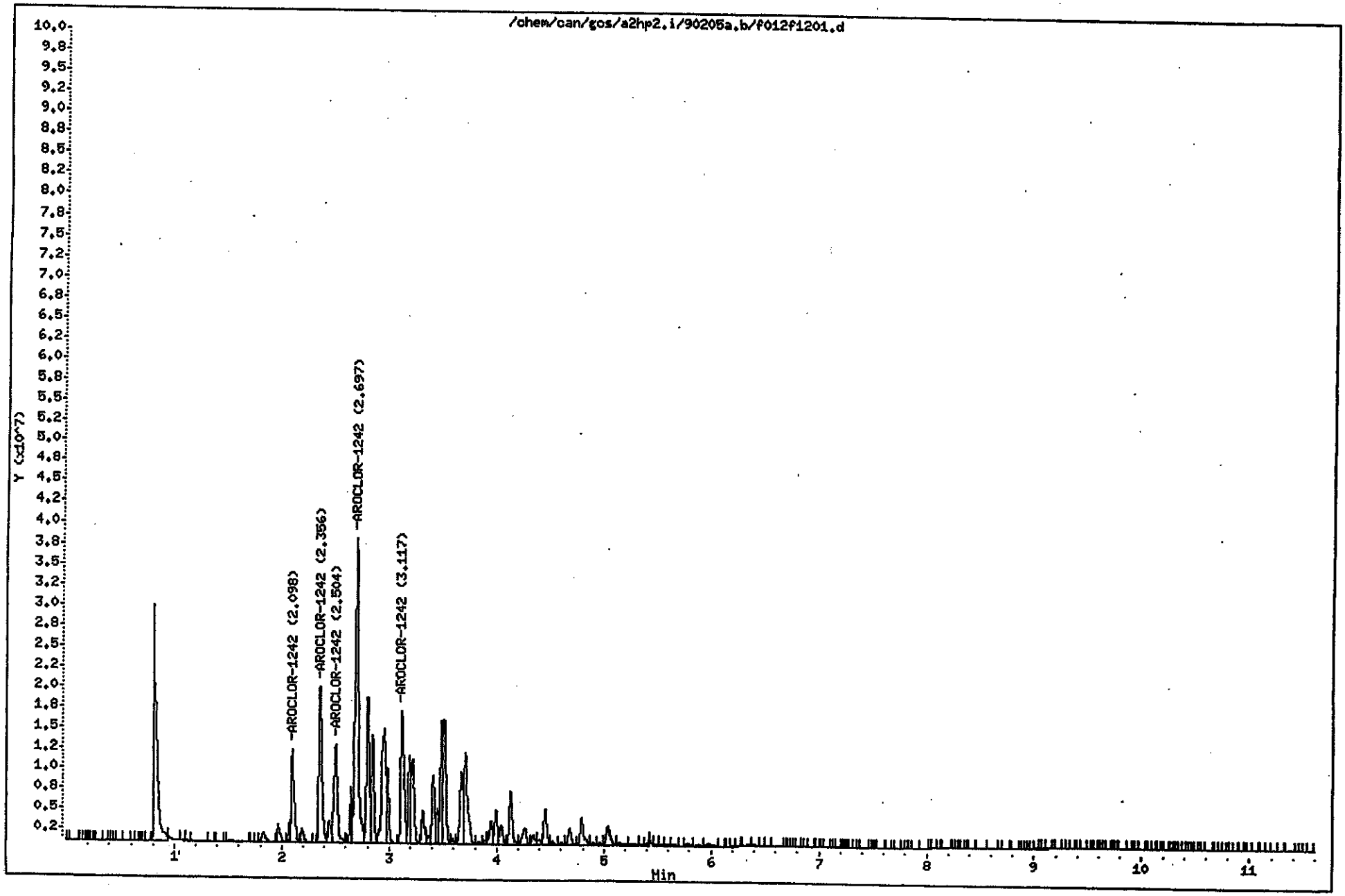
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
2.098	2.095	0.003	11445157	1.00000	1.038	75.00- 125.00	100.00
2.356	2.354	0.002	19073332	1.00000	0.9991	124.24- 207.07	166.65
2.504	2.503	0.001	12044066	1.00000	0.9521	86.28- 143.80	105.23
2.697	2.696	0.001	37296301	1.00000	0.9783	262.55- 437.59	325.87
3.117	3.116	0.001	16202202	1.00000	0.9628	111.50- 185.83	141.56
Average of Peak Amounts =					0.986		

Da\ .e: /chem/can/gcs/a2hp2.i/90205a.b/f012f1201.d
Date : 05-FEB-1999 12:15
Client ID:
Sample Info: 1242 1.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f013f1301.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f013f1301.d
Lab Smp Id: 1242 2.0
Inj Date : 05-FEB-1999 12:31 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1242 2.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 12:31 Cal File: f013f1301.d
Als bottle: 13 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: None

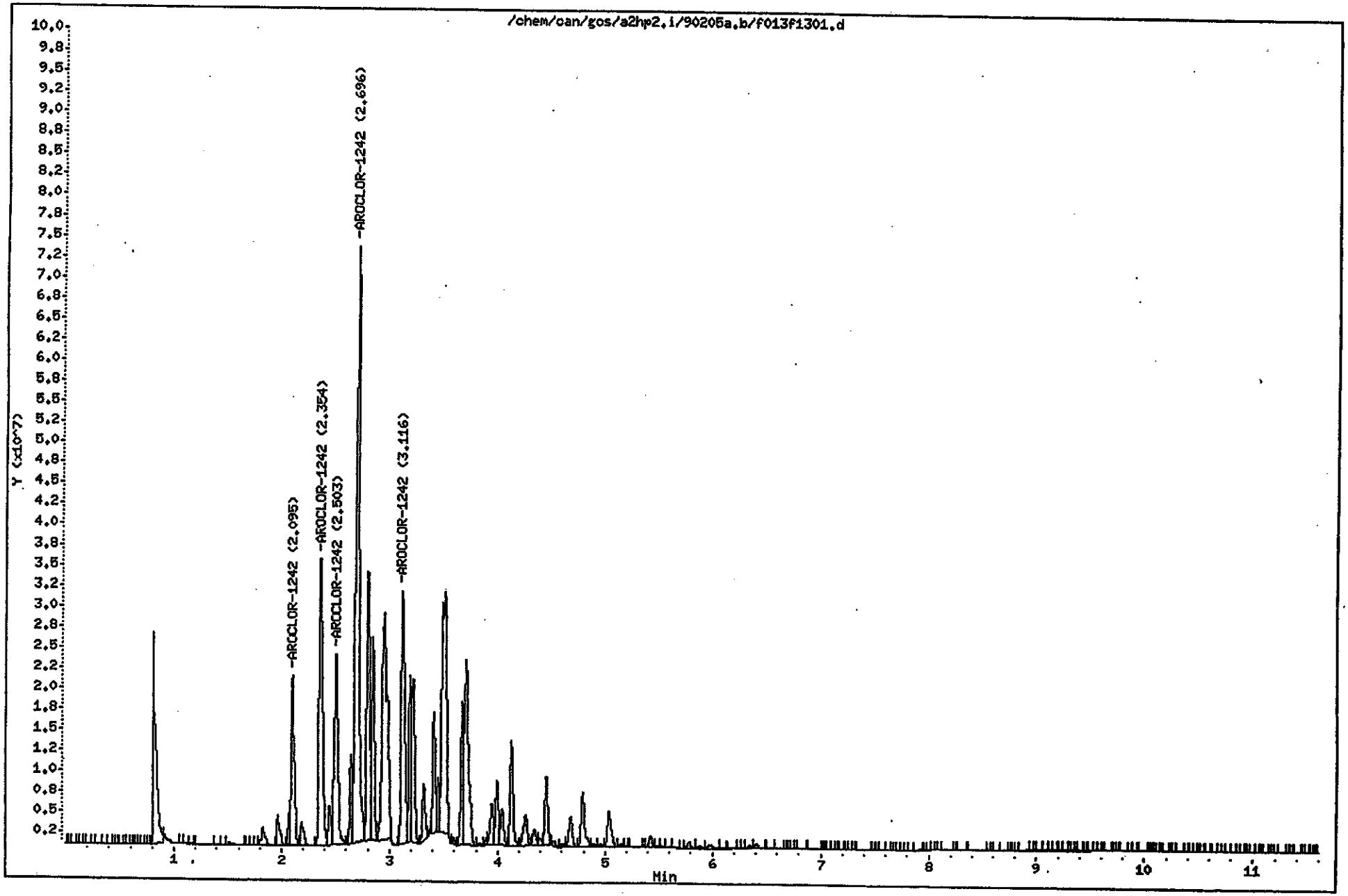
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
5 AROCLOR-1242					CAS #: 53469-21-9		
2.095	2.095	0.000	20622473	2.00000	1.895	75.00- 125.00	100.00
2.354	2.354	0.000	34872386	2.00000	1.859	124.24- 207.07	169.10
2.503	2.503	0.000	23169687	2.00000	1.863	86.28- 143.80	112.35
2.696	2.696	0.000	72463619	2.00000	1.920	262.55- 437.59	351.38
3.116	3.116	0.000	30816181	2.00000	1.863	111.50- 185.83	149.43
Average of Peak Amounts =					1.88		

Data /chem/can/gcs/a2hp2.i/90205a.b/f013f1301.d
Date : 03-FEB-1999 12:31
Client ID:
Sample Info: 1242 2.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f014f1401.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f014f1401.d
Lab Smp Id: 1248 0.1
Inj Date : 05-FEB-1999 12:48 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1248 0.1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 12:48 Cal File: f014f1401.d
Als bottle: 14 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None

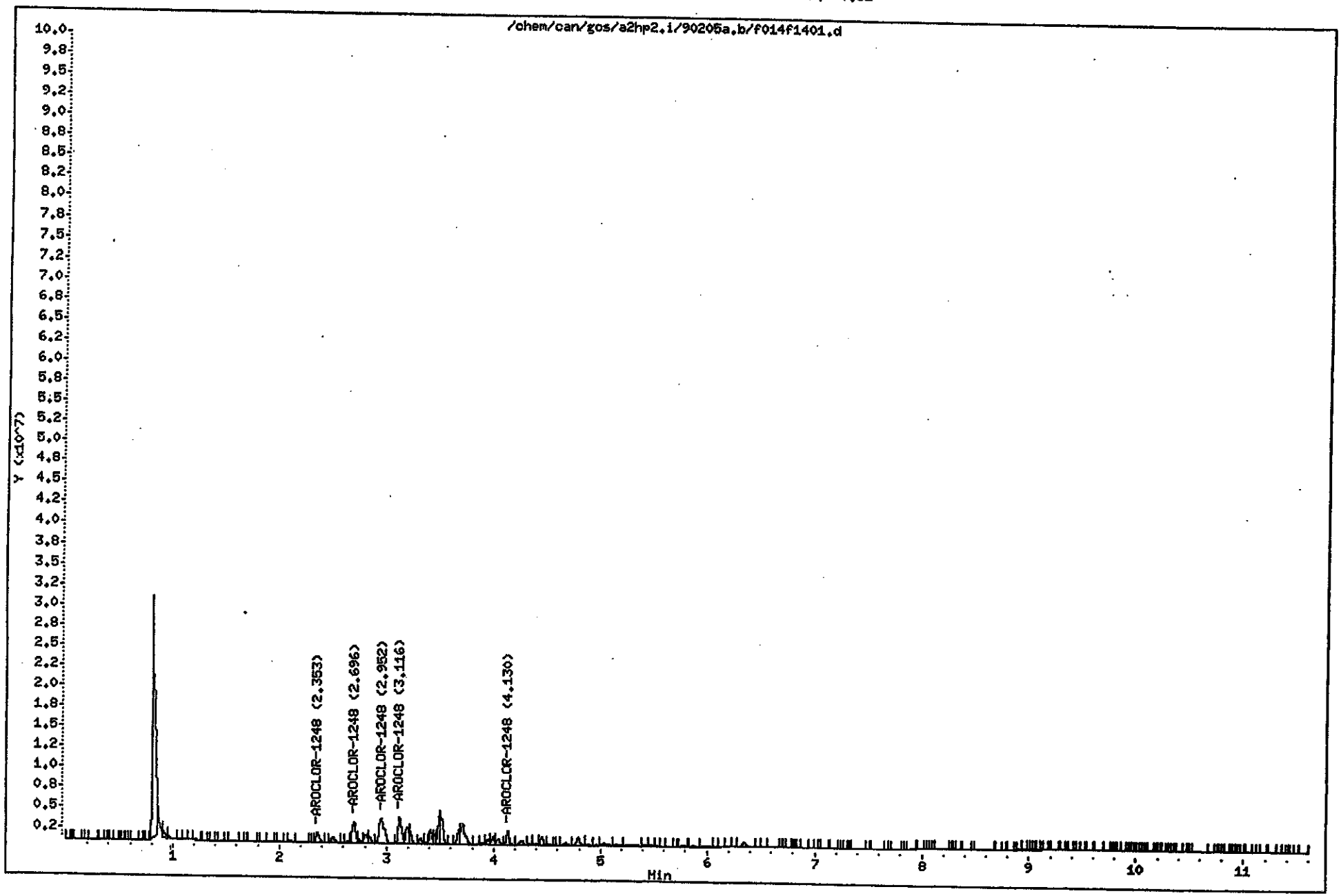
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
2.353	2.356	-0.003	1175479	0.10000	0.1000	75.00- 125.00	100.00
2.696	2.699	-0.003	2563943	0.10000	0.1000	191.23- 318.72	218.12
2.952	2.955	-0.003	2927613	0.10000	0.1000	195.54- 325.89	249.06
3.116	3.120	-0.004	3067875	0.10000	0.1000	219.34- 365.57	260.99
4.130	4.134	-0.004	1625341	0.10000	0.1000	118.50- 197.50	138.27
		Average of Peak Amounts =			0.1		

Data File: /chem/can/gos/a2hp2.i/90205a.b/f014f1401.d
Date : 05-FEB-1999 12:48
Client ID:
Sample Info: 1248 0.1

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f015f0201.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f015f0201.d
Lab Smp Id: 1248 0.2
Inj Date : 05-FEB-1999 14:10 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1248 0.2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 14:10 Cal File: f015f0201.d
Als bottle: 15 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None

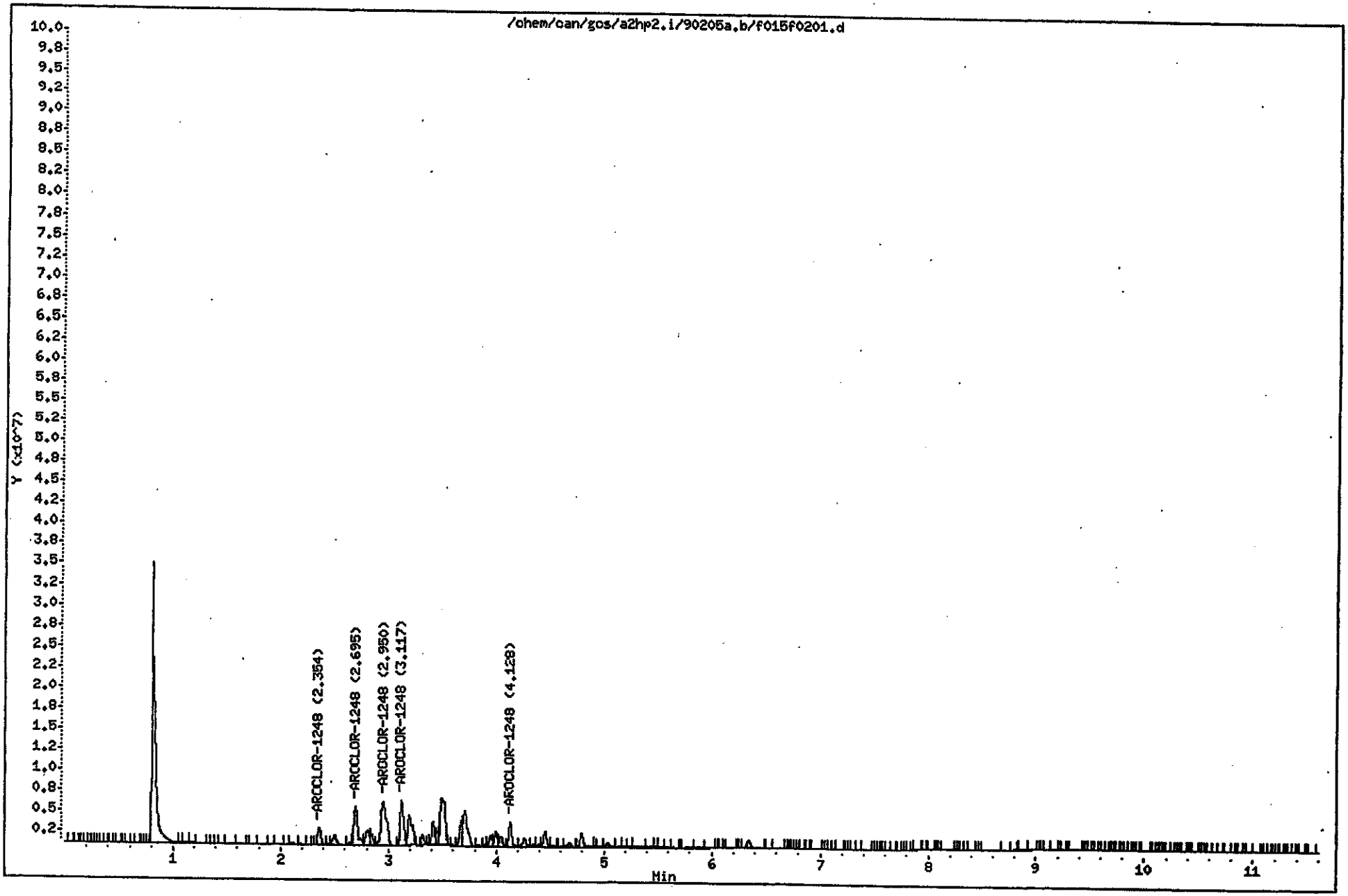
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
2.354	2.356	-0.002	1929976	0.20000	0.1803	75.00- 125.00	100.00
2.695	2.699	-0.004	4678564	0.20000	0.1908	191.23- 318.72	242.42
2.950	2.955	-0.005	5293505	0.20000	0.1899	195.54- 325.89	274.28
3.117	3.120	-0.003	5389662	0.20000	0.1870	219.34- 365.57	279.26
4.128	4.134	-0.006	2889350	0.20000	0.1882	118.50- 197.50	149.71
Average of Peak Amounts =					0.187		

Dat .e: /chem/can/gos/a2hp2.i/90205a.b/f015f0201.d
Date : 05-FEB-1999 14:10
Client ID:
Sample Info: 1248 0.2

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f016f0301.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f016f0301.d
Lab Smp Id: 1248 0.5
Inj Date : 05-FEB-1999 14:27 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1248 0.5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 14:27 Cal File: f016f0301.d
Als bottle: 16 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None

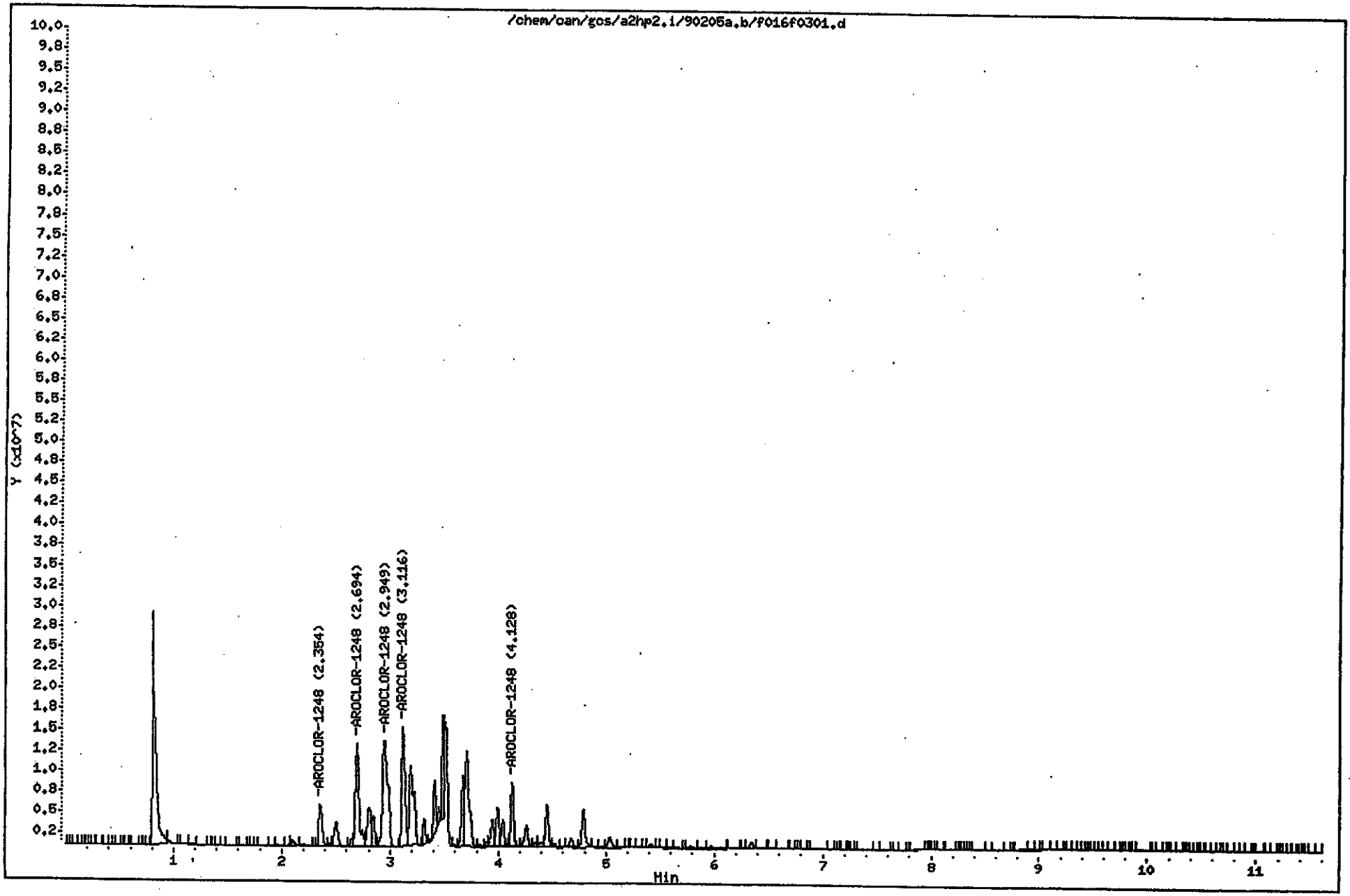
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
2.354	2.356	-0.002	4900863	0.50000	0.4711	75.00- 125.00	100.00
2.694	2.699	-0.005	12496001	0.50000	0.5064	191.23- 318.72	254.98
2.949	2.955	-0.006	12777271	0.50000	0.4715	195.54- 325.89	260.71
3.116	3.120	-0.004	14333063	0.50000	0.4983	219.34- 365.57	292.46
4.128	4.134	-0.006	7743500	0.50000	0.5030	118.50- 197.50	158.00
Average of Peak Amounts =					0.49		

Data : /chem/can/gos/a2hp2.i/90205a.b/f016f0301.d
Date : 05-FEB-1999 14:27
Client ID:
Sample Info: 1248 0.5

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f017f0401.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f017f0401.d
Lab Smp Id: 1248 1.0
Inj Date : 05-FEB-1999 14:43 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1248 1.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 14:43 Cal File: f017f0401.d
Als bottle: 17 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None

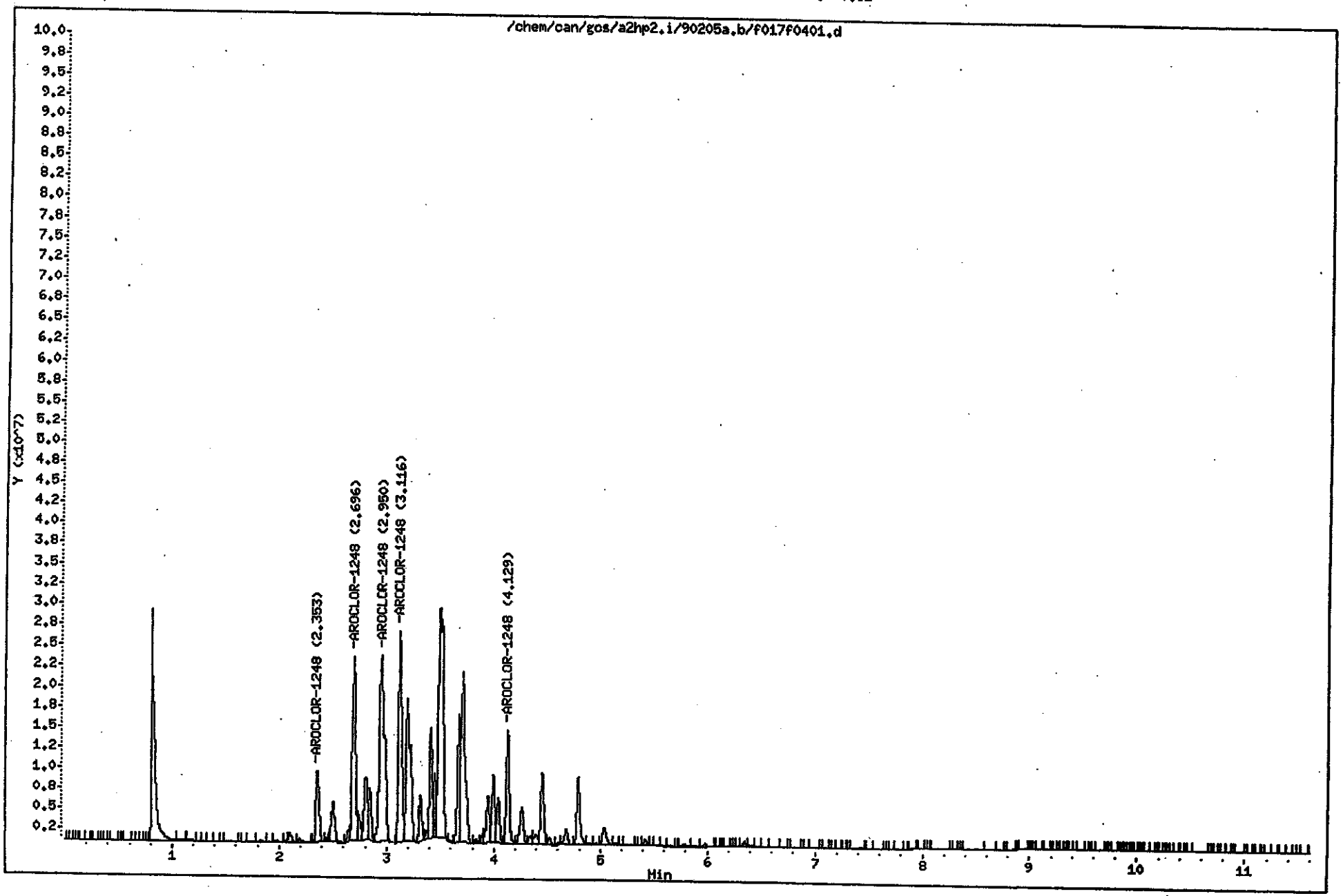
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
2.353	2.356	-0.003	8744982	1.00000	0.8756	75.00- 125.00	100.00
2.696	2.699	-0.003	22371593	1.00000	0.9283	191.23- 318.72	255.82
2.950	2.955	-0.005	22602451	1.00000	0.8702	195.54- 325.89	258.46
3.116	3.120	-0.004	25742691	1.00000	0.9191	219.34- 365.57	294.37
4.129	4.134	-0.005	13947100	1.00000	0.9277	118.50- 197.50	159.49
Average of Peak Amounts =					0.904		

Da . . ile: /chem/can/gos/a2hp2.i/90205a.b/f017f0401.d
Date : 05-FEB-1999 14:43
Client ID:
Sample Info: 1248 1.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f018f0101.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f018f0101.d
Lab Smp Id: 1248 2.0
Inj Date : 05-FEB-1999 15:03 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1248 2.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 15:03 Cal File: f018f0101.d
Als bottle: 18 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: None

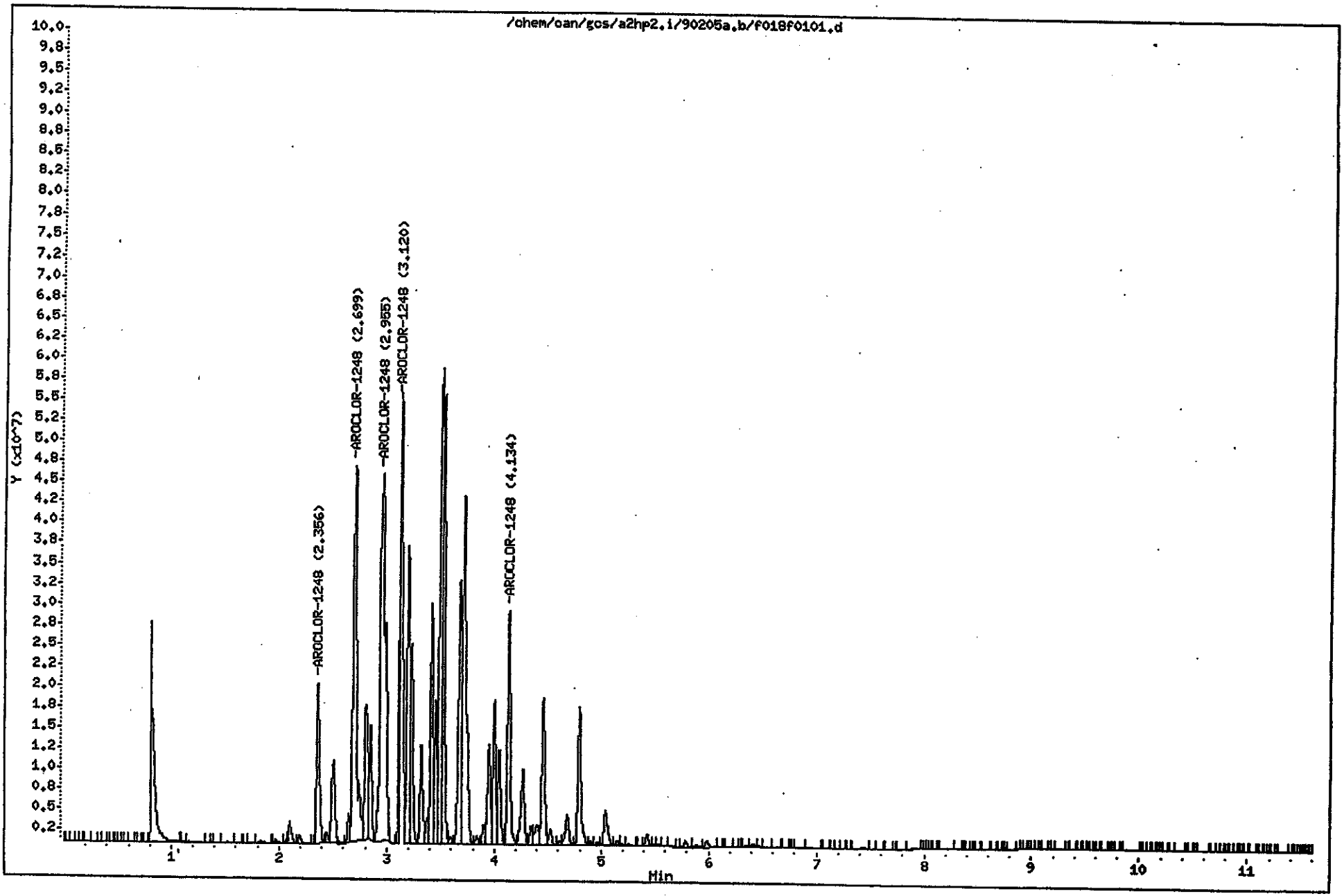
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
6 AROCLOR-1248					CAS #: 12672-29-6		
2.356	2.356	0.000	19345497	2.00000	1.949	75.00- 125.00	100.00
2.699	2.699	0.000	45654946	2.00000	1.915	191.23- 318.72	236.00
2.955	2.955	0.000	44682089	2.00000	1.770	195.54- 325.89	230.97
3.120	3.120	0.000	54020361	2.00000	1.942	219.34- 365.57	279.24
4.134	4.134	0.000	28391112	2.00000	1.910	118.50- 197.50	146.76
		Average of Peak Amounts =			1.9		

Dat. e: /chem/oan/gcs/a2hp2.i/90205a.b/f018f0101.d
Date : 05-FEB-1999 15:03
Client ID:
Sample Info: 1248 2.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f019f0201.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f019f0201.d
Lab Smp Id: 2154 0.1
Inj Date : 05-FEB-1999 15:20
Operator : 1808 Inst ID: a2hp2.i
Smp Info : 2154 0.1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 15:20 Cal File: f019f0201.d
Als bottle: 19 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None

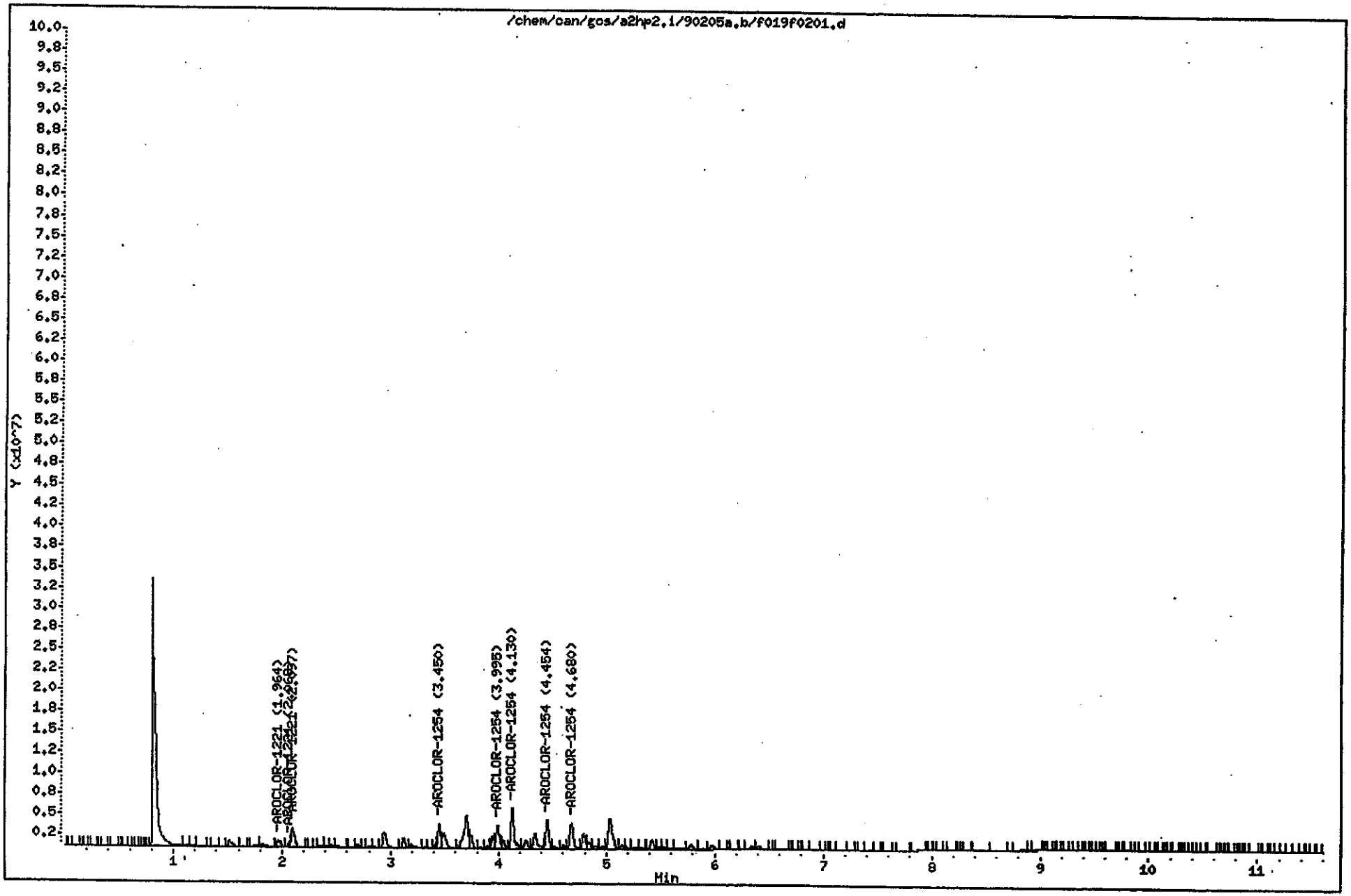
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
3.450	3.450	0.000	3014090	0.10000	0.1000	75.00- 125.00	100.00
3.995	3.996	-0.001	2846195	0.10000	0.1000	61.65- 102.75	94.43
4.130	4.131	-0.001	5010904	0.10000	0.1000	109.15- 181.92	166.25
4.454	4.454	0.000	3382351	0.10000	0.1000	71.55- 119.24	112.22
4.680	4.680	0.000	3136725	0.10000	0.1000	65.63- 109.38	104.07
Average of Peak Amounts =					0.1		
2 AROCLOR-1221					CAS #: 11104-28-2		
1.964	1.964	0.000	860793	0.10000	0.1000	75.00- 125.00	100.00
2.068	2.068	0.000	633087	0.10000	0.1000	49.98- 83.31	73.55
2.097	2.097	0.000	2307369	0.10000	0.1000	187.43- 312.38	268.05
Average of Peak Amounts =					0.1		

Data : /chem/can/gcs/a2hp2.i/90205a.b/f019f0201.d
Date : 05-FEB-1999 15:20
Client ID:
Sample Info: 2154 0.1

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f020f0301.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f020f0301.d
Lab Smp Id: 2154 0.2
Inj Date : 05-FEB-1999 15:37 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 2154 0.2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 15:37 Cal File: f020f0301.d
Als bottle: 20 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None

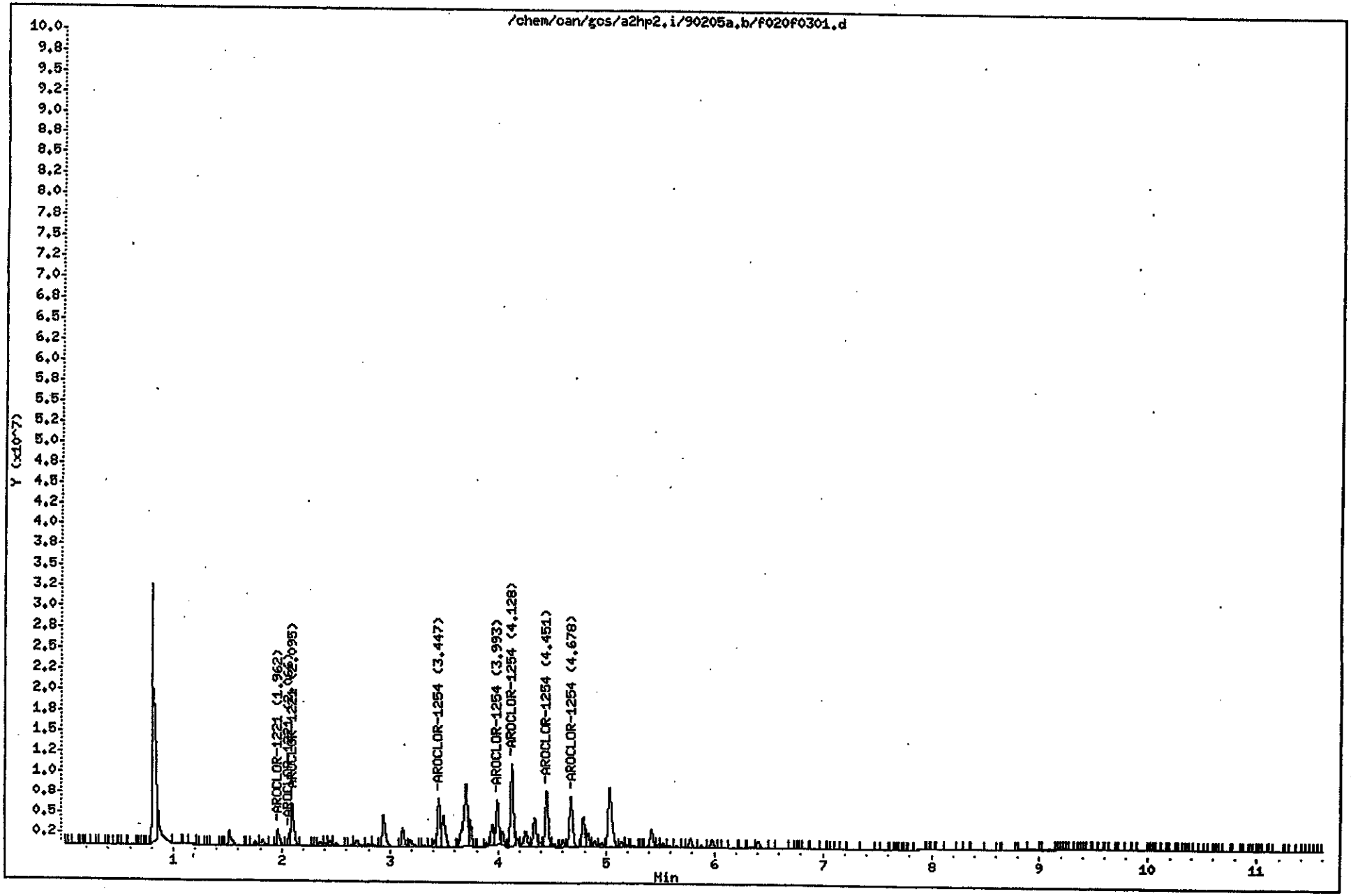
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
3.447	3.450	-0.003	6005445	0.20000	0.1996	75.00- 125.00	100.00
3.993	3.996	-0.003	5404580	0.20000	0.1948	61.65- 102.75	89.99
4.128	4.131	-0.003	10047897	0.20000	0.2002	109.15- 181.92	167.31
4.451	4.454	-0.003	6729590	0.20000	0.1995	71.55- 119.24	112.06
4.678	4.680	-0.002	6216312	0.20000	0.1991	65.63- 109.38	103.51
Average of Peak Amounts =					0.199		
2 AROCLOR-1221					CAS #: 11104-28-2		
1.962	1.964	-0.002	2043806	0.20000	0.2171	75.00- 125.00	100.00
2.066	2.068	-0.002	1424959	0.20000	0.2118	49.98- 83.31	69.72
2.095	2.097	-0.002	5160348	0.20000	0.2112	187.43- 312.38	252.49
Average of Peak Amounts =					0.213		

Data File: /chem/can/gcs/a2hp2.i/90205a.b/f020f0301.d
Date : 05-FEB-1999 15:37
Client ID:
Sample Info: 2154 0.2

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f021f0401.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f021f0401.d
Lab Smp Id: 2154 0.5
Inj Date : 05-FEB-1999 15:53 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 2154 0.5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 15:53 Cal File: f021f0401.d
Als bottle: 21 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None

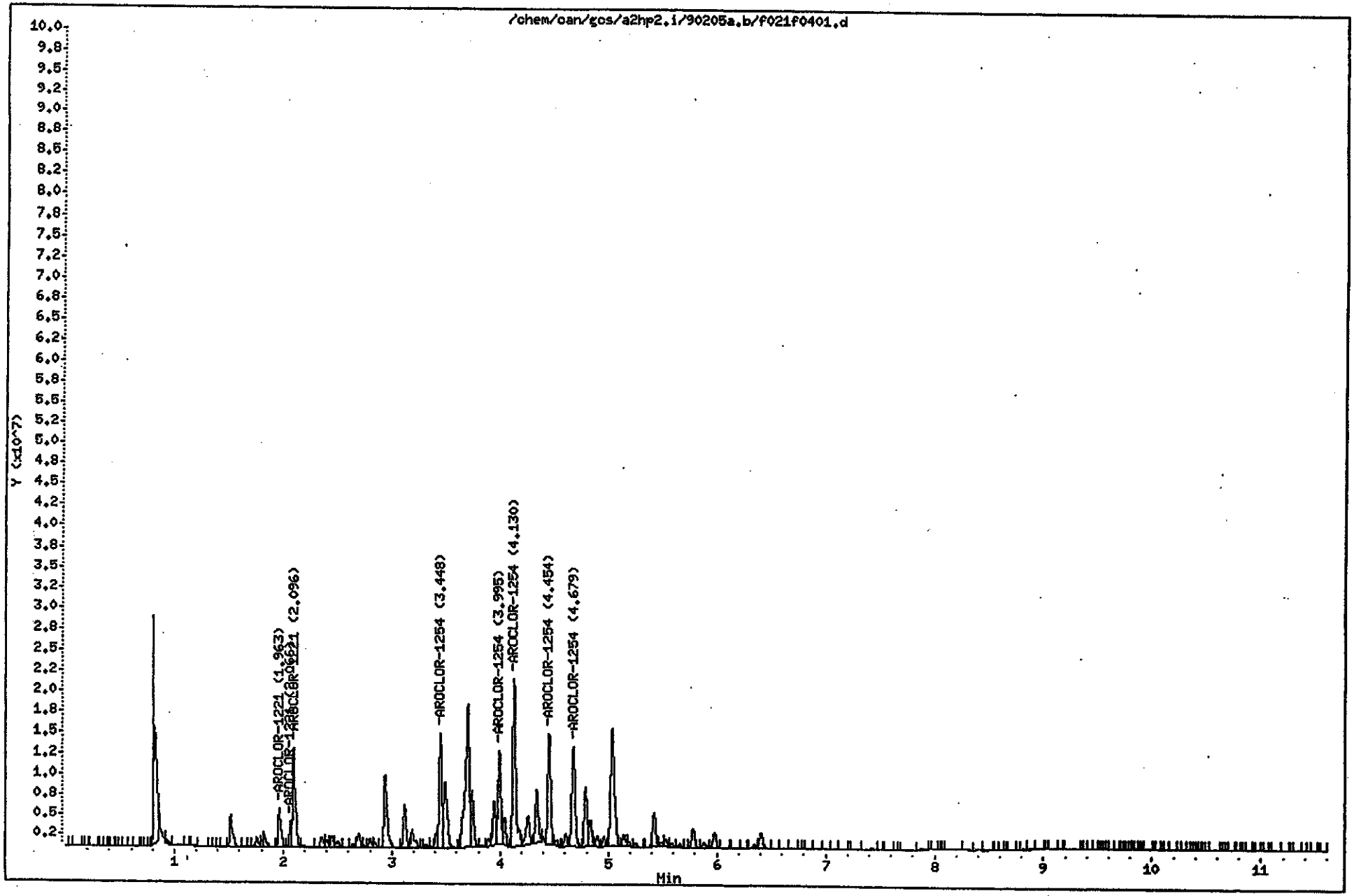
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
3.448	3.450	-0.002	13928362	0.50000	0.4747	75.00- 125.00	100.00
3.995	3.996	-0.001	11448953	0.50000	0.4382	61.65- 102.75	82.20
4.130	4.131	-0.001	20271225	0.50000	0.4316	109.15- 181.92	145.54
4.454	4.454	0.000	13286847	0.50000	0.4238	71.55- 119.24	95.39
4.679	4.680	-0.001	12187520	0.50000	0.4211	65.63- 109.38	87.50
Average of Peak Amounts =					0.438		
2 AROCLOR-1221					CAS #: 11104-28-2		
1.963	1.964	-0.001	4829781	0.50000	0.5086	75.00- 125.00	100.00
2.066	2.068	-0.002	3218876	0.50000	0.4854	49.98- 83.31	66.65
2.096	2.097	-0.001	12069741	0.50000	0.4959	187.43- 312.38	249.90
Average of Peak Amounts =					0.497		

Data : /chem/can/gcs/a2hp2.i/90205a.b/f021f0401.d
Date : 05-FEB-1999 15:53
Client ID:
Sample Info: 2154 0.5

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f022f0501.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f022f0501.d
Lab Smp Id: 2154 1.0
Inj Date : 05-FEB-1999 16:10 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 2154 1.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 22 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
3.450	3.450	0.000	27314728	1.00000	0.9677	75.00- 125.00	100.00
3.996	3.996	0.000	26695987	1.00000	1.022	61.65- 102.75	97.73
4.131	4.131	0.000	47827595	1.00000	1.022	109.15- 181.92	175.10
4.454	4.454	0.000	32457824	1.00000	1.034	71.55- 119.24	118.83
4.680	4.680	0.000	28582817	1.00000	1.005	65.63- 109.38	104.64
Average of Peak Amounts =					1.01		
2 AROCLOR-1221					CAS #: 11104-28-2		
1.964	1.964	0.000	7814153	1.00000	0.8902	75.00- 125.00	48.36(M)
2.068	2.068	0.000	5229857	1.00000	0.8689	49.98- 83.31	32.37
2.097	2.097	0.000	20664962	1.00000	0.9096	187.43- 312.38	127.89
Average of Peak Amounts =					0.89		

QC Flag Legend

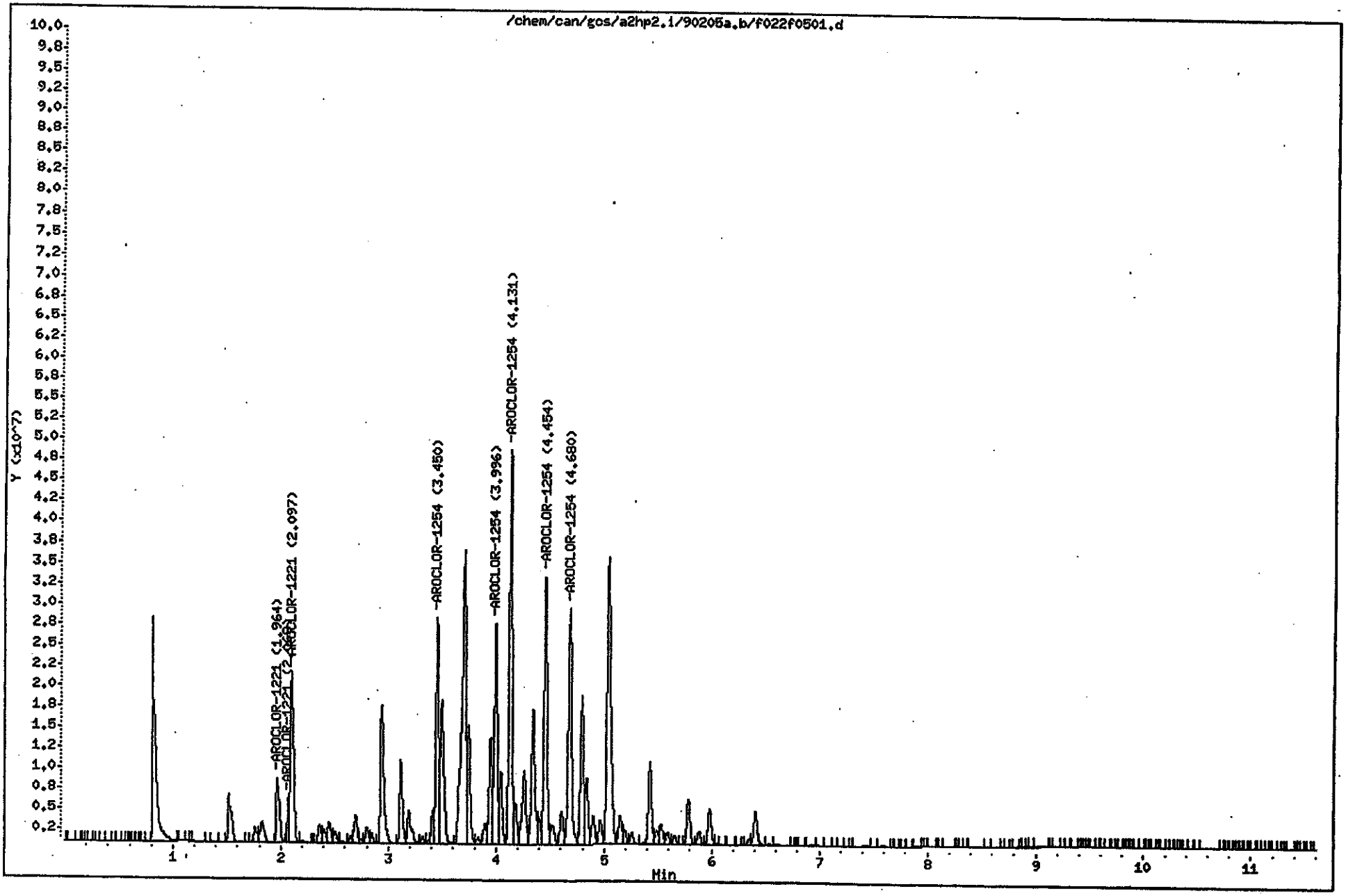
M - Compound response manually integrated.

Data : /chem/can/gcs/a2hp2.i/90205a.b/f022f0501.d
Date : 05-FEB-1999 16:10
Client ID:
Sample Info: 2154 1.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f023f0601.d
Report Date: 05-Mar-1999 10:15

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f023f0601.d
Lab Smp Id: 2154 2.0
Inj Date : 05-FEB-1999 16:27 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 2154 2.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 16:27 Cal File: f023f0601.d
Als bottle: 23 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: None

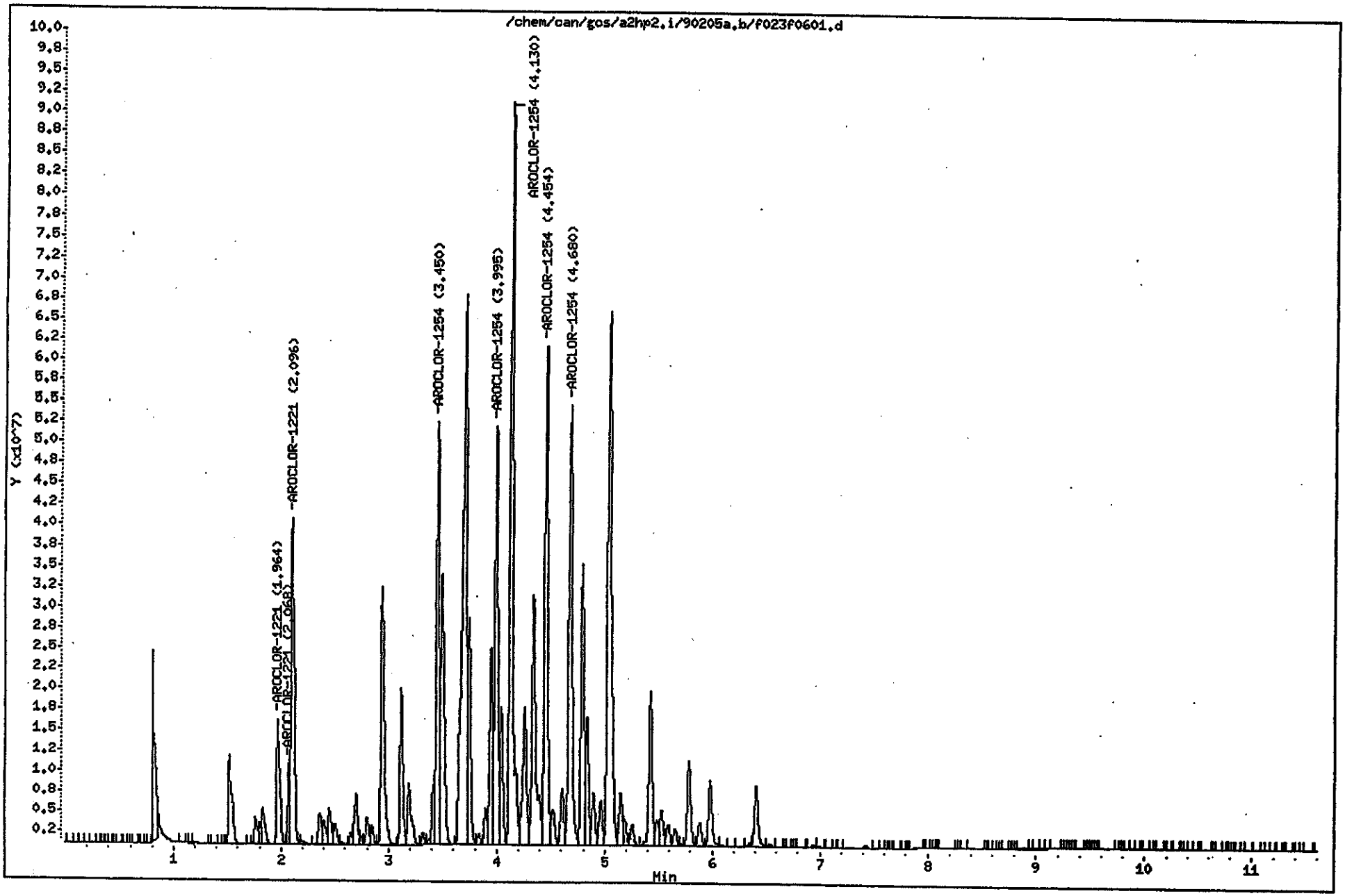
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
7 AROCLOR-1254					CAS #: 11097-69-1		
3.450	3.450	0.000	51580459	2.00000	1.827	75.00- 125.00	100.00
3.995	3.996	-0.001	51024547	2.00000	1.954	61.65- 102.75	98.92
4.130	4.131	-0.001	90272495	2.00000	1.930	109.15- 181.92	175.01
4.454	4.454	0.000	60846049	2.00000	1.939	71.55- 119.24	117.96
4.680	4.680	0.000	53644825	2.00000	1.886	65.63- 109.38	104.00
Average of Peak Amounts =					1.91		
2 AROCLOR-1221					CAS #: 11104-28-2		
1.964	1.964	0.000	15173908	2.00000	1.682	75.00- 125.00	100.00
2.068	2.068	0.000	9940314	2.00000	1.599	49.98- 83.31	65.51
2.096	2.097	-0.001	39822283	2.00000	1.714	187.43- 312.38	262.44
Average of Peak Amounts =					1.67		

Data Path: /chem/can/gcs/a2hp2.i/90205a.b/f023f0601.d
Date : 05-FEB-1999 16:27
Client ID:
Sample Info: 2154 2.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f024f0701.d
Report Date: 05-Mar-1999 10:16

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f024f0701.d
Lab Smp Id: 1660 0.1
Inj Date : 05-FEB-1999 16:43
Operator : 1808 Inst ID: a2hp2.i
Smp Info : 1660 0.1
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 16:43 Cal File: f024f0701.d
Als bottle: 24 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None

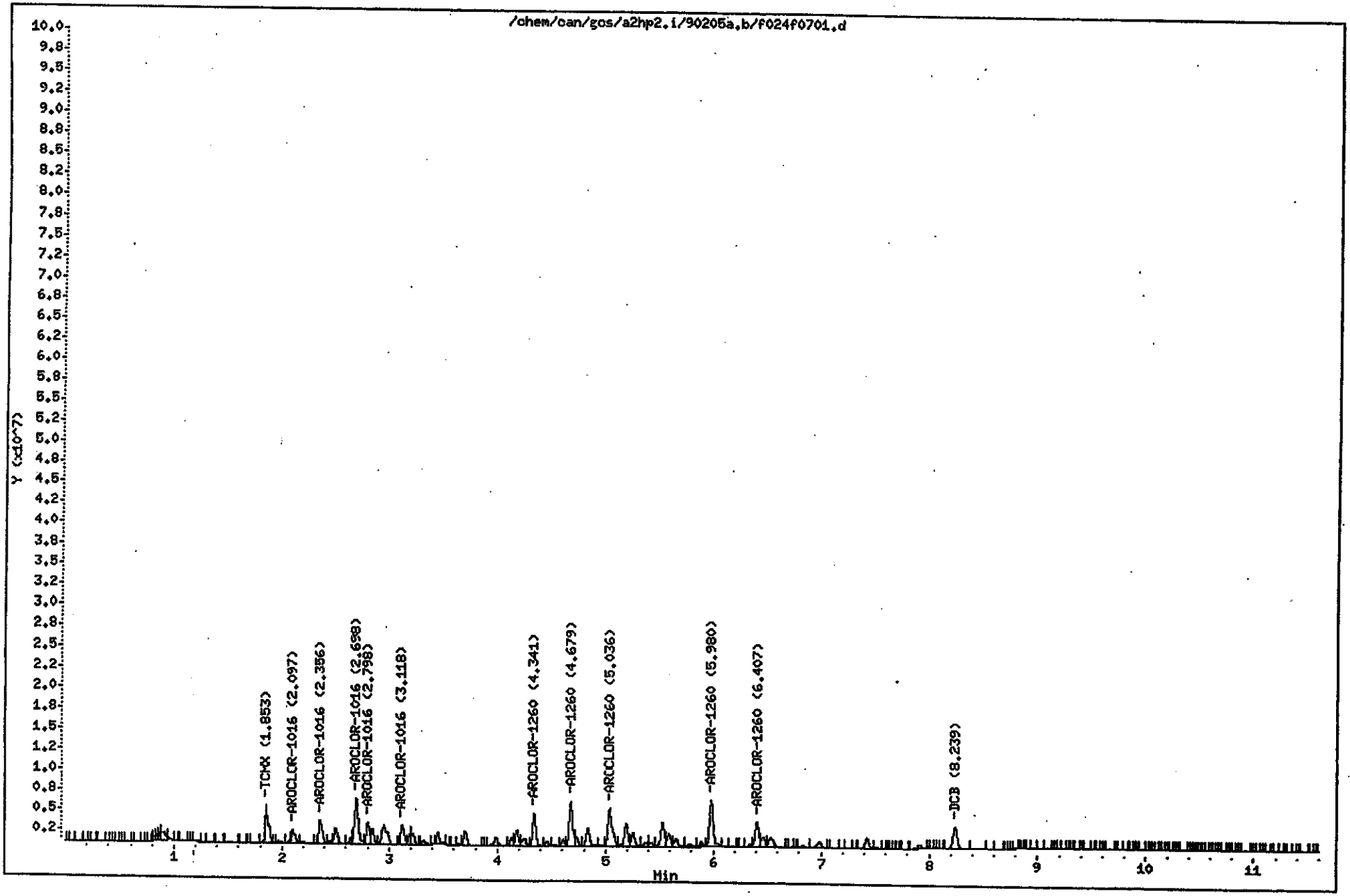
				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
1 TCMX					CAS #: 877-09-8		
1.853	1.852	0.001	4589018	0.00500	0.005000	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
2.097	2.097	0.000	1618589	0.10000	0.1000	75.00- 125.00	100.00
2.356	2.357	-0.001	2773671	0.10000	0.1000	137.00- 228.33	171.36
2.698	2.697	0.001	5601249	0.10000	0.1000	266.25- 443.75	346.06
2.798	2.799	-0.001	2573268	0.10000	0.1000	126.98- 211.63	158.98
3.118	3.118	0.000	2316350	0.10000	0.1000	111.82- 186.37	143.11
Average of Peak Amounts =					0.1		
8 AROCLOR-1260					CAS #: 11096-82-5		
4.341	4.340	0.001	3917425	0.10000	0.1000	75.00- 125.00	100.00
4.679	4.678	0.001	5446904	0.10000	0.1000	106.36- 177.27	139.04
5.036	5.036	0.000	4515046	0.10000	0.1000	91.09- 151.81	115.26
5.980	5.980	0.000	5655194	0.10000	0.1000	114.30- 190.50	144.36
6.407	6.406	0.001	3035737	0.10000	0.1000	60.55- 100.92	77.49
Average of Peak Amounts =					0.1		
9 DCB					CAS #: 2051-24-3		
8.239	8.239	0.000	2661615	0.00500	0.005000	75.00- 125.00	100.00

Data : /chem/can/gcs/a2hp2.i/90205a.b/f024f0701.d
Date : 05-FEB-1999 16:43
Client ID:
Sample Info: 1660 0.1

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f025f0801.d
Report Date: 05-Mar-1999 10:16

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f025f0801.d
Lab Smp Id: 1660 0.2
Inj Date : 05-FEB-1999 17:00 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 0.2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 17:00 Cal File: f025f0801.d
Als bottle: 25 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None

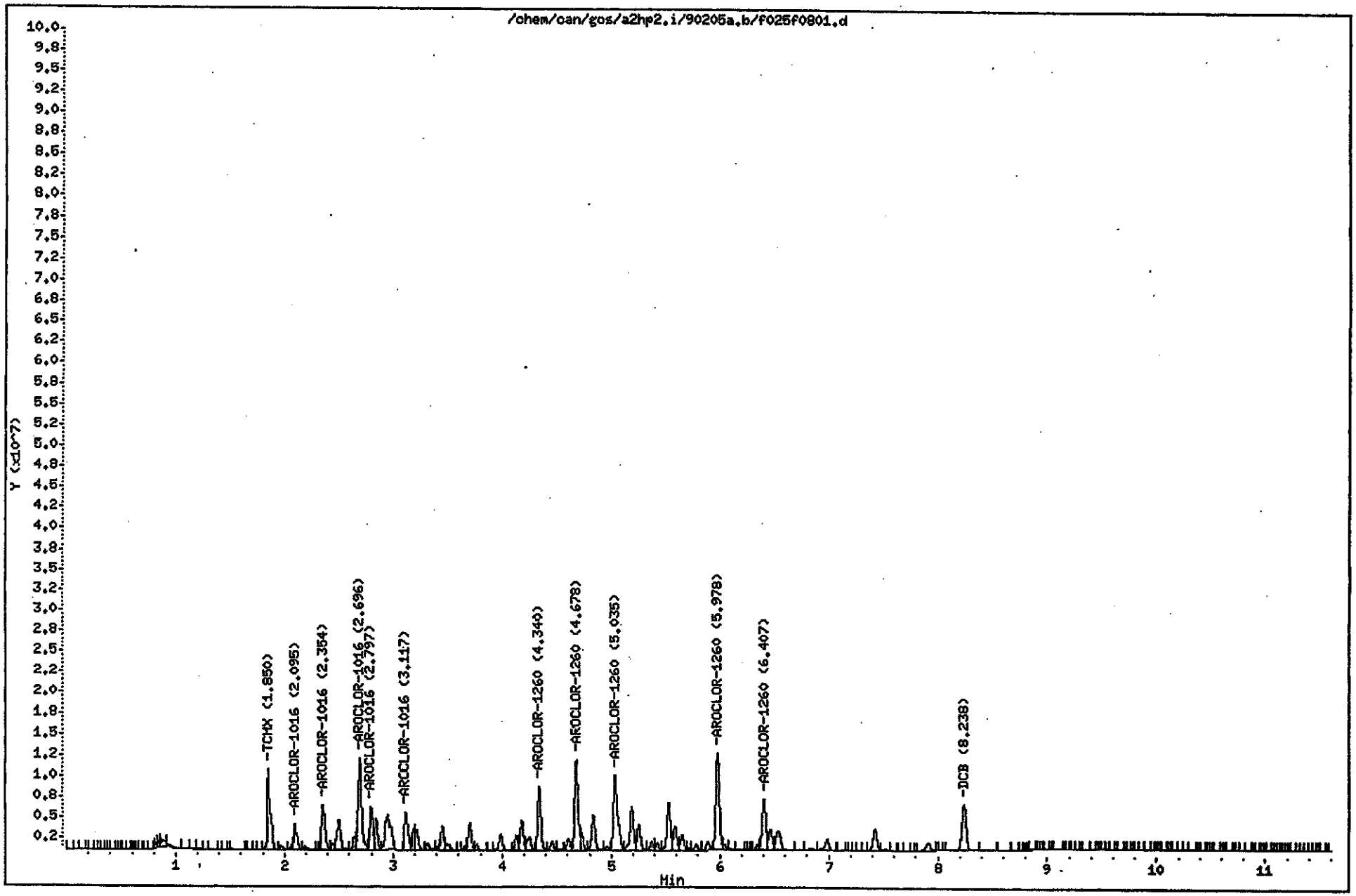
	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
						CAS #: 877-09-8		
	1 TCMX							
	1.850	1.852	-0.002	9712098	0.01000	0.01028	75.00- 125.00	100.00
						CAS #: 12674-11-2		
	3 AROCLOR-1016							
	2.095	2.097	-0.002	3187151	0.20000	0.1984	75.00- 125.00	100.00
	2.354	2.357	-0.003	5541938	0.20000	0.1999	137.00- 228.33	173.88
	2.696	2.697	-0.001	11064192	0.20000	0.1988	266.25- 443.75	347.15
	2.797	2.799	-0.002	5154499	0.20000	0.2002	126.98- 211.63	161.73
	3.117	3.118	-0.001	4625567	0.20000	0.1998	111.82- 186.37	145.13
		Average of Peak Amounts =				0.199		
						CAS #: 11096-82-5		
	8 AROCLOR-1260							
	4.340	4.340	0.000	7725946	0.20000	0.1986	75.00- 125.00	100.00
	4.678	4.678	0.000	10834855	0.20000	0.1994	106.36- 177.27	140.24
	5.035	5.036	-0.001	9137050	0.20000	0.2012	91.09- 151.81	118.26
	5.978	5.980	-0.002	11679195	0.20000	0.2032	114.30- 190.50	151.17
	6.407	6.406	0.001	6230042	0.20000	0.2026	60.55- 100.92	80.64
		Average of Peak Amounts =				0.201		
						CAS #: 2051-24-3		
$	9 DCB							
	8.238	8.239	-0.001	5533167	0.01000	0.01019	75.00- 125.00	100.00

Data F . /chem/can/gcs/a2hp2.i/90205a.b/f025f0801.d
Date : 05-FEB-1999 17:00
Client ID:
Sample Info: 1660 0.2

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES

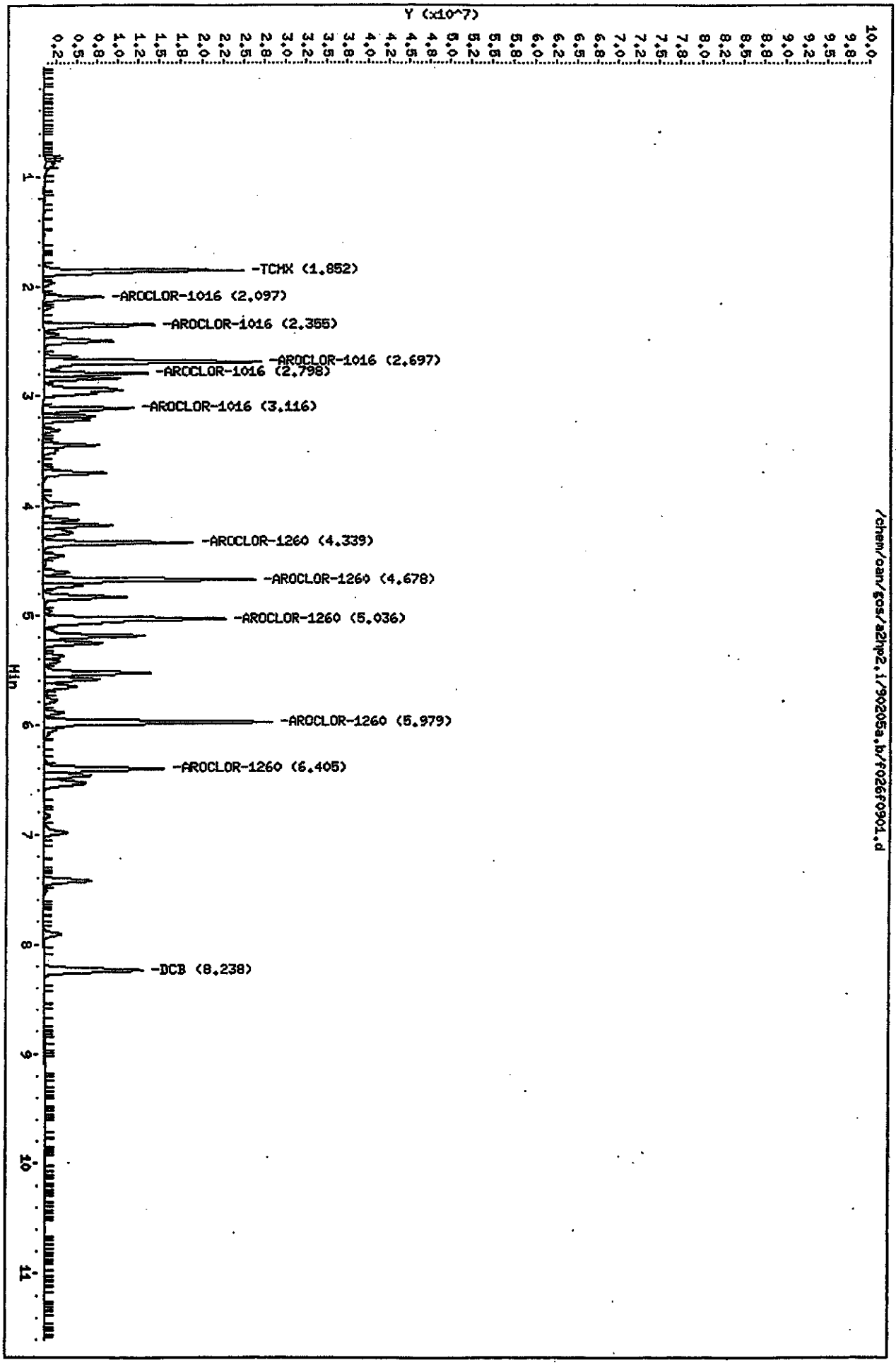


Data File: /chem/can/gcs/a2hp2.i/90205a.b/f026f0901.d
Report Date: 05-Mar-1999 10:16

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f026f0901.d
Lab Smp Id: 1660 0.5
Inj Date : 05-FEB-1999 17:17 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 0.5
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 17:17 Cal File: f026f0901.d
Als bottle: 26 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None

	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
						CAS #: 877-09-8		
$ 1 TCMX								
	1.852	1.852	0.000	23862655	0.02500	0.02518	75.00- 125.00	100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
	2.097	2.097	0.000	7299501	0.50000	0.4687	75.00- 125.00	100.00
	2.355	2.357	-0.002	13333640	0.50000	0.4871	137.00- 228.33	182.67
	2.697	2.697	0.000	25913006	0.50000	0.4765	266.25- 443.75	355.00
	2.798	2.799	-0.001	12358598	0.50000	0.4864	126.98- 211.63	169.31
	3.116	3.118	-0.002	10883252	0.50000	0.4797	111.82- 186.37	149.10
Average of Peak Amounts =						0.48		
8 AROCLOR-1260						CAS #: 11096-82-5		
	4.339	4.340	-0.001	17868330	0.50000	0.4721	75.00- 125.00	100.00
	4.678	4.678	0.000	25340608	0.50000	0.4772	106.36- 177.27	141.82
	5.036	5.036	0.000	21701396	0.50000	0.4850	91.09- 151.81	121.45
	5.979	5.980	-0.001	27230899	0.50000	0.4822	114.30- 190.50	152.40
	6.405	6.406	-0.001	14426167	0.50000	0.4790	60.55- 100.92	80.74
Average of Peak Amounts =						0.479		
						CAS #: 2051-24-3		
$ 9 DCB								
	8.238	8.239	-0.001	11929596	0.02500	0.02290	75.00- 125.00	100.00


Data File: /chem/can/gcs/a2hp2.i/90205a.b/f026f0901.d
Date : 05-FEB-1999 17:17
Client ID:
Sample Info: 1660 0.5
Column phase: RTX-CLP PESTICIDES
Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32
Y (x10^7)
/chem/can/gcs/a2hp2.i/90205a.b/f026f0901.d
Min
-TCMX (1.852)
-AROCLOR-1016 (2.097)
-AROCLOR-1016 (2.355)
-AROCLOR-1016 (2.697)
-AROCLOR-1016 (2.798)
-AROCLOR-1016 (3.116)
-AROCLOR-1260 (4.339)
-AROCLOR-1260 (4.678)
-AROCLOR-1260 (5.036)
-AROCLOR-1260 (5.979)
-AROCLOR-1260 (6.405)
-DCB (8.238)

Data File: /chem/can/gcs/a2hp2.i/90205a.b/f027f1001.d
Report Date: 05-Mar-1999 10:16

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f027f1001.d
Lab Smp Id: 1660 1.0
Inj Date : 05-FEB-1999 17:33 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 1.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 17:33 Cal File: f027f1001.d
Als bottle: 27 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None

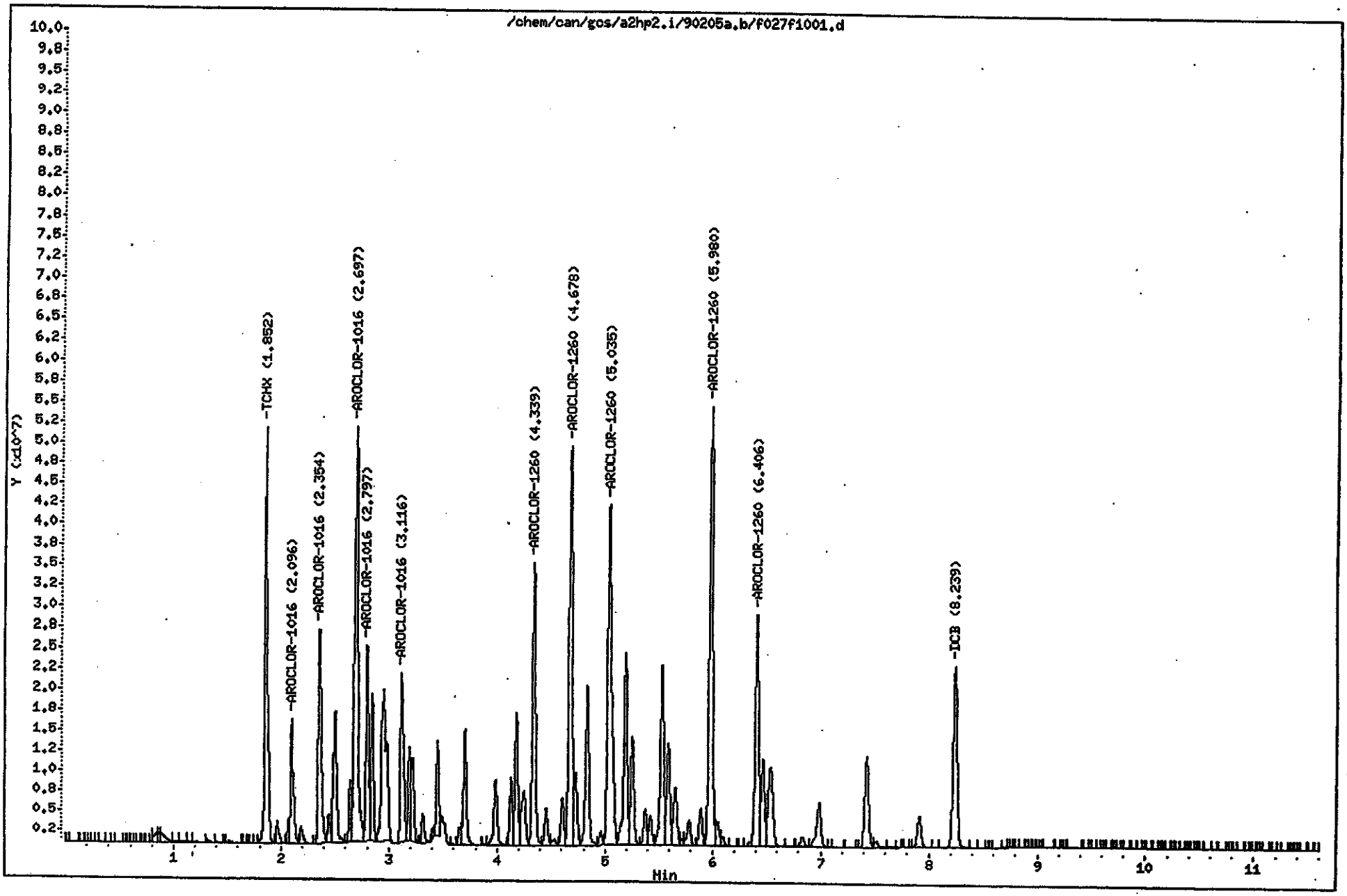
				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
1 TCMX					CAS #: 877-09-8		
1.852	1.852	0.000	50963191	0.05000	0.05277	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
2.096	2.097	-0.001	15368362	1.00000	0.9901	75.00- 125.00	100.00
2.354	2.357	-0.003	26200593	1.00000	0.9676	137.00- 228.33	170.48
2.697	2.697	0.000	50674945	1.00000	0.9479	266.25- 443.75	329.74
2.797	2.799	-0.002	23970112	1.00000	0.9570	126.98- 211.63	155.97
3.116	3.118	-0.002	20871536	1.00000	0.9388	111.82- 186.37	135.81
		Average of Peak Amounts =			0.96		
8 AROCLOR-1260					CAS #: 11096-82-5		
4.339	4.340	-0.001	34405500	1.00000	0.9302	75.00- 125.00	100.00
4.678	4.678	0.000	48844142	1.00000	0.9385	106.36- 177.27	141.97
5.035	5.036	-0.001	41720100	1.00000	0.9484	91.09- 151.81	121.26
5.980	5.980	0.000	53813084	1.00000	0.9643	114.30- 190.50	156.41
6.406	6.406	0.000	28318320	1.00000	0.9544	60.55- 100.92	82.31
		Average of Peak Amounts =			0.947		
$ 9 DCB					CAS #: 2051-24-3		
8.239	8.239	0.000	22222456	0.05000	0.04428	75.00- 125.00	100.00

Data : /chem/can/gos/a2hp2.i/90205a.b/f027f1001.d
Date : 05-FEB-1999 17:33
Client ID:
Sample Info: 1660 1.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



Data File: /chem/can/gcs/a2hp2.i/90205a.b/f028f1101.d
Report Date: 05-Mar-1999 10:16

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90205a.b/f028f1101.d
Lab Smp Id: 1660 2.0
Inj Date : 05-FEB-1999 17:50 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 2.0
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90205a.b/hp2fpcb.m
Meth Date : 03-Mar-1999 09:44 a Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 28 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: None

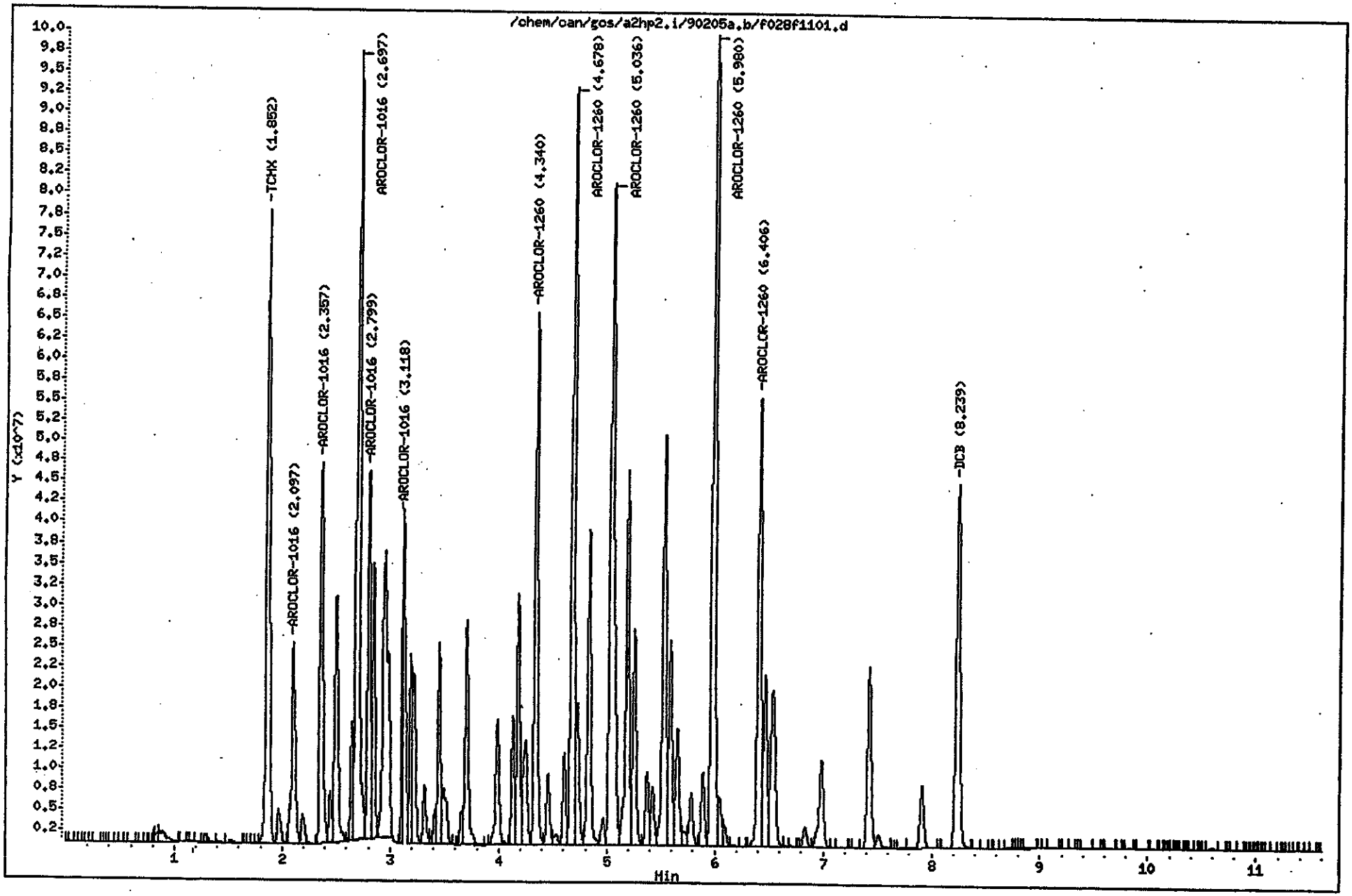
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
1 TCMX					CAS #: 877-09-8		
1.852	1.852	0.000	76996282	0.10000	0.08310	75.00- 125.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
2.097	2.097	0.000	24390752	2.00000	1.642	75.00- 125.00	100.00
2.357	2.357	0.000	46165764	2.00000	1.757	137.00- 228.33	189.28
2.697	2.697	0.000	96044363	2.00000	1.834	266.25- 443.75	393.77
2.799	2.799	0.000	44607314	2.00000	1.821	126.98- 211.63	182.89
3.118	3.118	0.000	39521921	2.00000	1.818	111.82- 186.37	162.04
Average of Peak Amounts =					1.77		
8 AROCLOR-1260					CAS #: 11096-82-5		
4.340	4.340	0.000	64827839	2.00000	1.797	75.00- 125.00	100.00
4.678	4.678	0.000	92281689	2.00000	1.814	106.36- 177.27	142.35
5.036	5.036	0.000	80493965	2.00000	1.862	91.09- 151.81	124.17
5.980	5.980	0.000	103605159	2.00000	1.884	114.30- 190.50	159.82
6.406	6.406	0.000	54558646	2.00000	1.869	60.55- 100.92	84.16
Average of Peak Amounts =					1.85		
$ 9 DCB					CAS #: 2051-24-3		
8.239	8.239	0.000	44220680	0.10000	0.09026	75.00- 125.00	100.00

Data ...e: /chem/can/gos/a2hp2.i/90205a.b/f028f1101.d
Date : 05-FEB-1999 17:50
Client ID:
Sample Info: 1660 2.0

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32

Column phase: RTX-CLP PESTICIDES



FORM 8
PCB ANALYTICAL SEQUENCE

Lab Name: QUANTERRA, INC. Contract:

Lab Code: QESOH Case No.: SAS No.: SDG No.: A9B240116

GC Column: RTX-CLP PESTICIDES ID: 0.32 (mm) Init. Calib. Date(s): 02/05/99 02/05

Instrument ID: A2HP2

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURROGATE RT FROM INITIAL CALIBRATION					
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	RT #	RT #
01		2154 C157	03/05/99	1645		
02		1248 C151	03/05/99	1702		
03		1242 C146	03/05/99	1718		
04		1232 C141	03/05/99	1735		
05		1660 C162	03/05/99	2112		
06	S-022399-JH-	CR2RC101	03/05/99	2129		
07	S-022399-JH-	CR2RE101	03/05/99	2145		
08	S-022399-JH-	CR2RF101	03/05/99	2202		
09	S-022399-JH-	CR2RG101	03/05/99	2219		
10	S-022399-JH-	CR2RH101	03/05/99	2235		
11	S-022399-JH-	CR2RJ101	03/05/99	2252		
12	S-022399-JH-	CR2RL101	03/05/99	2309		
13	S-022399-JH-	CR2RM101	03/05/99	2325		
14	S-022399-JH-	CR2RN101	03/05/99	2342		
15	S-022399-JH-	CR2RP101	03/05/99	2359		
16		1660 C162	03/06/99	0032		
17	S-022399-JH-	CR2RR101	03/06/99	0106		
18	S-022399-JH-	CR2RT101	03/06/99	0122		
19	S-022399-JH-	CR2RV101	03/06/99	0139		
20	S-022399-JH-	CR2RX101	03/06/99	0156		
21	S-022399-JH-	CR2T0101	03/06/99	0212		
22	S-022399-JH-	CR2T1101	03/06/99	0229		
23	S-022399-JH-	CR2T2101	03/06/99	0246		
24	S-022399-JH-	CR2T4101	03/06/99	0303		
25	S-022399-JH-	CR2T5101	03/06/99	0319		
26	S-022399-JH-	CR2T6101	03/06/99	0336		
27		1660 C162	03/06/99	0409		
28	INTRA-LAB BL	CR30K101	03/06/99	0443		
29	INTRA-LAB CH	CR30K103	03/06/99	0500		
30	INTRA-LAB CH	CR30K104	03/06/99	0516		
31		1660 C162	03/06/99	0747		
32						
			QC LIMITS			

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f005f0501.d
Report Date: 08-Mar-1999 07:02

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f005f0501.d
Lab Smp Id: 2154 C157
Inj Date : 05-MAR-1999 16:45
Operator : 1808 Inst ID: a2hp2.i
Smp Info : 2154 C157,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 5 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR2154.sub
Target Version: 3.40 Sample Matrix: WATER

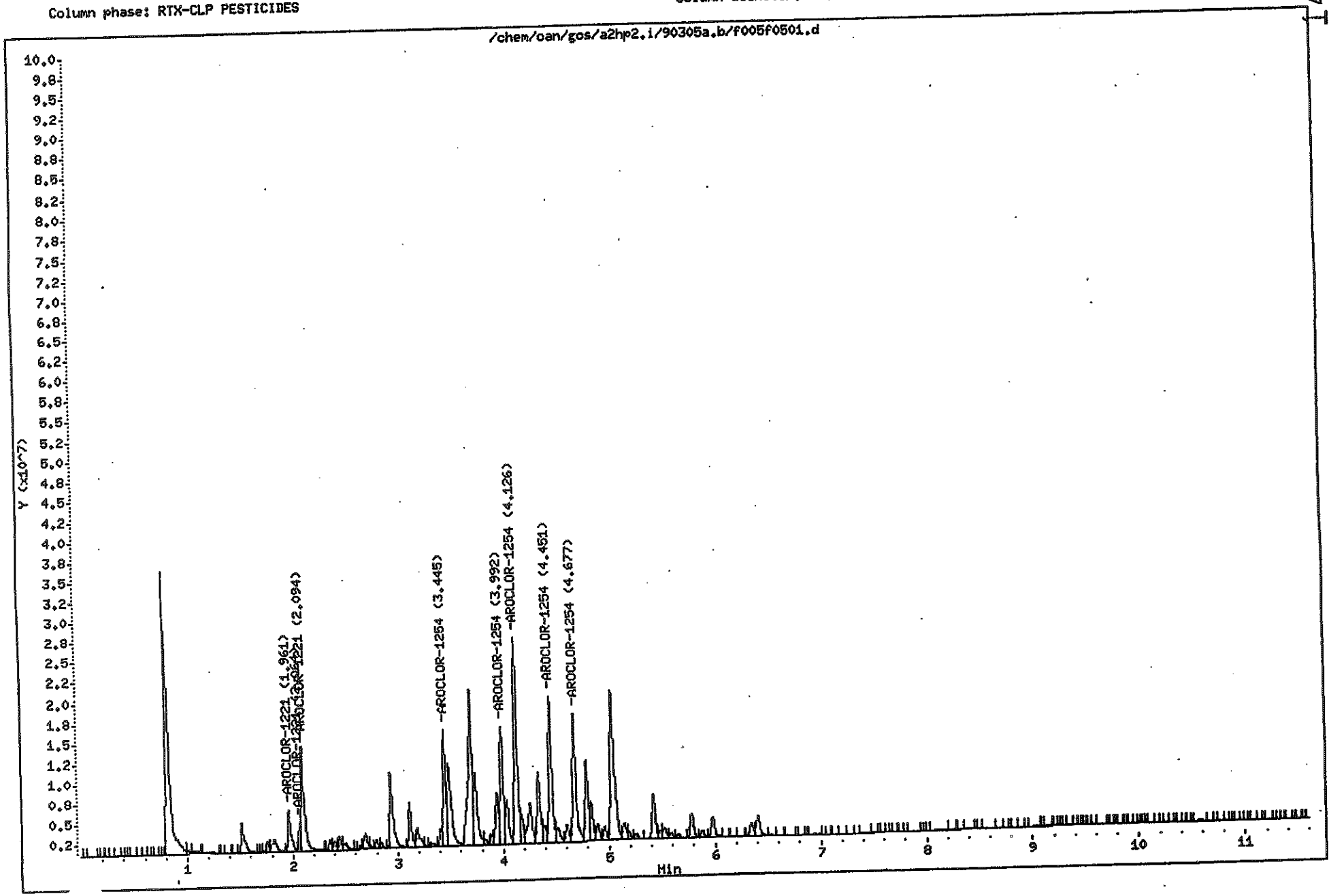
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
7 AROCLOR-1254					CAS #: 11097-69-1			
3.445	3.445	0.000	14395270	0.50000	0.5100	80.00-	120.00	100.00
3.992	3.992	0.000	14537769	0.50000	0.5566	75.74-	126.24	100.99
4.126	4.126	0.000	25537458	0.50000	0.5460	133.05-	221.75	177.40
4.451	4.451	0.000	17945893	0.50000	0.5718	93.50-	155.83	124.67
4.677	4.677	0.000	15823605	0.50000	0.5563	82.44-	137.40	109.92
Average of Peak Amounts =					0.548			
2 AROCLOR-1221					CAS #: 11104-28-2			
1.961	1.961	0.000	5107585	0.50000	0.5819	80.00-	120.00	100.00
2.064	2.064	0.000	3485082	0.50000	0.5790	51.18-	85.29	68.23
2.094	2.094	0.000	12872817	0.50000	0.5666	189.03-	315.04	252.03
Average of Peak Amounts =					0.576			

Data File: /chem/oan/gos/a2hp2.i/90305a.b/f005f0501.d
Date : 05-MAR-1999 16:45
Client ID:
Sample Info: 2154 C157,,2
Purge Volume: 1000.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hp2.i/90305a.b/f006f0601.d
Report Date: 08-Mar-1999 07:02

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f006f0601.d
Lab Smp Id: 1248 C151
Inj Date : 05-MAR-1999 17:02
Operator : 1808 Inst ID: a2hp2.i
Smp Info : 1248 C151,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.40 Sample Matrix: WATER

Concentration Formula: Amt * DF * Vt/Vo

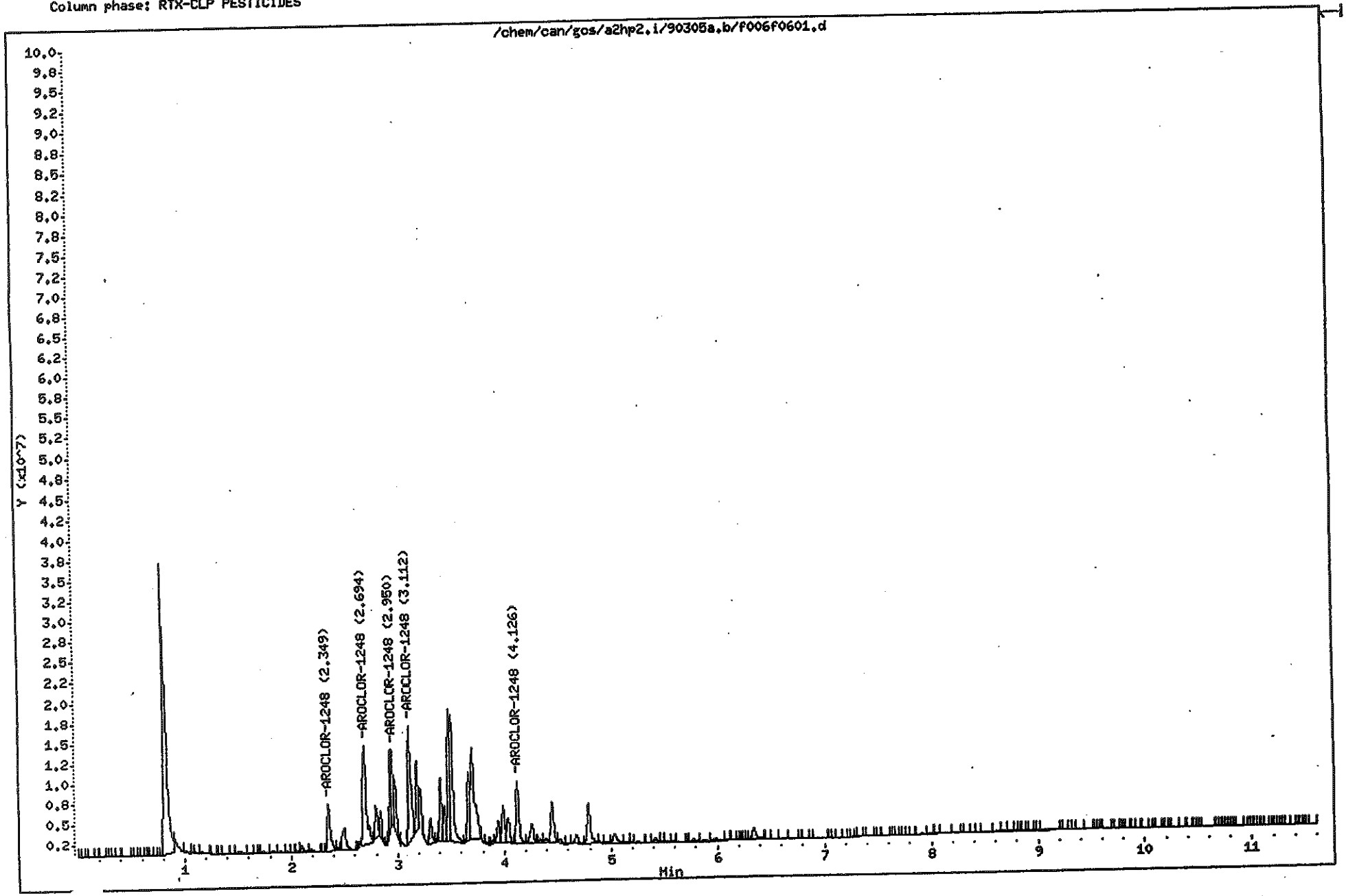
Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
6 AROCLOR-1248					CAS #: 12672-29-6			
2.349	2.349	0.000	5712898	0.50000	0.5756	80.00-	120.00	100.00
2.694	2.694	0.000	12272889	0.50000	0.5147	161.12-	268.53	214.83
2.950	2.950	0.000	9138179	0.50000	0.3619	119.97-	199.95	159.96
3.112	3.112	0.000	14224814	0.50000	0.5115	186.75-	311.24	248.99
4.126	4.126	0.000	7697336	0.50000	0.5178	101.05-	168.42	134.74
Average of Peak Amounts =					0.496			

Data File: /chem/can/gos/a2hp2.i/90305a.b/f006f0601.d
Date : 05-MAR-1999 17:02
Client ID:
Sample Info: 1248 C151,,2
Purge Volume: 1000.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

148



Data File: /chem/can/gcs/a2hp2.i/90305a.b/f007f0701.d
Report Date: 08-Mar-1999 07:02

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f007f0701.d
Lab Smp Id: 1242 C146
Inj Date : 05-MAR-1999 17:18
Operator : 1808 Inst ID: a2hp2.i
Smp Info : 1242 C146,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.40 Sample Matrix: WATER

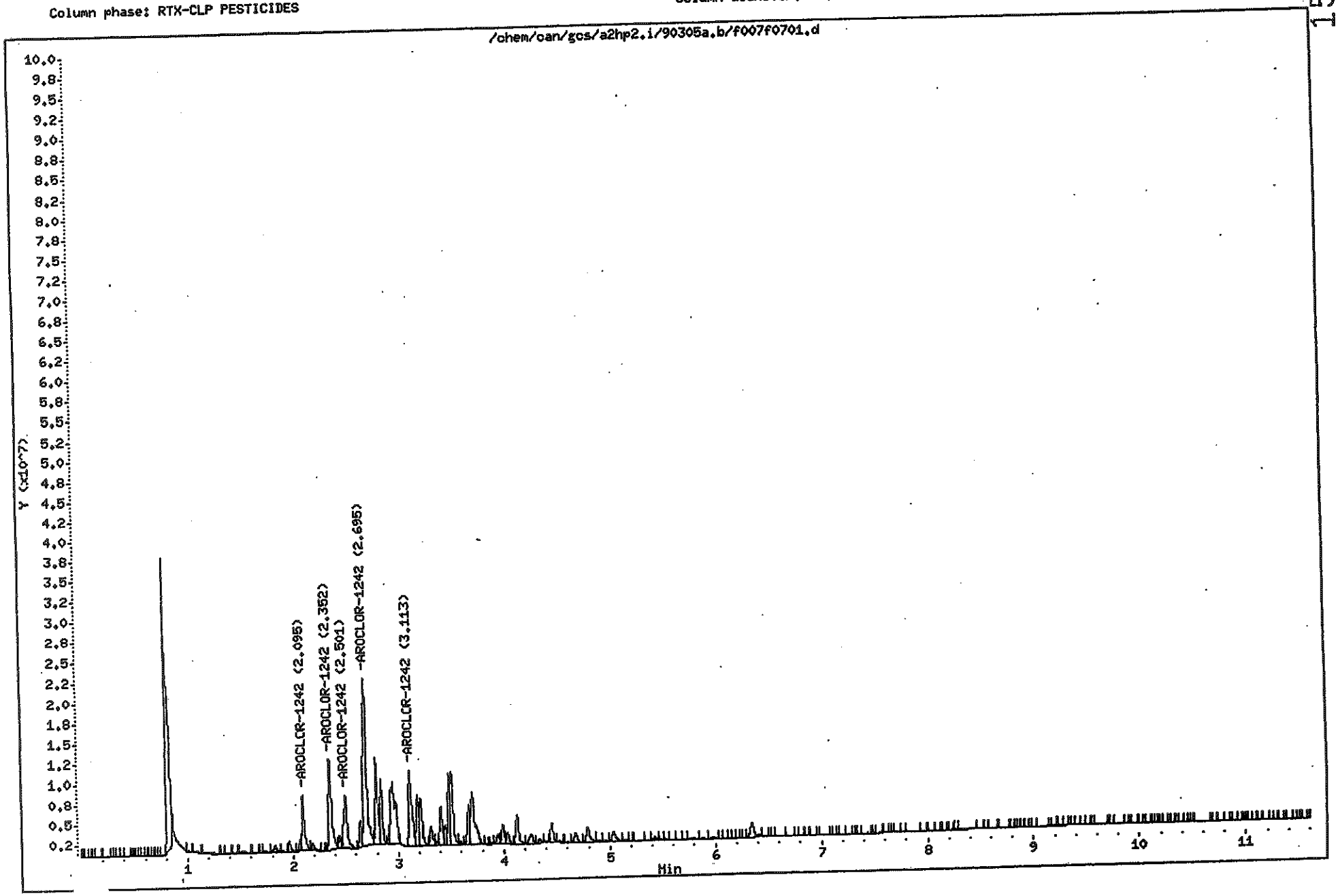
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
5 AROCLOR-1242					CAS #: 53469-21-9			
2.095	2.095	0.000	6724994	0.50000	0.6180	80.00-	120.00	100.00
2.352	2.352	0.000	11145666	0.50000	0.5941	124.30-	207.17	165.73
2.501	2.501	0.000	6432052	0.50000	0.5172	71.73-	119.55	95.64
2.695	2.695	0.000	20673529	0.50000	0.5477	230.56-	384.27	307.41
3.113	3.113	0.000	9396364	0.50000	0.5680	104.79-	174.65	139.72
Average of Peak Amounts =					0.569			

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f007f0701.d
Date : 05-MAR-1999 17:18
Client ID:
Sample Info: 1242 C146,,2
Purge Volume: 1000.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hp2.i/90305a.b/f008f0801.d
Report Date: 08-Mar-1999 07:02

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f008f0801.d
Lab Smp Id: 1232 C141
Inj Date : 05-MAR-1999 17:35
Operator : 1808 Inst ID: a2hp2.i
Smp Info : 1232 C141,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 8 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.40 Sample Matrix: WATER

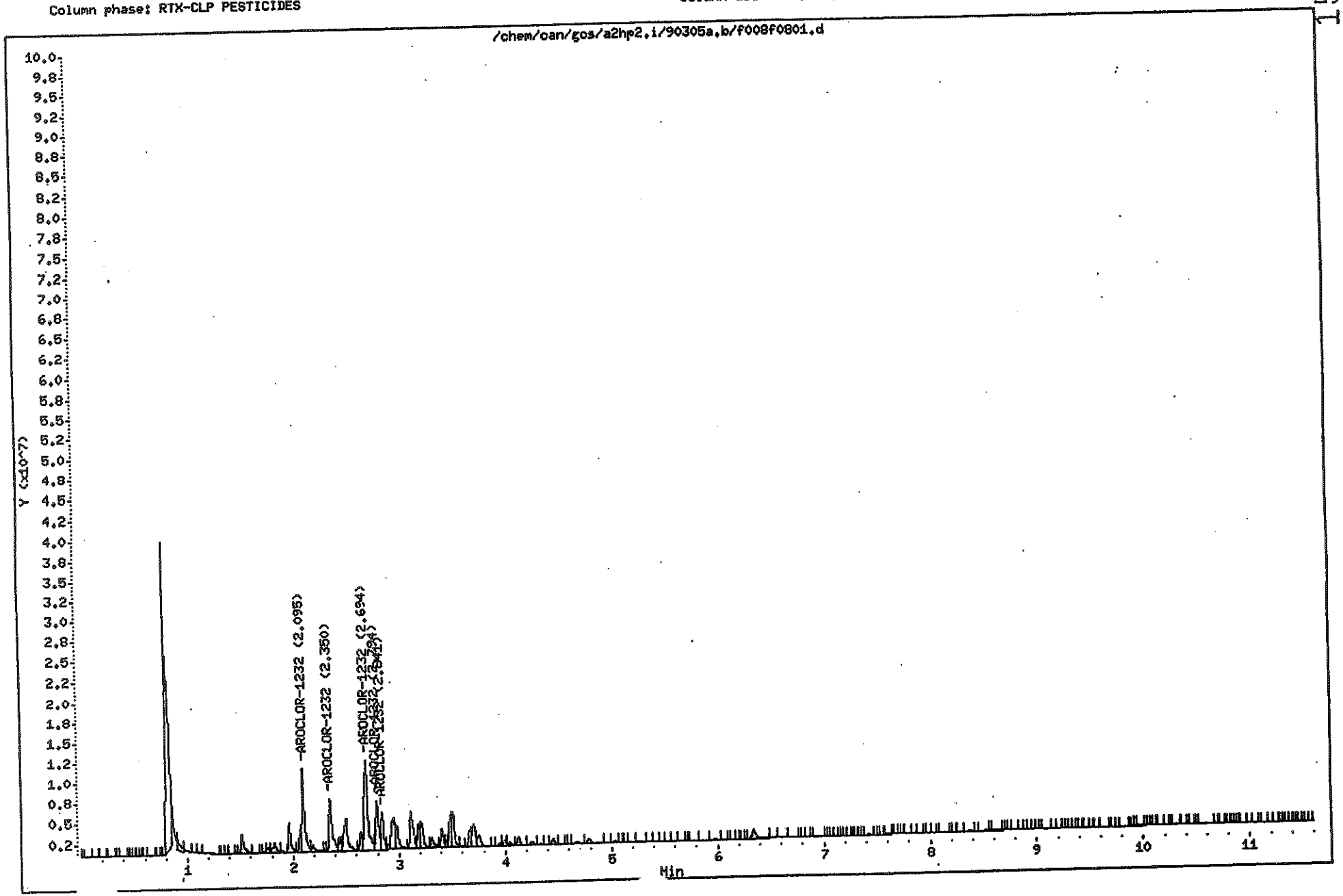
Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

				AMOUNTS CAL-AMT	AMOUNTS ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
4 AROCLOR-1232					CAS #: 11141-16-5		
2.095	2.095	0.000	10081607	0.50000	0.6078	80.00- 120.00	100.00
2.350	2.350	0.000	6309819	0.50000	0.5682	46.94- 78.23	62.59
2.694	2.694	0.000	10880331	0.50000	0.5057	80.94- 134.90	107.92
2.794	2.794	0.000	5878045	0.50000	0.5680	43.73- 72.88	58.30
2.841	2.841	0.000	4445642	0.50000	0.5917	33.07- 55.12	44.10
		Average of Peak Amounts =			0.568		

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f008f0801.d
Date : 05-MAR-1999 17:35
Client ID:
Sample Info: 1232 C141,,2
Purge Volume: 1000.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hp2.i/90305a.b/f021f2101.d
Report Date: 03/07/1999

CONTINUING CALIBRATION REPORT

Instrument ID: a2hp2.i
Lab File ID: f021f2101.d
Analysis Type: WATER

Injection Date: 05-MAR-1999 21:12
Lab Sample ID: 1660 C162
Method File: /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcl

COMPOUND	%D
TCMX	11.3
AROCLOR-1016	4.8
AROCLOR-1260	2.3
DCB	10.0

The average of %D's in the continuing calibration is 7.1

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f021f2101.d
Report Date: 08-Mar-1999 07:03

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f021f2101.d
Lab Smp Id: 1660 C162
Inj Date : 05-MAR-1999 21:12 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 C162,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: WATER

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

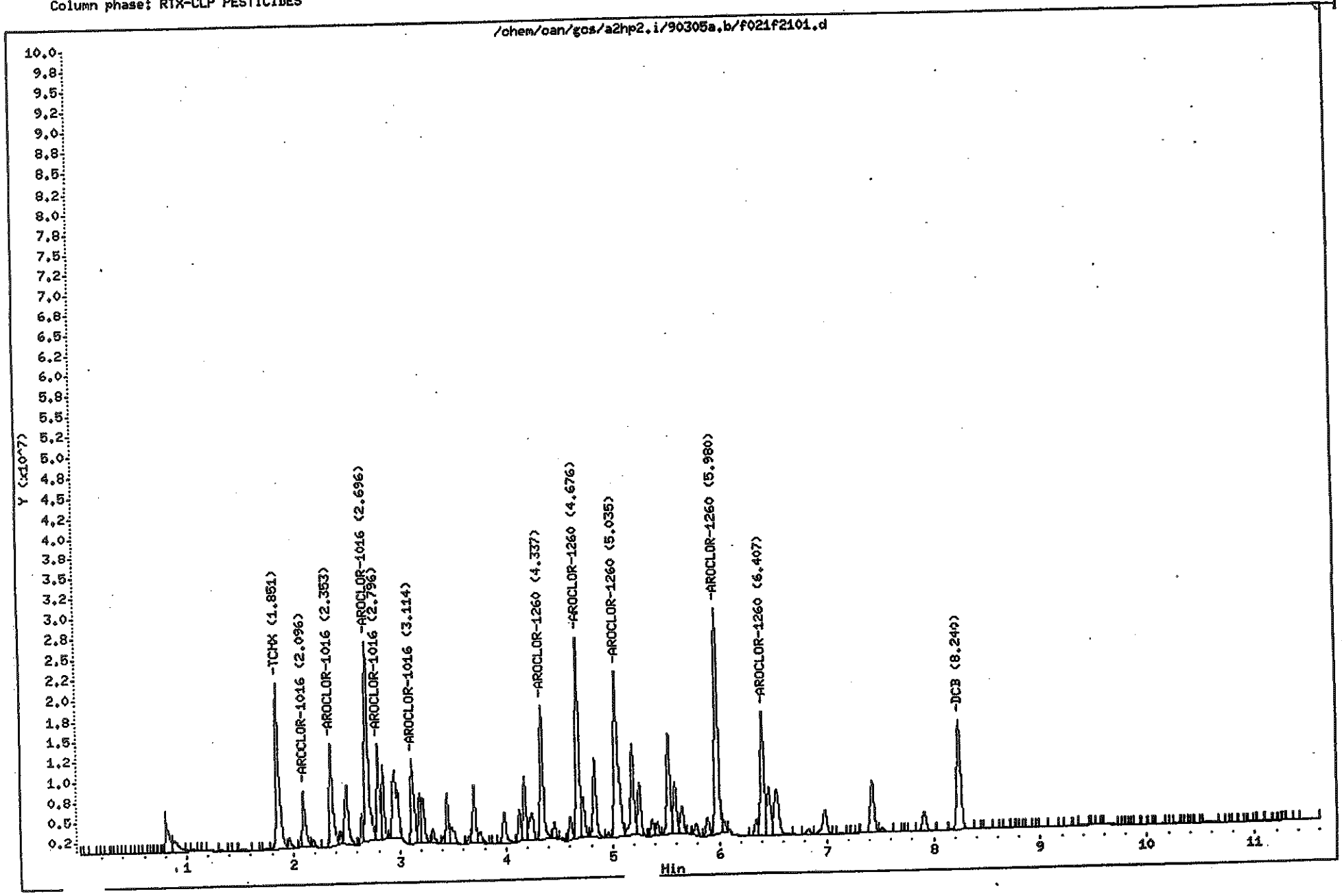
				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
$ 1 TCMX						CAS #: 877-09-8		
1.851	1.848	0.003	20539056	0.02500	0.02217	80.00- 120.00		100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
2.096	2.093	0.003	6993976	0.50000	0.4708	80.00- 120.00		100.00
2.353	2.350	0.003	12633585	0.50000	0.4807	124.12- 206.86		180.64
2.696	2.693	0.003	24595561	0.50000	0.4696	254.85- 424.75		351.67
2.796	2.794	0.002	11840299	0.50000	0.4833	129.82- 216.37		169.29
3.114	3.112	0.002	10356832	0.50000	0.4764	102.68- 171.13		148.08
		Average of Peak Amounts =			0.476			
8 AROCLOR-1260						CAS #: 11096-82-5		
4.337	4.335	0.002	16562792	0.50000	0.4592	80.00- 120.00		100.00
4.676	4.674	0.002	24604432	0.50000	0.4837	110.81- 184.68		148.55
5.035	5.031	0.004	20394410	0.50000	0.4716	91.96- 153.26		123.13
5.980	5.978	0.002	27638189	0.50000	0.5025	128.99- 214.98		166.87

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f021f2101.d
Report Date: 08-Mar-1999 07:03

	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
	8 AROCLOR-1260 (continued)							
	6.407	6.404	0.003	15327568	0.50000	0.5251	70.79- 117.98	92.54
	Average of Peak Amounts =					0.488		
$	9 DCB				CAS #: 2051-24-3			
	8.240	8.238	0.002	13476500	0.02500	0.02751	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f021f2101.d
Date : 05-MAR-1999 21:12
Client ID:
Sample Info: 1660 C162,,2
Purge Volume: 1000.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hp2.i/90305a.b/f033f3301.d
Report Date: 03/07/1999

CONTINUING CALIBRATION REPORT

Instrument ID: a2hp2.i
Lab File ID: f033f3301.d
Analysis Type: WATER

Injection Date: 06-MAR-1999 00:32
Lab Sample ID: 1660 C162
Method File: /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb

COMPOUND	%D
TCMX	13.3
AROCLOR-1016	15.7
AROCLOR-1260	5.6
DCB	14.7

The average of %D's in the continuing calibration is 12.3

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f033f3301.d
Report Date: 08-Mar-1999 07:03

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f033f3301.d
Lab Smp Id: 1660 C162
Inj Date : 06-MAR-1999 00:32 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 C162,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 33 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: WATER

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

				AMOUNTS				
				CAL-AMT	ON-COL			
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE		RATIO
$ 1 TCMX						CAS #: 877-09-8		
1.850	1.848	0.002	26241344	0.02500	0.02832	80.00- 120.00		100.00
3 AROCLOR-1016						CAS #: 12674-11-2		
2.094	2.093	0.001	8685358	0.50000	0.5846	80.00- 120.00		100.00
2.352	2.350	0.002	14999855	0.50000	0.5708	124.12- 206.86		172.70
2.694	2.693	0.001	29170128	0.50000	0.5570	254.85- 424.75		335.85
2.795	2.794	0.001	15087736	0.50000	0.6158	129.82- 216.37		173.71
3.113	3.112	0.001	12257192	0.50000	0.5638	102.68- 171.13		141.12
Average of Peak Amounts =					0.578			
8 AROCLOR-1260						CAS #: 11096-82-5		
4.337	4.335	0.002	19114953	0.50000	0.5299	80.00- 120.00		100.00
4.676	4.674	0.002	27279799	0.50000	0.5364	110.81- 184.68		142.71
5.034	5.031	0.003	22035989	0.50000	0.5096	91.96- 153.26		115.28
5.980	5.978	0.002	29158595	0.50000	0.5301	128.99- 214.98		152.54

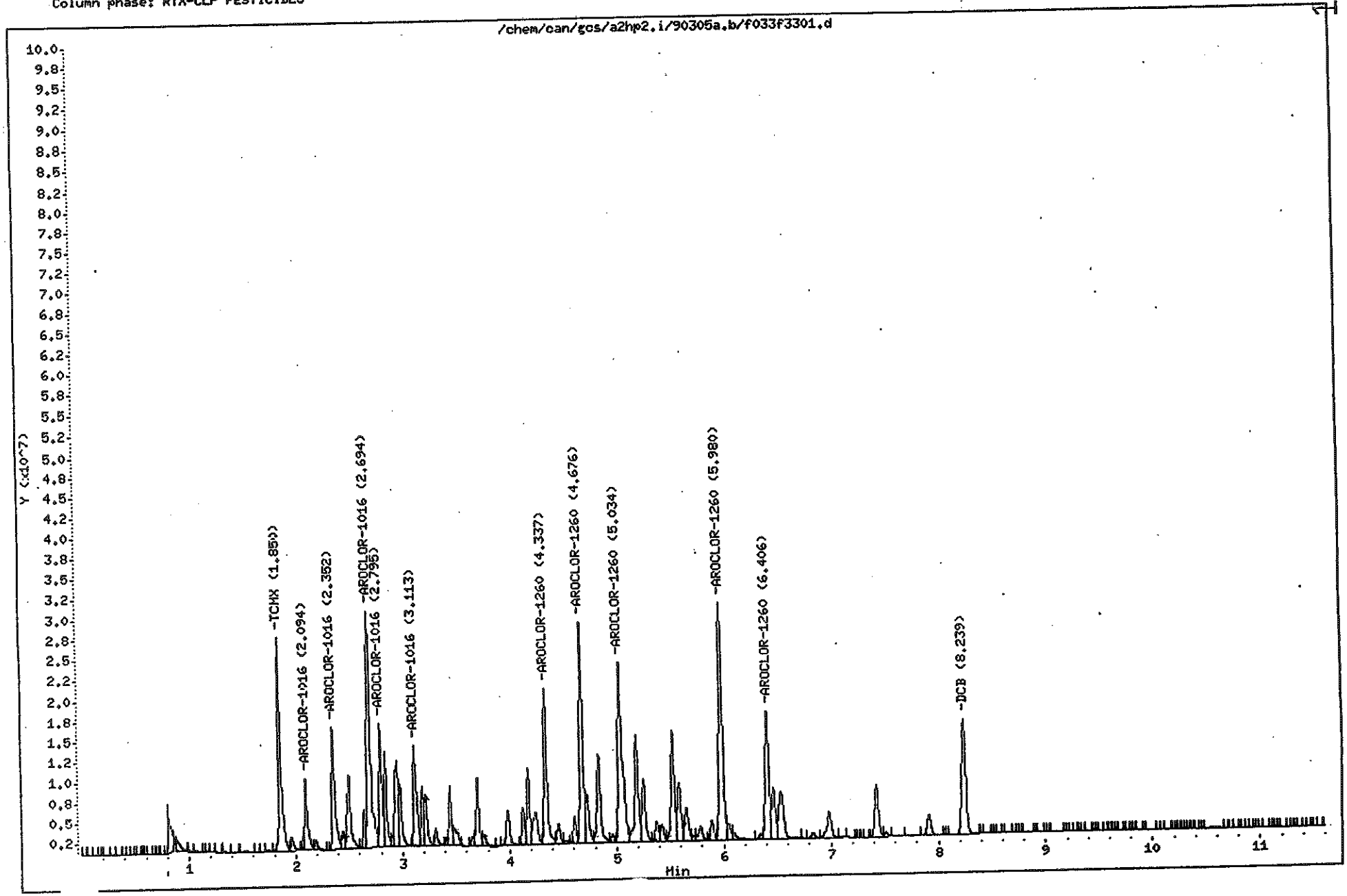
Data File: /chem/can/gcs/a2hp2.i/90305a.b/f033f3301.d
Report Date: 08-Mar-1999 07:03

	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
	8 AROCLOR-1260 (continued)							
	6.406	6.404	0.002	15554718	0.50000	0.5328	70.79- 117.98	81.37
		Average of Peak Amounts =				0.528		
$	9 DCB					CAS #: 2051-24-3		
	8.239	8.238	0.001	14042997	0.02500	0.02866	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f033f3301.d
Date : 06-MAR-1999 00:32
Client ID:
Sample Info: 1660 C162,,2
Purge Volume: 1000.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

160



Data File: /chem/can/gcs/a2hp2.i/90305a.b/f046f4601.d
Report Date: 03/07/1999

P

CONTINUING CALIBRATION REPORT

Instrument ID: a2hp2.i
Lab File ID: f046f4601.d
Analysis Type: WATER

Injection Date: 06-MAR-1999 04:09
Lab Sample ID: 1660 C162
Method File: /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb

COMPOUND	%D
TCMX	0.6
AROCLOR-1016	7.2
AROCLOR-1260	9.3
DCB	26.0

The average of %D's in the continuing calibration is 10.8

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f046f4601.d
Report Date: 08-Mar-1999 07:04

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f046f4601.d
Lab Smp Id: 1660 C162
Inj Date : 06-MAR-1999 04:09 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 C162,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 46 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: WATER

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
**	======	========	========	=======	=======	============	=====
$ 1 TCMX					CAS #: 877-09-8		
1.848	1.848	0.000	23304600	0.02500	0.02515	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
2.093	2.093	0.000	7916929	0.50000	0.5329	80.00- 120.00	100.00
2.349	2.350	-0.001	13944201	0.50000	0.5306	124.12- 206.86	176.13
2.692	2.693	-0.001	27655729	0.50000	0.5281	254.85- 424.75	349.32
2.793	2.794	-0.001	13901713	0.50000	0.5674	129.82- 216.37	175.59
3.111	3.112	-0.001	11304288	0.50000	0.5200	102.68- 171.13	142.79
Average of Peak Amounts =					0.536		
8 AROCLOR-1260					CAS #: 11096-82-5		
4.334	4.335	-0.001	18466100	0.50000	0.5119	80.00- 120.00	100.00
4.673	4.674	-0.001	27144997	0.50000	0.5337	110.81- 184.68	147.00
5.029	5.031	-0.002	22724317	0.50000	0.5255	91.96- 153.26	123.06
5.977	5.978	-0.001	31718444	0.50000	0.5766	128.99- 214.98	171.77

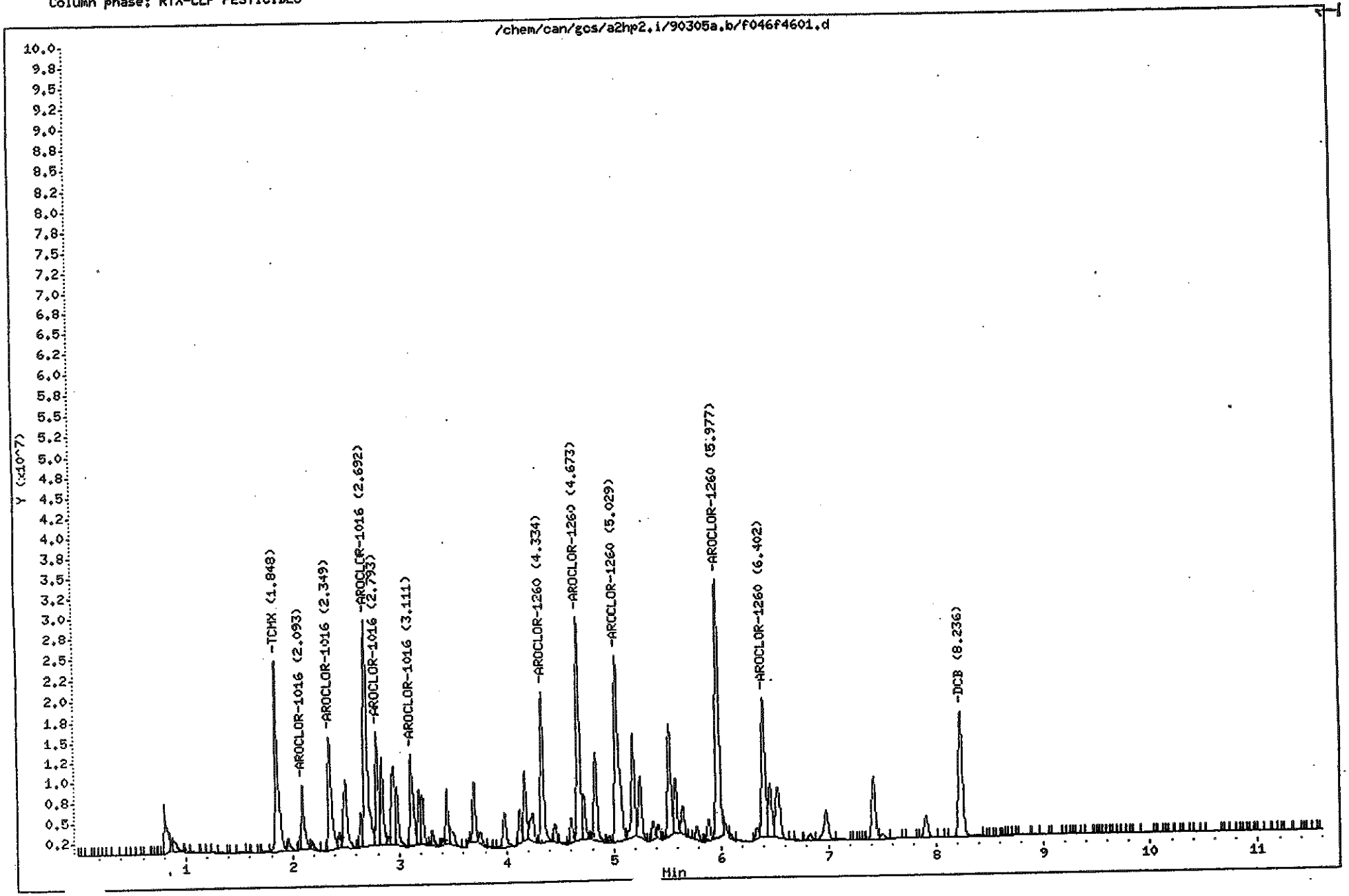
Data File: /chem/can/gcs/a2hp2.i/90305a.b/f046f4601.d
Report Date: 08-Mar-1999 07:04

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
**	******	********	********	*******	*******	**********	*****
8 AROCLOR-1260 (continued)							
6.402	6.404	-0.002	17077995	0.50000	0.5850	70.79- 117.98	92.48
		Average of Peak Amounts =			0.547		
$ 9 DCB					CAS #: 2051-24-3		
8.236	8.238	-0.002	15430770	0.02500	0.03150	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f046f4601.d
Date : 06-MAR-1999 04:09
Client ID:
Sample Info: 1660 C162,,2
Purge Volume: 1000.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i

Operator: 1808
Column diameter: 0.32



Data File: /chem/can/gcs/a2hp2.i/90305a.b/f059f5901.d
Report Date: 03/07/1999

CONTINUING CALIBRATION REPORT

Instrument ID: a2hp2.i
Lab File ID: f059f5901.d
Analysis Type: WATER

Injection Date: 06-MAR-1999 07:47
Lab Sample ID: 1660 C162
Method File: /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcl

COMPOUND	%D
TCMX	7.2
AROCLOR-1016	2.1
AROCLOR-1260	4.0
DCB	22.1

The average of %D's in the continuing calibration is 8.9

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f059f5901.d
Report Date: 08-Mar-1999 07:05

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f059f5901.d
Lab Smp Id: 1660 C162
Inj Date : 06-MAR-1999 07:47 Inst ID: a2hp2.i
Operator : 1808
Smp Info : 1660 C162,,2
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 07-Mar-1999 08:12 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 59 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660td.sub
Target Version: 3.40 Sample Matrix: WATER

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	5000.000	final volume
Vo	1000.000	intitial volume

				AMOUNTS CAL-AMT	ON-COL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ng)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.847	1.848	-0.001	21492318	0.02500	0.02320	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
2.092	2.093	-0.001	7454710	0.50000	0.5018	80.00- 120.00	100.00
2.350	2.350	0.000	13016510	0.50000	0.4953	124.12- 206.86	174.61
2.692	2.693	-0.001	26249618	0.50000	0.5012	254.85- 424.75	352.12
2.792	2.794	-0.002	13786416	0.50000	0.5627	129.82- 216.37	184.94
3.110	3.112	-0.002	10686092	0.50000	0.4916	102.68- 171.13	143.35
Average of Peak Amounts =					0.511		
8 AROCLOR-1260					CAS #: 11096-82-5		
4.332	4.335	-0.003	17424474	0.50000	0.4830	80.00- 120.00	100.00
4.672	4.674	-0.002	26145373	0.50000	0.5140	110.81- 184.68	150.05
5.028	5.031	-0.003	20776188	0.50000	0.4805	91.96- 153.26	119.24
5.974	5.978	-0.004	30306979	0.50000	0.5510	128.99- 214.98	173.93

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f059f5901.d
Report Date: 08-Mar-1999 07:05

				AMOUNTS CAL-AMT (ng)	ON-COL (ng)	TARGET RANGE	RATIO
RT	EXP RT	DLT RT	RESPONSE				
8 AROCLOR-1260 (continued)							
6.401	6.404	-0.003	16714792	0.50000	0.5726	70.79- 117.98	95.93
		Average of Peak Amounts =			0.52		
$ 9 DCB					CAS #: 2051-24-3		
8.234	8.238	-0.004	14956208	0.02500	0.03053	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f059f5901.d

Date : 06-MAR-1999 07:47

Client ID:

Sample Info: 1660 C162,,2

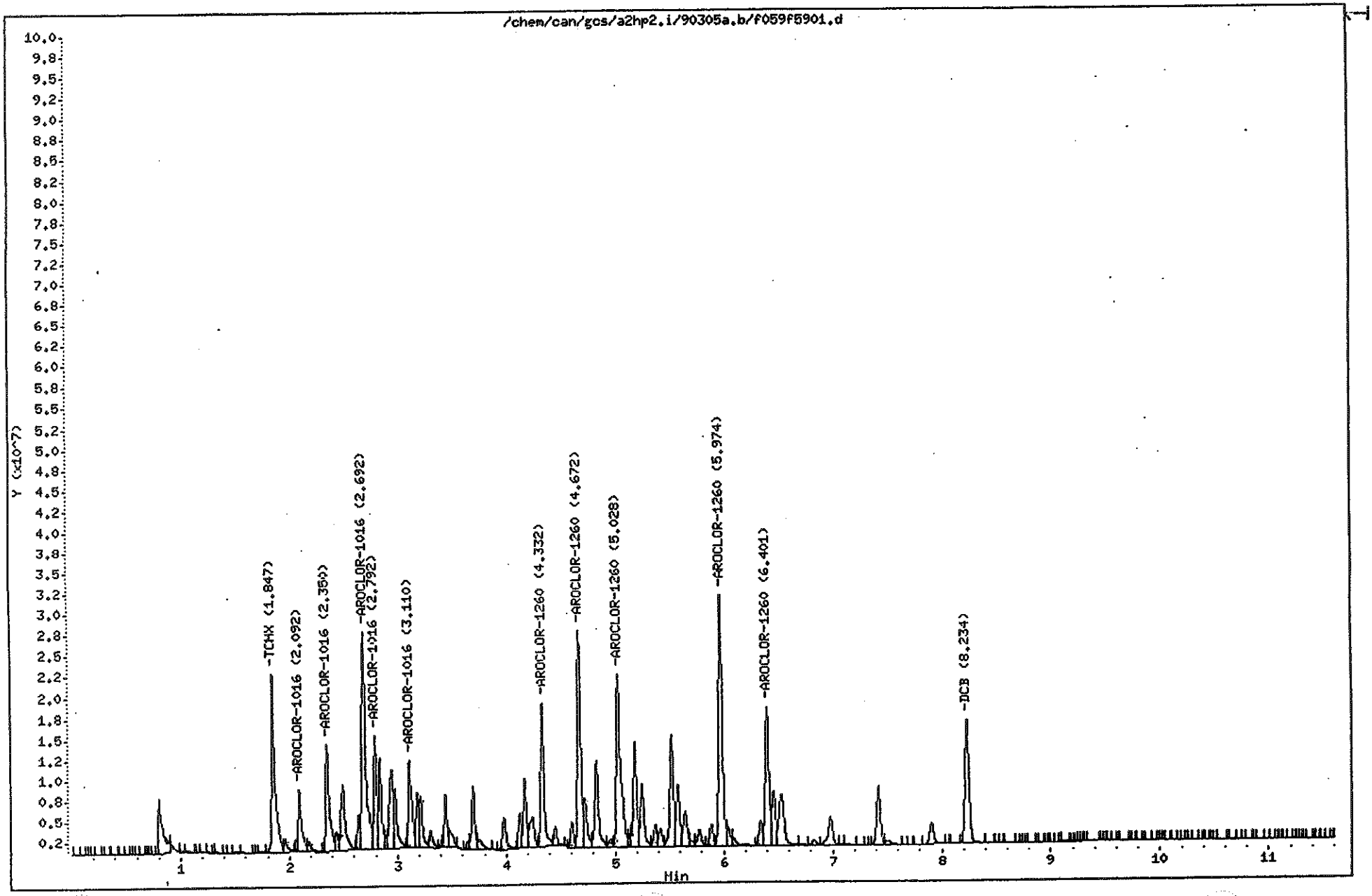
Purge Volume: 1000.0

Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i

Operator: 1808

Column diameter: 0.32



POLYCHLORINATED BIPHENYLS
RAW QC DATA

CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240000 185

Sample WT/Vol: 30 / g
Work Order: CR30K103
Dilution factor: 1
Moisture %:NA

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	270	
11096-82-5	Aroclor 1260	360	

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f049f4901.d
Report Date: 15-Mar-1999 09:12

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f049f4901.d
Lab Smp Id: CR30K103 Client Smp ID: INTRA-LAB CHECK
Inj Date : 06-MAR-1999 05:00
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR30K103
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 49 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

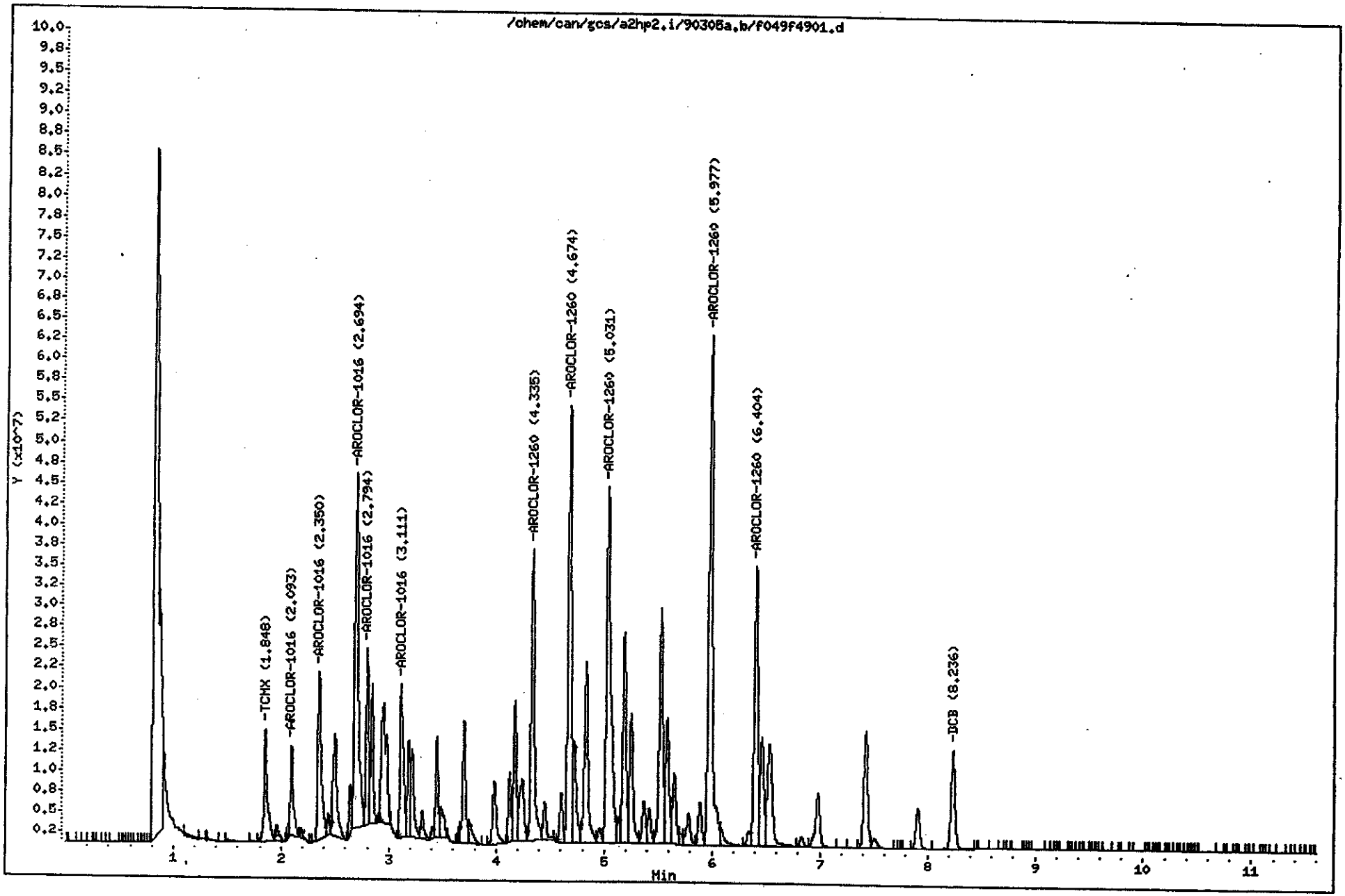
				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.848	1.848	0.000	13704844	0.01479	4.930	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
2.093	2.093	0.000	10938420	0.73625	245.4	80.00- 120.00	100.00
2.350	2.350	0.000	20471371	0.77899	259.7	124.12- 206.86	187.15
2.694	2.693	0.001	43096112	0.82290	274.3	254.85- 424.75	393.99
2.794	2.794	0.000	21352614	0.87156	290.5	129.82- 216.37	195.21
3.111	3.112	-0.001	18662774	0.85853	286.2	102.68- 171.13	170.62
Average of Peak Concentrations =					271.2		
8 AROCLOR-1260					CAS #: 11096-82-5		
4.335	4.335	0.000	35574252	0.98620	328.7	80.00- 120.00	100.00
4.674	4.674	0.000	53294343	1.04782	349.3	110.81- 184.68	149.81
5.031	5.031	0.000	43491167	1.00578	335.3	91.96- 153.26	122.25
5.977	5.978	-0.001	62126147	1.12946	376.5	128.99- 214.98	174.64

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f049f4901.d
Report Date: 15-Mar-1999 09:12

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
8 AROCLOR-1260 (continued)							
6.404	6.404	0.000	34111007	1.16852	389.5	70.79- 117.98	95.89
Average of Peak Concentrations =					355.8		
$ 9 DCB					CAS #: 2051-24-3		
8.236	8.238	-0.002	12062918	0.02462	8.208	80.00- 120.00	100.00

Data : /chem/can/gcs/a2hp2.i/90305a.b/f049f4901.d
Date : 06-MAR-1999 05:00
Client ID: INTRA-LAB CHECK
Sample Info: CR30K103
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
CHECK SAMPLE DUPLICATE COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240000 185

Sample WT/Vol: 30 / g
Work Order: CR30K104
Dilution factor: 1
Moisture %:NA

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: DUPLICATE CHECK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	290	
11096-82-5	Aroclor 1260	370	

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f050f5001.d
Report Date: 15-Mar-1999 09:12

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f050f5001.d
Lab Smp Id: CR30K104 Client Smp ID: INTRA-LAB CHECK
Inj Date : 06-MAR-1999 05:16
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR30K104
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 50 QC Sample: METHOD SPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.849	1.848	0.001	12742674	0.01375	4.584	80.00- 120.00	100.00
3 AROCLOR-1016					CAS #: 12674-11-2		
2.093	2.093	0.000	11296625	0.76036	253.4	80.00- 120.00	100.00(M)
2.350	2.350	0.000	22083119	0.84032	280.1	124.12- 206.86	195.48
2.693	2.693	0.000	46951553	0.89651	298.8	254.85- 424.75	415.62
2.793	2.794	-0.001	23040508	0.94046	313.5	129.82- 216.37	203.96
3.110	3.112	-0.002	20003621	0.92021	306.7	102.68- 171.13	177.08
	Average of Peak Concentrations =				290.5		
8 AROCLOR-1260					CAS #: 11096-82-5		
4.332	4.335	-0.003	37128181	1.02928	343.1	80.00- 120.00	100.00
4.671	4.674	-0.003	55183293	1.08496	361.6	110.81- 184.68	148.63
5.029	5.031	-0.002	46596450	1.07760	359.2	91.96- 153.26	125.50
5.975	5.978	-0.003	65016525	1.18201	394.0	128.99- 214.98	175.11

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f050f5001.d
Report Date: 15-Mar-1999 09:12

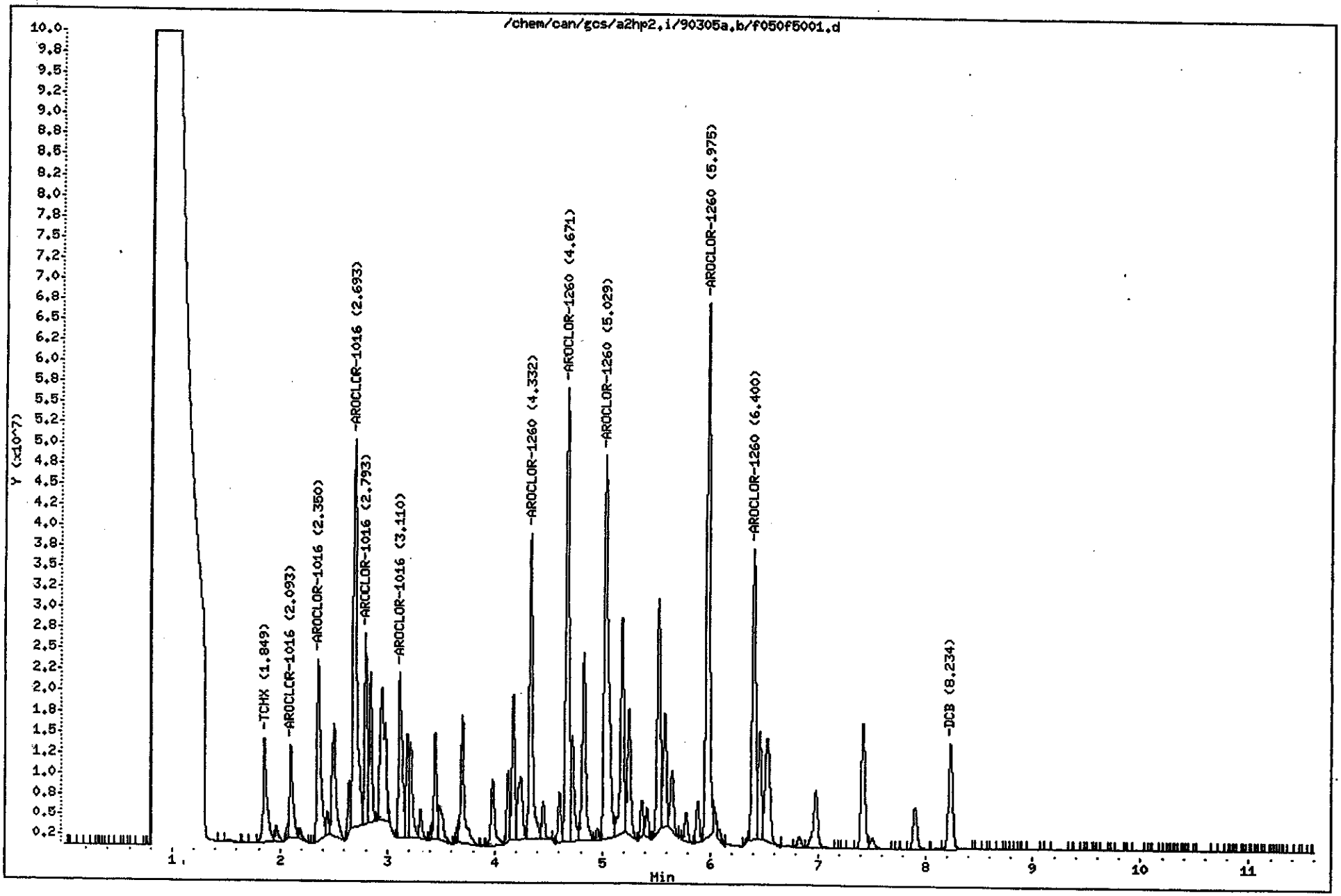
				CONCENTRATIONS ON-COL (ng)	FINAL (ug/kg)	TARGET RANGE	RATIO
RT	EXP RT	DLT RT	RESPONSE				
8 AROCLOR-1260 (continued)							
6.400	6.404	-0.004	35274672	1.20839	402.8	70.79- 117.98	95.01
	Average of Peak Concentrations =				372.1		
$ 9 DCB					CAS #: 2051-24-3		
8.234	8.238	-0.004	12780017	0.02609	8.696	80.00- 120.00	100.00

QC Flag Legend

M - Compound response manually integrated.

Data . : /chem/can/gcs/a2hp2.i/90305a.b/f050f5001.d
Date : 06-MAR-1999 05:16
Client ID: INTRA-LAB CHECK
Sample Info: CR30K104
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32



CONESTOGA-ROVERS & ASSOCIATES INC
METHOD BLANK COMPOUNDS

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SOLID
Method: SW846 8082
PCBs (8082)

Lab Sample ID:A9B240000 185

Sample WT/Vol: 30 / g
Work Order: CR30K101
Dilution factor: 1
Moisture %:NA

Date Received: 02/24/99
Date Extracted:02/24/99
Date Analyzed: 03/06/99

QC Batch: 9055185

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
12674-11-2	Aroclor 1016	33	U
11104-28-2	Aroclor 1221	33	U
11141-16-5	Aroclor 1232	33	U
53469-21-9	Aroclor 1242	33	U
12672-29-6	Aroclor 1248	33	U
11097-69-1	Aroclor 1254	33	U
11096-82-5	Aroclor 1260	33	U

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f048f4801.d
Report Date: 15-Mar-1999 09:11

QUANTERRA-NORTH CANTON

Data file : /chem/can/gcs/a2hp2.i/90305a.b/f048f4801.d
Lab Smp Id: CR30K101 Client Smp ID: INTRA-LAB BLANK
Inj Date : 06-MAR-1999 04:43
Operator : 1808 Inst ID: a2hp2.i
Smp Info : CR30K101
Misc Info :
Comment :
Method : /chem/can/gcs/a2hp2.i/90305a.b/hp2fpcb.m
Meth Date : 08-Mar-1999 09:29 beldingb Quant Type: ESTD
Cal Date : 05-FEB-1999 17:50 Cal File: f028f1101.d
Als bottle: 48 QC Sample: METHOD BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: REG.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: Amt * DF * Vt/Vo

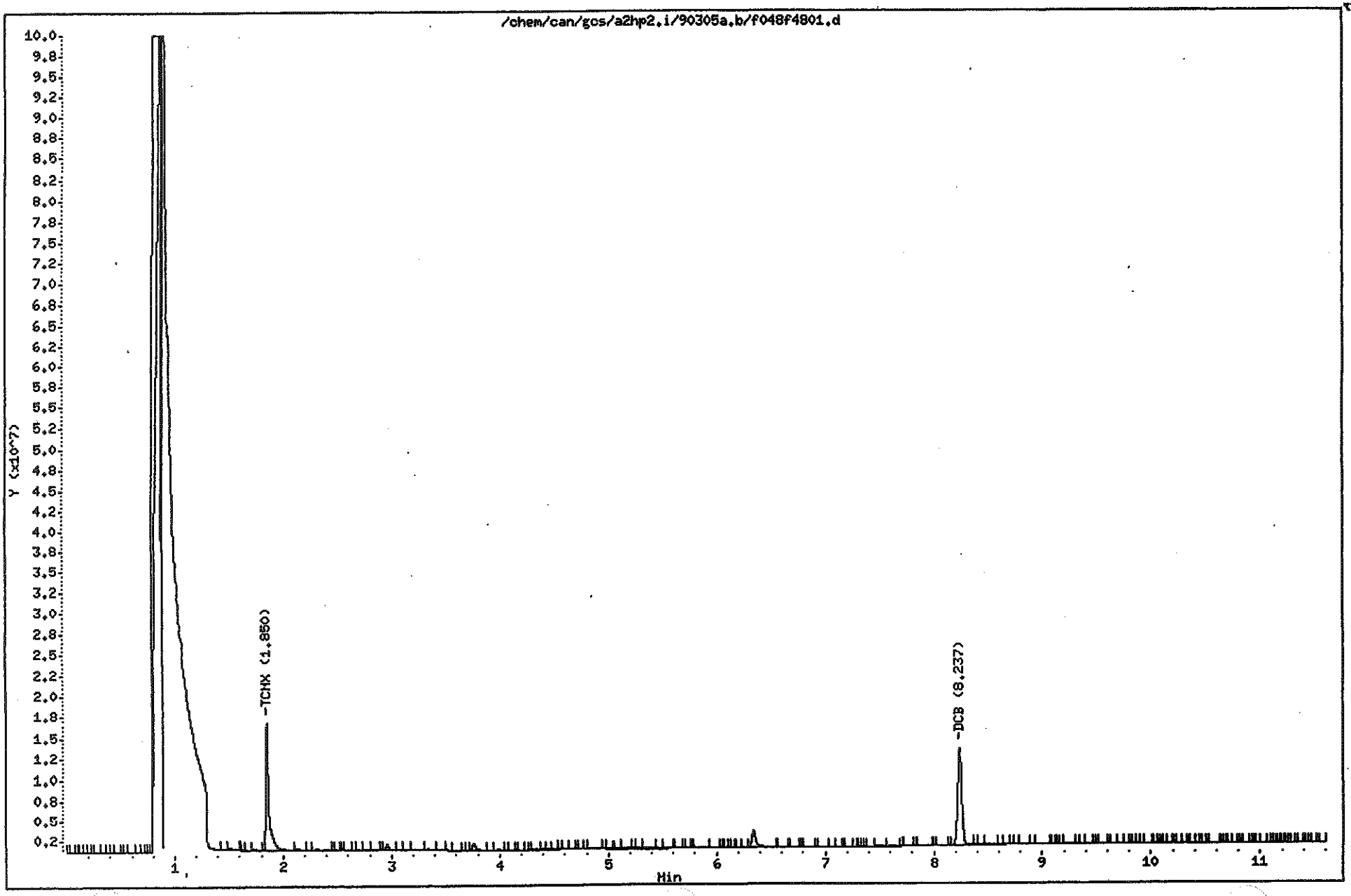
Name	Value	Description
DF	1.000	Dilution Factor
Vt	10000.000	final volume
Vo	30.000	initial volume

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ng)	(ug/kg)	TARGET RANGE	RATIO
$ 1 TCMX					CAS #: 877-09-8		
1.850	1.848	0.002	15360240	0.01658	5.526	80.00- 120.00	100.00
$ 9 DCB					CAS #: 2051-24-3		
8.237	8.238	-0.001	11756071	0.02400	7.999	80.00- 120.00	100.00

Data File: /chem/can/gcs/a2hp2.i/90305a.b/f048f4801.d
Date : 06-MAR-1999 04:43
Client ID: INTRA-LAB BLANK
Sample Info: CR30K101
Volume Injected (uL): 1.0
Column phase: RTX-CLP PESTICIDES

Instrument: a2hp2.i
Operator: 1808
Column diameter: 0.32

180



POLYCHLORINATED BIPHENYLS
INSTRUMENT LOG SHEETS

Method: C:\HPCHEM\2\METHODS\PCBTEST.M of 2/10/99 12:29:35 PM

Method Information

pest test

Method Change History

Operator	Date	Change Information
06531	2/4/99 8:34:12 AM	
06531	2/4/99 9:34:15 AM	
06531	2/5/99 9:10:17 AM	
06531	2/7/99 11:47:52 AM	
06531	2/10/99 12:29:35 PM	TURN OFF AUTOMATIC REPORTING

Run Time Checklist

Pre-Run Cmd/Macro: off

Data Acquisition: on

Standard Data Analysis: on

Customized Data Analysis: off

Save GLP Data: off

Post-Run Cmd/Macro: on
Name: macro "autohp2.mac", go

Save Method with Data: off

Injection Source and Location

Injection Source: HP GC Injector

Injection Location: Front

Method: C:\HPCHEM\2\METHODS\PCBTEST.M of 2/10/99 12:29:35 PM

==========

HP6890 GC METHOD

==========

OVEN
Initial temp: 170 'C (On)
Initial time: 0.65 min
Ramps:

#	Rate	Final temp	Final time
1	25.00	225	0.75
2	9.00	270	3.00
3	0.0(Off)		

Post temp: 170 'C
Post time: 0.00 min
Run time: 11.60 min
Maximum temp: 330 'C
Equilibration time: 2.00 min

FRONT INLET (UNKNOWN)
Mode: Splitless
Initial temp: 225 'C (On)
Pressure: 6.00 psi (On)
Purge flow: 40.0 mL/min
Purge time: 0.50 min
Total flow: 68.4 mL/min
Gas saver: Off
Gas type: Hydrogen

BACK INLET ()

COLUMN 1
Capillary Column
Model Number: RESTEK ???
CLP1
Max temperature: 330 'C
Nominal length: 30.0 m
Nominal diameter: 530.00 um
Nominal film thickness: 0.50 um
Mode: constant pressure
Pressure: 6.00 psi
Nominal initial flow: 11.1 mL/min
Average velocity: 103 cm/sec
Inlet: Front Inlet
Outlet: Front Detector
Outlet pressure: ambient

COLUMN 2
Capillary Column
Model Number: RESTEK ???
CLP2
Max temperature: 330 'C
Nominal length: 30.0 m
Nominal diameter: 530.00 um
Nominal film thickness: 0.50 um
Mode: (see column 1)
Pressure: 6.00 psi
Nominal initial flow: 11.1 mL/min
Average velocity: 103 cm/sec
Inlet: Front Inlet
Outlet: Back Detector
Outlet pressure: ambient

FRONT DETECTOR (μECD)
Temperature: 300 'C (On)
Mode: Constant column+makeup flow
Combined flow: 60.0 mL/min
Makeup flow: On
Makeup Gas Type: Nitrogen
Electrometer: On

BACK DETECTOR (μECD)
Temperature: 300 'C (On)
Mode: Constant column+makeup flow
Combined flow: 60.0 mL/min
Makeup flow: On
Makeup Gas Type: Nitrogen
Electrometer: On

SIGNAL 1
Data rate: 20 Hz
Type: front detector
Save Data: On
Zero: 0.0 (Off)
Range: 0

SIGNAL 2
Data rate: 20 Hz
Type: back detector
Save Data: On
Zero: 0.0 (Off)
Range: 0

Method: C:\HPCHEM\2\METHODS\PCBTEST.M of 2/10/99 12:29:35 PM

Fast Peaks: Off
Attenuation: 0

COLUMN COMP 1
Derive from front detector

Fast Peaks: Off
Attenuation: 0

COLUMN COMP 2
Derive from back detector

POST RUN
Post Time: 0.00 min

TIME TABLE

Time	Specifier	Parameter & Setpoint

7673 Injector

Front Injector:

Sample Washes	4
Sample Pumps	2
Injection Volume	1.0 microliters
Syringe Size	10.0 microliters
PostInj Solvent A Washes	4
PostInj Solvent B Washes	4
Viscosity Delay	0 seconds
Plunger Speed	Fast
PreInjection Dwell	0.00 minutes
PostInjection Dwell	0.00 minutes

Back Injector:
No parameters specified

Method: C:\HPCHEM\2\METHODS\PCBTEST.M of 2/10/99 12:29:35 PM

Integration Events

Results will be produced with the enhanced integrator.

Default Integration Event Table "Event"

Event	Value	Time
Initial Slope Sensitivity	1.000	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.700	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_TCD"

Event	Value	Time
Initial Slope Sensitivity	100.000	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_ADC"

Event	Value	Time
Initial Slope Sensitivity	20.000	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_FID"

Event	Value	Time
Initial Slope Sensitivity	50.000	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Method: C:\HPCHEM\2\METHODS\PCBTEST.M of 2/10/99 12:29:35 PM

Detector Default Integration Event Table "Event_ECD"

Event	Value	Time
Initial Slope Sensitivity	100.000	Initial
Initial Peak Width	0.080	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_NPD"

Event	Value	Time
Initial Slope Sensitivity	500.000	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_FPD"

Event	Value	Time
Initial Slope Sensitivity	50.000	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_uECD"

Event	Value	Time
Initial Slope Sensitivity	500.000	Initial
Initial Peak Width	0.080	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Apply Manual Integration Events: No

Calibration Table

Calib. Data Modified :

Calculate : Area Percent

Method: C:\HPCHEM\2\METHODS\PCBTEST.M of 2/10/99 12:29:35 PM

Rel. Reference Window	:	5.000 %
Abs. Reference Window	:	0.000 min
Rel. Non-ref. Window	:	5.000 %
Abs. Non-ref. Window	:	0.000 min
Uncalibrated Peaks	:	not reported
Partial Calibration	:	Yes, identified peaks are recalibrated
Correct All Ret. Times	:	No, only for identified peaks
Curve Type	:	Linear
Origin	:	Included
Weight	:	Equal
Recalibration Settings:		
Average Response	:	Average all calibrations
Average Retention Time	:	Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: ECD1 A,
Signal 2: ECD2 B,

Peak Sum Table

No Entries in table

Sequence Parameters:

Operator:	0595
Data File Naming:	Auto
Data Directory:	C:\HPCHEM\2\DATA\
Data Subdirectory:	90205A
Part of Methods to run:	According to Runtime Checklist
Barcode Reader:	not used
Shutdown Cmd/Macro:	none
Sequence Comment:	

Sequence Table (Front Injector):

Calibration Part:

Line	Vial	SampleName	Method	CalLev	Update RF	Update RT	Interval

Quantification Part:

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
1	1	HEX				
2	2	HEX				
3	3	HEX				
4	4	1232	0.1			
5	5	1232	0.2			
6	6	1232	0.5			
7	7	1232	1.0			
8	8	1232	2.0			
9	9	1242	0.1			
10	10	1242	0.2			
11	11	1242	0.5			
12	12	1242	1.0			
13	13	1242	2.0			
14	14	1248	0.1			
15	15	1248	0.2			
16	16	1248	0.5			
17	17	1248	1.0			
18	18	1248	2.0			
19	19	2154	0.1			
20	20	2154	0.2			
21	21	2154	0.5			
22	22	2154	1.0			
23	23	2154	2.0			
24	24	1660	0.1			
25	25	1660	0.2			

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
26	26	1660 0.5				
27	27	1660 1.0				
28	28	1660 2.0				
29	29	PIBLK				
30	30	1232 0.05				
31	31	1232 0.05				
32	32	1232 0.05				
33	33	1232 0.05				
34	34	1232 0.05				
35	35	1232 0.05				
36	36	1232 0.05				
37	37	1242 0.05				
38	38	1242 0.05				
39	39	1242 0.05				
40	40	1242 0.05				
41	41	1242 0.05				
42	42	1242 0.05				
43	43	1242 0.05				
44	44	1248 0.05				
45	45	1248 0.05				
46	46	1248 0.05				
47	47	1248 0.05				
48	48	1248 0.05				
49	49	1248 0.05				
50	50	1248 0.05				
51	51	2154 0.05				
52	52	2154 0.05				
53	53	2154 0.05				
54	54	2154 0.05				
55	55	2154 0.05				
56	56	2154 0.05				
57	57	2154 0.05				
58	58	1660 0.05				
59	59	1660 0.05				
60	60	1660 0.05				
61	61	1660 0.05				
62	62	1660 0.05				
63	63	1660 0.05				
64	64	1660 0.05				

ICAL

IDC's

Sequence Table (Back Injector):

No entries - empty table!

Sequence Output Parameters:

Print Sequence Summary Report (SSR): No
Dest of individual reports for each run: as specified in Method

Sequence Summary Parameters:

57,68,69

Sequence: C:\HPCHEM\2\SEQUENCE\90305A.S

Sequence Parameters:

Operator:	0595
Data File Naming:	Auto
Data Directory:	C:\HPCHEM\2\DATA\
Data Subdirectory:	90305A
Part of Methods to run:	According to Runtime Checklist
Barcode Reader:	not used
Shutdown Cmd/Macro:	none
Sequence Comment:	

Sequence Table (Front Injector):

Calibration Part:

Line	Vial	SampleName	Method	CalLev	Update RF	Update RT	Interval

Quantification Part:

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
1	1	HEX				
2	2	HEX				
3	3	HEX				
4	4	1660 C162,,2				
5	5	2154 C157,,2				
6	6	1248 C151,,2				
7	7	1242 C146,,2				
8	8	1232 C141,,2				
9	9	CR9MJ101				
10	10	CR9MJ102,10				
11	11	CR9MJ103,10				
12	12	CR1TA20E,10				
13	13	CR1TG20E				
14	14	CR1TK20E,10				
15	15	CR1TM20E,20				
16	16	CR1TT20E,10				
17	17	CR1V520E				
18	18	CR1T220E,20				
19	19	HEX				
20	20	1660 C162,,2				
21	21	1660 C162,,2				
22	22	CR2RC101,10				
23	23	CR2RE101,10				
24	24	CR2RF101				
25	25	CR2RG101				

inj 3-5-99 B.

Pass f+r

Pass f+r

Sequence: C:\HPCHEM\2\SEQUENCE\90305A.S

Line	Vial	SampleName	SampleAmount	ISTDAmt	Multiplier	Dilution
26	26	CR2RH101,10				
27	27	CR2RJ101,100				
28	28	CR2RL101,100				
29	29	CR2RM101,100				
30	30	CR2RN101,10				
31	31	CR2RP101				
32	32	HEX				
33	33	1660 C162,,2				
34	34	1660 C162,,2				
35	35	CR2RR101,100				
36	36	CR2RT101				
37	37	CR2RV101				
38	38	CR2RX101				
39	39	CR2T0101				
40	40	CR2T1101				
41	41	CR2T2101,100				
42	42	CR2T4101,500				
43	43	CR2T5101,100				
44	44	CR2T6101,1000				
45	45	HEX				
46	46	1660 C162,,2				
47	47	1660 C162,,2				
48	48	CR30K101				
49	49	CR30K103				
50	50	CR30K104				
51	51	CR579103				
52	52	CR57C105				
53	53	CR57D105				
54	54	CR7VD102				
55	55	CR7VE104				
56	56	CR7VE105				
57	57	CR7VE106				
58	58	HEX				
59	59	1660 C162,,2				
60	60	1660 C162,,2				
61	61	CR7VF102				
62	62	CR96K101				
63	63	CR96K102,2				
64	64	CR7R7103				
65	65	CR8TL103				
66	66	CR8TM103				
67	67	CR8TN103				
68	68	CR8TQ103				
69	69	CR8TR103				
70	70	CR8TT103				
71	71	HEX				
72	72	1660 C162,,2				
73	73	1660 C162,,2				
74	74	CR8TV103				
75	75	CR8TW103				
76	76	CR8V2103				
77	77	CR8J6102				
78	78	CR8J6107,2				
79	79	CR4CQ103				
80	80	CR6TK101				
81	81	CR6TK102,2				

Inj 3-5-99

Pass f+r

Pass f+r

Pass f+r

Pass f+r

Inj 3-6-99

191

POLYCHLORINATED BIPHENYLS
ORGANIC EXTRACTION
LOG SHEETS

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/99
Time: 8:15:02

LEV 1	LEV 2		LEV 1	LEV 2	
Y	Y	Blank	Y	Y	Weights/Volumes
Y	Y	Check	Y	Y	Spike & Surrogate Worksheet
_	_	MS/MSD	Y	Y	Vial contains correct volume
			Y	Y	Labels, greenbars, worksheets computer batch: correct & all match
			_	_	Anomalies to Extraction Method

Y Expanded Deliverable
Y COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: 100001 Walsh Cooper
K.R. Walsh Cooper

Concentrationist: UU9625 Lee J. Nelmes
001163 Donny E. Williamson

****
* *
* QC BATCH: 9055185 *
* *
****

PREP DATE: 2/24/99
COMP DATE: 2/24/99

Reviewer/Date: NELMESL / 3/01/99

PCBs (8082)
SONICATION w/ACID STRIP (PCB)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	VOL	SOLVENTS EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
3/09/99	3/10/99	A9B240116-001 CR2RC-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-002 CR2RE-1-01	D	71	QH	SOLID	30.19g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-003 CR2RF-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-004 CR2RG-1-01	D	71	QH	SOLID	30.09g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-005 CR2RH-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-006 CR2RJ-1-01	D	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-007 CR2RL-1-01	D	71	QH	SOLID	30.10g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/99
Time: 8:15:02

****
* QC BATCH: 9055185 *
****

PREP DATE: 2/24/99
COMP DATE: 2/24/99

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJT	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
3/09/99	3/10/99	A9B240116-008 CR2RM-1-01	D	71	QH	SOLID	30.04g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-009 CR2RN-1-01	D	71	QH	SOLID	30.01g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-010 CR2RP-1-01	D	71	QH	SOLID	30.15g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-011 CR2RR-1-01	D	71	QH	SOLID	30.03g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-012 CR2RT-1-01	D	71	QH	SOLID	30.02g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-013 CR2RV-1-01	D	71	QH	SOLID	30.19g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-014 CR2RX-1-01	D	71	QH	SOLID	30.06g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-015 CR2T0-1-01	D	71	QH	SOLID	30.08g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-016 CR2T1-1-01	D	71	QH	SOLID	30.11g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-017 CR2T2-1-01	D	71	QH	SOLID	30.19g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															

RQC058

Quanterra Incorporated
EXTRACTION BENCH WORKSHEET

Run Date: 3/08/99
Time: 8:15:02

QC BATCH: 9055185

PREP DATE: 2/24/99
COMP DATE: 2/24/99

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
3/09/99	3/10/99	A9B240116-018 CR2T4-1-01	D	71	QH	SOLID	30.01g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-019 CR2T5-1-01	D	71	QH	SOLID	30.10g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	3/10/99	A9B240116-020 CR2T6-1-01	D	71	QH	SOLID	30.04g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	0/00/00	A9B240000-185 CR30K-1-01B		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML .2/.2 #3562
COMMENTS:															
3/09/99	0/00/00	A9B240000-185 CR30K-1-03C		71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML 10PPM #3541 1ML .2/.2 #3562
COMMENTS:															
3/09/99	0/00/00	A9B240000-185 CR30K-1-04L	R	71	QH	SOLID	30.00g 10.00mL	NA	NA	NA	DCM/ACE	300.0	HEXANE	50.0	1ML 10PPM #3541 1ML .2/.2 #3562
COMMENTS:															

ACE #M47274 DCM #M44306 HEX #M4521 NA2S04 #8024-M48623
S/S BY C.W. WITNESSED BY K.R.

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 23

GENERAL CHEMISTRY LOG SHEETS

AQB240116

			Quanterra, North Canton			
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	% SOLIDS				Batch	9060284
Prep Date	3/1/99	Time In	17:00		Analyst	EKD
Anal date	3/2/99	Time Out	10:00		RL	
Sample	Tare	Sample	Final	diff	Result TS	Result MS
Id	wt	g	wt	g	%	%
CR823 B	1.0951	0	1.0946	-0.0005	ND	ND
CR5WA	1.0941	5.6227	5.8946	4.8005	85.377	14.623
CR5WA X	1.0412	6.397	6.4967	5.4555	85.282	14.718
CR5WC	1.0978	7.7607	7.9411	6.8433	88.179	11.821
CR5WE	1.0409	8.1641	8.1369	7.096	86.917	13.083
CR5WH	1.0866	7.8774	7.781	6.6944	84.982	15.018
CR5WJ	1.0882	8.739	8.6392	7.551	86.406	13.594
CQXN1	1.0899	9.1151	9.9192	8.8293	96.865	3.135
CR6GJ	1.1112	8.9286	8.5043	7.3931	82.802	17.198
CQV0K	1.0796	7.9158	8.0305	6.9509	87.810	12.190
CQV0T	1.067	7.7573	8.1522	7.0852	91.336	8.664
CQV12	1.0991	7.5427	7.2634	6.1643	81.725	18.275
CQV16	1.0638	8.3138	8.3259	7.2621	87.350	12.650
CQV17	1.089	7.7144	6.7866	5.6976	73.857	26.143
CQV1A	1.0686	4.8236	4.9928	3.9242	81.354	18.646
CQV1C	1.0621	7.0551	6.7433	5.6812	80.526	19.474
CQV1D	1.1003	7.7535	7.4282	6.3279	81.613	18.387
CQV1E	1.1082	5.4268	5.1205	4.0123	73.935	26.065
CQV1F	1.0711	8.1847	7.8163	6.7452	82.412	17.588
CR2RC	1.1057	1.4383	2.3528	1.2471	86.707	13.293
CR2RE	1.1035	2.3718	3.2087	2.1052	88.760	11.240
CR2RF	1.0937	1.3702	2.3646	1.2709	92.753	7.247
CR2RF X	1.0941	1.7289	2.6923	1.5982	92.440	7.560
				#VALUE!	#VALUE!	#VALUE!
	1.0941			#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!

Quanterra General Chemistry Data Review Checklist

Parameter(s): % Solids

Batch(es): 9060284

Method #/SOP#: 160.3 / NC-WC-0004

Review Items	Level I Review			Level II Review		
	YES	NO	N/A	YES	NO	N/A
A. Initial Calibration						
1. Initial calibration correlation coefficient ≥ 0.995?			✓			X
2. Calibration curve consist of the minimum number of calibration standards?			✓			X
3. ICV analyzed at immediately after calibration and within control limits ? (TRAACS Nitrate/Nitrite, Cyanide 85-115%; all others 90-110%)			✓			X
4. ICB analyzed immediately after ICV and within criteria (± RL)?			✓			X
B. Continuing Calibration						
1. CCV analyzed every 10 samples, at end of sequence and within criteria?			✓			X
2. CCB analyzed every 10 samples, at end of sequence & within criteria (±RL)?			✓			X
C. Sample Results						
1. Were samples with concentrations > the linear range diluted and reanalyzed ?			✓			X
2. All reported results bracketed by in control QC ?	✓					X
3. Sample analyses done within holding time ?	✓			X		
D. Quality Control			✓			
1. LCS per prep batch and within QC limits ? *(LCSD, where applicable)*						X
2. Method blank done per prep batch and < RL. Method blank RL supports the lowest RL reported for the batch?	✓			X		
3. MS/MSD run at required frequency and evaluated? MS/MSD reported properly and calculated correctly?			✓			X
4. Duplicate samples run at required frequency (duplicate sample performed per matrix encountered)?	✓			X		
E. Titrant						
1. Titrant standardized?			✓			X
2. If no, standardization expires _____						
F. Other			✓			
1. Are all nonconformances documented appropriately (NCM or narrative)?						X
2. Calculations checked for error ?	✓			X		
3. Transcriptions checked for error ?	✓			X		
4. All client/project specific requirements met ?	✓			X		
5. Date/time of preparation and analysis verified as correct ?	✓			X		
6. Units verified as correct?			✓			X
7. Dilutions have been properly applied and RL's adjusted appropriately?						
8. SOP followed?	✓			X		
9. Calculations checked at minimum frequency (at least 20%, 100% for QC)?	✓			X		
10. All reagent and standard numbers recorded in logbook?	✓			X		
11. Edits dated and initialed	✓			✓		

Comment on any "NO" response(s): _____

Level I reviewer: Erin Drummond Date: 990302

Level II Reviewer: Sarah Cox Date: 990303

		Quanterra, North Canton				
		Percent Total Solid/Percent Moisture Logsheet				
Analysis	TS				Batch	9061246
Prep Date	3/2/99	Time In	4.30PM		Analyst	CKK
Anal date	3/3/99	Time Out	4.00PM		RL	0.1
Sample Id	Tare wt	Sample g	Final wt	diff g	Result TS %	Result MS %
CR8VQB	1.0875	0	1.0873	-0.0002	ND	ND
CR2RG	1.0833	5.1364	5.4685	4.3852	85.375 ✓	14.625
CR2RGX	1.0944	5.5381	5.829	4.7346	85.491	14.509
CR2RH	1.093	5.1043	5.879	4.786	93.764	6.236
CR2RJ	1.0797	5.2833	5.7731	4.6934	88.835	11.165
CR2RL	1.0883	6.1297	6.7451	5.6568	92.285	7.715
CR2RM	1.0646	5.5631	5.8186	4.754	85.456	14.544
CR2RN	1.0737	5.0529	4.6085	3.5348	69.956 ✓	30.044
CR2RP	1.0538	5.0633	5.5022	4.4484	87.856	12.144
CR2RR	1.0485	5.3463	5.9983	4.9498	92.584	7.416
CR2RT	1.0757	5.4519	5.9941	4.9184	90.214	9.786
CR2RV	1.1023	5.2298	5.6418	4.5395	86.801	13.199
CR2RX	1.0778	5.0714	6.1175	5.0397	99.375 ✓	0.625
CR2T0	1.0878	5.097	5.3666	4.2788	83.947	16.053
CR2T1	1.0904	5.3775	5.619	4.5286	84.214	15.786
CR2T2	1.1014	5.1899	5.7734	4.672	90.021	9.979
CR2T4	1.0928	5.1451	5.8355	4.7427	92.179 ✓	7.821
CR2T5	1.1075	5.1238	5.9663	4.8588	94.828	5.172
CR2T6	1.0671	6.0629	6.3032	5.2361	86.363	13.637
CR3D4	1.0616	5.3482	6.0621	5.0005	93.499 ✓	6.501
CR3DD	1.1039	7.0226	7.7433	6.6394	94.543 ✓	5.457
CR3DE	1.0737	6.5671	7.1116	6.0379	91.942 ✓	8.058
CR3DEX	1.1188	6.2127	6.8852	5.7664	92.816	7.184
TS0302A				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!
				#VALUE!	#VALUE!	#VALUE!

Quanterra General Chemistry Data Review Checklist

Parameter(s): TS

Batch(es): 9061246

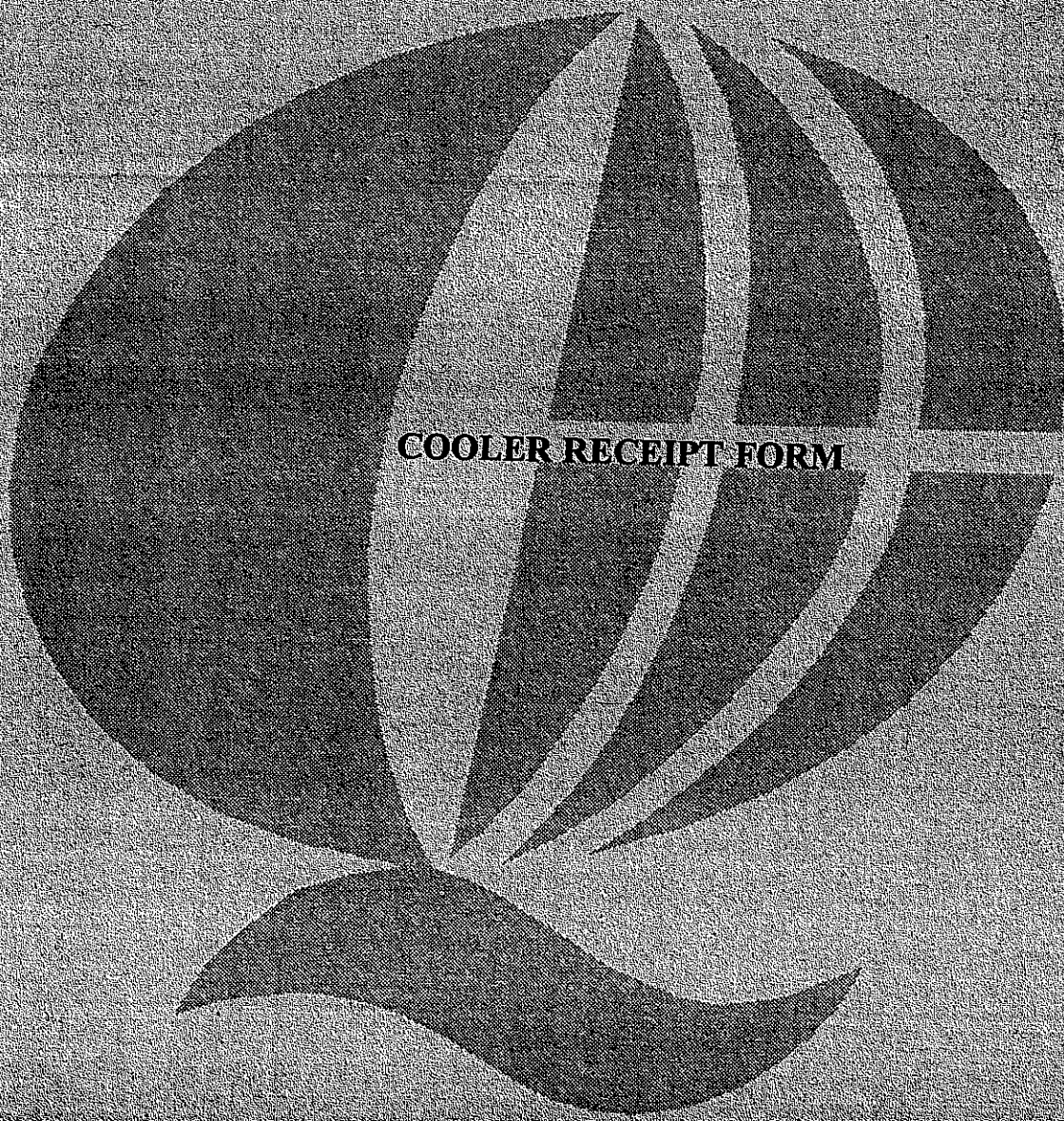
Method #/SOP#: NC-GC-0004 / 160.1

Review Items	Level I Review			Level II Review		
	YES	NO	N/A	YES	NO	N/A
A. Initial Calibration						
1. Initial calibration correlation coefficient ≥ 0.995?			✓			✓
2. Calibration curve consist of the minimum number of calibration standards?			✓			✓
3. ICV analyzed at immediately after calibration and within control limits ? (TRAACS Nitrate/Nitrite, Cyanide 85-115%; all others 90-110%)			✓			✓
4. ICB analyzed immediately after ICV and within criteria (± RL)?			✓			✓
B. Continuing Calibration						
1. CCV analyzed every 10 samples, at end of sequence and within criteria?			✓			✓
2. CCB analyzed every 10 samples, at end of sequence & within criteria (±RL)?			✓			✓
C. Sample Results						
1. Were samples with concentrations > the linear range diluted and reanalyzed ?			✓			✓
2. All reported results bracketed by in control QC ?	✓			✓		
3. Sample analyses done within holding time ?	✓			✓		
D. Quality Control						
1. LCS per prep batch and within QC limits ? *(LCSD, where applicable)*			✓			✓
2. Method blank done per prep batch and < RL. Method blank RL supports the lowest RL reported for the batch?	✓			✓		
3. MS/MSD run at required frequency and evaluated? MS/MSD reported properly and calculated correctly?			✓			✓
4. Duplicate samples run at required frequency (duplicate sample performed per matrix encountered)?	✓			✓		
E. Titrant						
1. Titrant standardized?			✓			✓
2. If no, standardization expires ____			✓			
F. Other						
1. Are all nonconformances documented appropriately (NCM or narrative)?			✓			✓
2. Calculations checked for error ?	✓			✓		
3. Transcriptions checked for error ?	✓			✓		
4. All client/project specific requirements met ?	✓			✓		
5. Date/time of preparation and analysis verified as correct ?	✓			✓		
6. Units verified as correct?	✓			✓		
7. Dilutions have been properly applied and RL's adjusted appropriately?			✓			✓
8. SOP followed?	✓			✓		
9. Calculations checked at minimum frequency (at least 20%, 100% for QC)?	✓			✓		
10. All reagent and standard numbers recorded in logbook?			✓			✓
11. Edits dated and initialed	✓			✓		

Comment on any "NO" response(s): ____

Level I reviewer: [signature] Date: 03-03-99

Level II Reviewer: L. Wood Date: 3-4-99



COOLER RECEIPT FORM

Quanterra ® Cooler Receipt Form/Narrative
North Canton Facility

Client: CRA Project: Caterpillar Quote#: _____
Cooler Received on: 2-24-99 Opened on: 2-24-99 by: Jennifer Linard (Signature)

edx [X] Client Drop Off [ ] UPS [ ] Airborne [ ]
Other: _____

Cooler [ ] Safe [ ] Foam Box [ ] Client Cooler [X] Other: _____
Quanterra Shipper No#: _____

1. Were custody seals on the outside of the cooler and intact? Yes [ ] No [X]
   If YES, Quantity _____ Location _____
   Were the custody seals signed and dated? Yes [ ] No [ ] NA [X]
2. Shipper's packing slip attached to this form? Yes [X] No [ ]
3. Were custody papers included inside the cooler and relinquished? Yes [X] No [ ]
4. Did you sign the custody papers in the appropriate place? Yes [X] No [ ]
5. Packing material used:

Peanuts [ ] Bubble Wrap [ ] Vermiculite [ ] Foam [ ] None [X] Other : _____

6. Cooler temperature upon receipt 0.0 °C (see back of form for multiple coolers/temp)

METHOD: Temperature Vial [ ] Coolant [X] Against Bottles [ ]
COOLANT: Wet Ice [X] Blue Ice [ ] Dry Ice [ ] None [ ]

7. Were all the bottles sealed in separate plastic bags? Yes [ ] No [X]
8. Did all bottles arrive in good condition (Unbroken)? Yes [X] No [ ]
9. Did all bottle labels and tags agree with the custody papers? Yes [X] No [ ]
10. Were samples at the correct pH? Yes [ ] No [ ] NA [X]
11. Were correct bottles used for the tests indicated? Yes [X] No [ ]
12. Were air bubbles >6 mm in any VOA vials? Yes [ ] No [ ] NA [X]
13. Was a sufficient amount of sample sent in each bottle? Yes [X] No [ ]

ontacted PM _____ Date: _____ by: _____ via Voice Mail [ ] Verbal [ ] Other [ ]
Concerning: _____

Check √	MACRO	MACRO
1. CHAIN OF CUSTODY		
√	SR1A	Samples were received under proper custody procedures and without discrepancies.
	SR1B	The chain of custody and sample bottles did not agree. The following discrepancies occurred _____
2. SAMPLE CONDITION		
	SR2A	Sample(s) _____ were received or requested after the recommended holding time had expired.
	SR2B	Sample(s) _____ were received with insufficient volume
	SR2C	Sample(s) _____ were received in a broken container.
3. SAMPLE PRESERVATION		
√	SR3A	The temperature of the cooler was _____ °C
	SR3C	Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving.
	SR3D	Sample(s) _____ were received incorrectly preserved and split off in sample receiving.
	SR3E	Samples (s) _____ were received incorrectly preserved and were unable to be analyzed.
	SR3F	Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)
	N/A	See back for other anomalies

Quanterra ® Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler	Temp	Method	Comments

Discrepancies Cont.

Macro Name:

Macro Name:

Macro Name:

Other Anomalies:

INTERNAL CHAIN-OF-CUSTODY

RSR280

Client: 1628

Lot #: A9B240116

Case Number/SDG: 13307

Storage Location: C9

Quanterra Incorporated
Sample Control Record

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
CR2RC	GIRARDJ	2/24/99	Yes		Storage	
CR2RE	GIRARDJ	2/24/99	Yes		Storage	
CR2RF	GIRARDJ	2/24/99	Yes		Storage	
CR2RG	GIRARDJ	2/24/99	Yes		Storage	
CR2RH	GIRARDJ	2/24/99	Yes		Storage	
CR2RJ	GIRARDJ	2/24/99	Yes		Storage	
CR2RL	GIRARDJ	2/24/99	Yes		Storage	
CR2RM	GIRARDJ	2/24/99	Yes		Storage	
CR2RN	GIRARDJ	2/24/99	Yes		Storage	
CR2RP	GIRARDJ	2/24/99	Yes		Storage	
CR2RR	GIRARDJ	2/24/99	Yes		Storage	
CR2RT	GIRARDJ	2/24/99	Yes		Storage	
CR2RV	GIRARDJ	2/24/99	Yes		Storage	
CR2RX	GIRARDJ	2/24/99	Yes		Storage	
CR2T0	GIRARDJ	2/24/99	Yes		Storage	
CR2T1	GIRARDJ	2/24/99	Yes		Storage	
CR2T2	GIRARDJ	2/24/99	Yes		Storage	
CR2T4	GIRARDJ	2/24/99	Yes		Storage	
CR2T5	GIRARDJ	2/24/99	Yes		Storage	
CR2T6	GIRARDJ	2/24/99	Yes		Storage	

LOT NUMBER	SAMPLE	SAMPLE SUFFIX	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	DATE OF TRANSFER	TRANSFERRED BY	ANALYSIS DATE	ANALYST
A9B240116	1		CR2RC101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	2		CR2RR101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	3		CR2RF101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	4		CR2RG101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	5		CR2RH101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	6		CR2RJ101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	7		CR2RL101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	8		CR2RM101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	9		CR2RN101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	10		CR2RP101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/05/99	Raymond Risden
A9B240116	11		CR2RR101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	12		CR2RT101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	13		CR2RV101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	14		CR2RX101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	15		CR2T0101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	16		CR2T1101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	17		CR2T2101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	18		CR2T4101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	19		CR2T5101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden
A9B240116	20		CR2T6101	GC8082_S	2/24/99	Thomas Fausnight	3/01/99	Lee Nelmes	3/06/99	Raymond Risden

*** END OF REPORT ***

LOT NUMBER	SAMPLE	LAB ID	ANALYSIS TYPE	PREP DATE	PREP ANALYST	ANALYSIS DATE	ANALYST
A9B240116	1	CR2RC102	TS	3/01/99	Erin Drummond	3/02/99	Erin Drummond
A9B240116	2	CR2RE102	TS	3/01/99	Erin Drummond	3/02/99	Erin Drummond
A9B240116	3	CR2RF102	TS	3/01/99	Erin Drummond	3/02/99	Erin Drummond
A9B240116	4	CR2RG102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	5	CR2RH102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	6	CR2RJ102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	7	CR2RL102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	8	CR2RN102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	9	CR2RN102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	10	CR2RP102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	11	CR2RR102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	12	CR2RT102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	13	CR2RV102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	14	CR2RX102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	15	CR2T0102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	16	CR2T1102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	17	CR2T2102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	18	CR2T4102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	19	CR2T5102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere
A9B240116	20	CR2T6102	TS	3/02/99	Kumudu Kulasekere	3/03/99	Kumudu Kulasekere

*** END OF REPORT ***

CHAIN-OF-CUSTODY

CRA
CONESTOGA–ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380–9933

CHAIN OF CUSTODY RECORD

SHIPPED TO (Laboratory Name): Quanterra

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar Mapleton

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB	REMARKS
	2/23/99		S-022399-JH-062	Soil	2	V	
			063		2	V	
			064		2	V	
			065		2	V	
			066		2	V	
			067		2	V	
			068		2	V	
			069		2	V	
			070		2	V	
			071		2	V	
			072		2	V	
			073		2	V	
			074		2	V	
			075		1	V	
			076		2	V	
			TOTAL NUMBER OF CONTAINERS		29		

RELINQUISHED BY: ① John Hargens	DATE: 2/23/99 TIME: 1600	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: FedEx AIR BILL No. 808686399557

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Jennifer Heard
DATE: 990224 TIME: 10:00

1001(FORMS)–OCT 24/96–REV.0–(C)(F–01)

210

3208

CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

CHAIN OF CUSTODY RECORD

SHIPPED TO (Laboratory Name): Quanterra

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar Mapleton

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCP	REMARKS
	2/23/99		S-022399-JH-077	Soil	2	✓	
	↓		078	↓	2	✓	MS/MSD
	↓		079	↓	2	✓	
	↓		080	↓	2	✓	
	↓		081	↓	2	✓	

TOTAL NUMBER OF CONTAINERS: 10 +29 = 39

RELINQUISHED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
① John Hargens	DATE: 2/23/99 TIME: 1900	②	DATE: TIME:
②	DATE: TIME:	③	DATE: TIME:
③	DATE: TIME:	④	DATE: TIME:

METHOD OF SHIPMENT: Fed EX AIR BILL No. 808186399557

White —Fully Executed Copy
Yellow —Receiving Laboratory Copy
Pink —Shipper Copy
Goldenrod —Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Jenny Heard 2062
DATE: 990224 TIME: 10:00

1001(FORMS)-OCT 24/96-REV.0-(C)(F-01)

209

ANALYTICAL REPORT

PROJECT NO. 13307

CATERPILLAR MAPLETON

Lot #: A9I150209

Steve Day

Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick
Project Manager

October 12, 1999

CASE NARRATIVE

The following report contains the analytical results for fifty-nine solid samples submitted to Quanterra-North Canton by Conestoga-Rovers & Associates, Inc. from the Caterpillar Mapleton Site, project number 13307. The samples were received September 15, 1999, according to documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided by facsimile transmission to Steve Day on September 30, 1999. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

GC SEMIVOLATILES

Matrix spikes/matrix spike duplicates associated with samples JH-089 and JH-126 failed spike recovery and/or RPD criteria. The laboratory control samples and method blanks associated with these batches were in control; therefore, no corrective action was necessary.

SAMPLE SUMMARY

A9I150209

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D2GAN	001	S-091399-JH-082	09/13/99	
D2GCG	002	S-091399-JH-083	09/13/99	
D2GCL	003	S-091399-JH-084	09/13/99	
D2GCM	004	S-091399-JH-085	09/13/99	
D2GCQ	005	S-091399-JH-086	09/13/99	
D2GCT	006	S-091399-JH-087	09/13/99	
D2GCV	007	S-091399-JH-088	09/13/99	
D2GD3	008	S-091399-JH-089	09/13/99	
D2GDM	009	S-091499-JH-090	09/14/99	
D2GDQ	010	S-091499-JH-091	09/14/99	
D2GDR	011	S-091499-JH-092	09/14/99	
D2GDW	012	S-091499-JH-093	09/14/99	
D2GDX	013	S-091499-JH-094	09/14/99	
D2GE0	014	S-091499-JH-095	09/14/99	
D2GE3	015	S-091499-JH-096	09/14/99	
D2GE5	016	S-091499-JH-097	09/14/99	
D2GE7	017	S-091499-JH-098	09/14/99	
D2GE8	018	S-091499-JH-099	09/14/99	
D2GEC	019	S-091499-JH-100	09/14/99	
`2GED	020	S-091499-JH-101	09/14/99	
2GEE	021	S-091499-JH-102	09/14/99	
D2GEF	022	S-091499-JH-103	09/14/99	
D2GEG	023	S-091499-JH-104	09/14/99	
D2GEH	024	S-091499-JH-105	09/14/99	
D2GEJ	025	S-091499-JH-106	09/14/99	
D2GEK	026	S-091499-JH-107	09/14/99	
D2GEN	027	S-091499-JH-108	09/14/99	
D2GEP	028	S-091499-JH-109	09/14/99	
D2GET	029	S-091499-JH-110	09/14/99	
D2GEV	030	S-091499-JH-111	09/14/99	
D2GEW	031	S-091499-JH-112	09/14/99	
D2GF3	032	S-091499-JH-113	09/14/99	
D2GF5	033	S-091499-JH-114	09/14/99	
D2GF7	034	S-091499-JH-115	09/14/99	
D2GF8	035	S-091499-JH-116	09/14/99	
D2GF9	036	S-091499-JH-117	09/14/99	

(Continued on next page)

SAMPLE SUMMARY

A9I150209

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D2GFA	037	S-091499-JH-118	09/14/99	
D2GFC	038	S-091499-JH-119	09/14/99	
D2GFD	039	S-091499-JH-120	09/14/99	
D2GFE	040	S-091499-JH-121	09/14/99	
D2GFF	041	S-091499-JH-122	09/14/99	
D2GFJ	042	S-091499-JH-123	09/14/99	
D2GFK	043	S-091499-JH-124	09/14/99	
D2GFM	044	S-091499-JH-125	09/14/99	
D2GFN	045	S-091499-JH-126	09/14/99	
D2GFP	046	S-091499-JH-127	09/14/99	
D2GFQ	047	S-091499-JH-128	09/14/99	
D2GFR	048	S-091499-JH-129	09/14/99	
D2GFV	049	S-091499-JH-130	09/14/99	
D2GFX	050	S-091499-JH-131	09/14/99	
D2GG0	051	S-091499-JH-132	09/14/99	
D2GG1	052	S-091499-JH-133	09/14/99	
D2GG2	053	S-091499-JH-134	09/14/99	
D2GG3	054	S-091499-JH-135	09/14/99	
D2GG5	055	S-091499-JH-136	09/14/99	
D2GG6	056	S-091499-JH-137	09/14/99	
D2GG7	057	S-091499-JH-138	09/14/99	
D2GGA	058	S-091499-JH-139	09/14/99	
D2GGK	059	S-091499-JH-140	09/14/99	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-082

GC Semivolatiles

Lot-Sample #...: A9I150209-001	Work Order #...: D2GAN101	Matrix.....: SOLID
Date Sampled...: 09/13/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/29/99	
Prep Batch #...: 9258337		
Dilution Factor: 1		
% Moisture.....: 10	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	**68**	**37**	**ug/kg**
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	62	(10 - 129)
Decachlorobiphenyl	88	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-083

GC Semivolatiles

Lot-Sample #...: A9I150209-002 Work Order #...: D2GCG101 Matrix.....: SOLID
Date Sampled...: 09/13/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/22/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 13 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	**110**	**38**	**ug/kg**
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	60	(10 - 129)
Decachlorobiphenyl	80	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-084

GC Semivolatiles

Lot-Sample #...: A9I150209-003 Work Order #...: D2GCL101 Matrix.....: SOLID
Date Sampled...: 09/13/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/22/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 12 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	**160**	**38**	**ug/kg**
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	53	(10 - 129)
Decachlorobiphenyl	75	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-085

GC Semivolatiles

Lot-Sample #...: A9I150209-004
Date Sampled...: 09/13/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 12

Work Order #...: D2GCM101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	240	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	65	(10 - 129)
Decachlorobiphenyl	86	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-086

GC Semivolatiles

Lot-Sample #...: A9I150209-005
Date Sampled...: 09/13/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258337
Dilution Factor: 10
% Moisture.....: 5.6

Work Order #...: D2GCQ101
Date Received..: 09/15/99
Analysis Date..: 09/29/99

Matrix.....: SOLID

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	350	ug/kg
Aroclor 1221	ND	350	ug/kg
Aroclor 1232	ND	350	ug/kg
Aroclor 1242	ND	350	ug/kg
Aroclor 1248	**1300**	**350**	**ug/kg**
Aroclor 1254	ND	350	ug/kg
Aroclor 1260	ND	350	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	100 DIL	(10 - 129)
Decachlorobiphenyl	116 DIL	(10 - 138)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-087

GC Semivolatiles

Lot-Sample #...: A9I150209-006 Work Order #...: D2GCT101 Matrix.....: SOLID
Date Sampled...: 09/13/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 7.8 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	**320**	**36**	**ug/kg**
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	70	(10 - 129)
Decachlorobiphenyl	93	(10 - 138)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-088

GC Semivolatiles

Lot-Sample #...: A9I150209-007	Work Order #...: D2GCV101	Matrix.....: SOLID
Date Sampled...: 09/13/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/23/99	
Prep Batch #...: 9258337		
Dilution Factor: 1		
% Moisture.....: 13	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	550	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	69	(10 - 129)
Decachlorobiphenyl	97	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091399-JH-089

GC Semivolatiles

Lot-Sample #...: A9I150209-008 Work Order #...: D2GD3101 Matrix.....: SOLID
Date Sampled...: 09/13/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258337
Dilution Factor: 5
% Moisture.....: 9.5 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	180	ug/kg
Aroclor 1221	ND	180	ug/kg
Aroclor 1232	ND	180	ug/kg
Aroclor 1242	ND	180	ug/kg
Aroclor 1248	**1600**	**180**	**ug/kg**
Aroclor 1254	ND	180	ug/kg
Aroclor 1260	ND	180	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77 DIL	(10 - 129)
Decachlorobiphenyl	106 DIL	(10 - 138)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-090

GC Semivolatiles

Lot-Sample #...:	A9I150209-009	Work Order #...:	D2GDM101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/23/99		
Prep Batch #...:	9258337				
Dilution Factor:	1				
% Moisture.....:	6.9	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	35	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	ND	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	65	(10 - 129)
Decachlorobiphenyl	94	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-091

GC Semivolatiles

Lot-Sample #...: A9I150209-010 Work Order #...: D2GDQ101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 8.4 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	ND	36	ug/kg
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	90	(10 - 129)
Decachlorobiphenyl	104	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-092

GC Semivolatiles

Lot-Sample #...: A9I150209-011	Work Order #...: D2GDR101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/23/99	
Prep Batch #...: 9258337		
Dilution Factor: 1		
% Moisture.....: 9.8	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	73	(10 - 129)
Decachlorobiphenyl	97	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-093

GC Semivolatiles

Lot-Sample #...: A9I150209-012 Work Order #...: D2GDW101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 17 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	40	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	ND	40	ug/kg
Aroclor 1260	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	71	(10 - 129)
Decachlorobiphenyl	95	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-094

GC Semivolatiles

Lot-Sample #...: A9I150209-013 Work Order #...: D2GDX101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 12 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	84	(10 - 129)
Decachlorobiphenyl	99	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-095

GC Semivolatiles

Lot-Sample #...: A9I150209-014
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 12

Work Order #...: D2GE0101
Date Received..: 09/15/99
Analysis Date..: 09/21/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	66	(10 - 129)
Decachlorobiphenyl	94	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-096

GC Semivolatiles

Lot-Sample #...: A9I150209-015 Work Order #...: D2GE3101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/21/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 13 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	81	(10 - 129)
Decachlorobiphenyl	109	(10 - 138)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-097

GC Semivolatiles

Lot-Sample #...: A9I150209-016
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 13

Work Order #...: D2GE5101
Date Received..: 09/15/99
Analysis Date..: 09/21/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	82	(10 - 129)
Decachlorobiphenyl	99	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-098

GC Semivolatiles

Lot-Sample #...:	A9I150209-017	Work Order #...:	D2GE7101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/21/99		
Prep Batch #...:	9258338				
Dilution Factor:	1				
% Moisture.....:	13	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	86	(10 - 129)
Decachlorobiphenyl	109	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-099

GC Semivolatiles

Lot-Sample #...: A9I150209-018 Work Order #...: D2GE8101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/21/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 15 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	39	ug/kg
Aroclor 1221	ND	39	ug/kg
Aroclor 1232	ND	39	ug/kg
Aroclor 1242	ND	39	ug/kg
Aroclor 1248	ND	39	ug/kg
Aroclor 1254	ND	39	ug/kg
Aroclor 1260	ND	39	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	83	(10 - 129)
Decachlorobiphenyl	106	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-100

GC Semivolatiles

Lot-Sample #...:	A9I150209-019	Work Order #...:	D2GEC101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/23/99		
Prep Batch #...:	9258337				
Dilution Factor:	1				
% Moisture.....:	14	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	65	(10 - 129)
Decachlorobiphenyl	100	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-101

GC Semivolatiles

Lot-Sample #...: A9I150209-020
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 12

Work Order #...: D2GED101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	97	(10 - 129)
Decachlorobiphenyl	114	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-102

GC Semivolatiles

Lot-Sample #...:	A9I150209-021	Work Order #...:	D2GEE101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/23/99		
Prep Batch #...:	9258337				
Dilution Factor:	1				
% Moisture.....:	14	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	86	(10 - 129)
Decachlorobiphenyl	114	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-103

GC Semivolatiles

Lot-Sample #...: A9I150209-022
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258337
Dilution Factor: 1
% Moisture.....: 7.5

Work Order #...: D2GEF101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	360	36	ug/kg
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	76	(10 - 129)
Decachlorobiphenyl	95	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-104

GC Semivolatiles

Lot-Sample #...: A9I150209-023	Work Order #...: D2GEG101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/29/99	
Prep Batch #...: 9258337		
Dilution Factor: 5		
% Moisture.....: 11	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	190	ug/kg
Aroclor 1221	ND	190	ug/kg
Aroclor 1232	ND	190	ug/kg
Aroclor 1242	ND	190	ug/kg
Aroclor 1248	**840**	**190**	**ug/kg**
Aroclor 1254	ND	190	ug/kg
Aroclor 1260	ND	190	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	76 DIL	(10 - 129)
Decachlorobiphenyl	90 DIL	(10 - 138)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-105

GC Semivolatiles

Lot-Sample #...: A9I150209-024
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258338
Dilution Factor: 5
% Moisture.....: 11

Work Order #...: D2GEH101
Date Received..: 09/15/99
Analysis Date..: 09/21/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	190	ug/kg
Aroclor 1221	ND	190	ug/kg
Aroclor 1232	ND	190	ug/kg
Aroclor 1242	ND	190	ug/kg
Aroclor 1248	**640**	**190**	**ug/kg**
Aroclor 1254	ND	190	ug/kg
Aroclor 1260	ND	190	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	76 DIL	(10 - 129)
Decachlorobiphenyl	84 DIL	(10 - 138)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-106

GC Semivolatiles

Lot-Sample #...: A9I150209-025	Work Order #...: D2GEJ101	Matrix.....: SOLID	
Date Sampled...: 09/14/99	Date Received..: 09/15/99		
Prep Date.....: 09/16/99	Analysis Date..: 09/21/99		
Prep Batch #...: 9258338			
Dilution Factor: 1			
% Moisture.....: 4.0	Method.....: SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	**78**	**34**	**ug/kg**
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	79	(10 - 129)
Decachlorobiphenyl	82	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-107

GC Semivolatiles

Lot-Sample #...: A9I150209-026 Work Order #...: D2GEK101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/21/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 11 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	**120**	**37**	**ug/kg**
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	78	(10 - 129)
Decachlorobiphenyl	94	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-108

GC Semivolatiles

Lot-Sample #...:	A9I150209-027	Work Order #...:	D2GEN101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/21/99		
Prep Batch #...:	9258338				
Dilution Factor:	1				
% Moisture.....:	2.6	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	140	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	79	(10 - 129)
Decachlorobiphenyl	96	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-109

GC Semivolatiles

Lot-Sample #...: A9I150209-028
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 2.9

Work Order #...: D2GEP101
Date Received..: 09/15/99
Analysis Date..: 09/21/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	49	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	66	(10 - 129)
Decachlorobiphenyl	98	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-110

GC Semivolatiles

Lot-Sample #...: A9I150209-029	Work Order #...: D2GET101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/21/99	
Prep Batch #...: 9258338		
Dilution Factor: 1		
% Moisture.....: 9.6	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	ND	36	ug/kg
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	88	(10 - 129)
Decachlorobiphenyl	105	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-111

GC Semivolatiles

Lot-Sample #...: A9I150209-030 Work Order #...: D2GEV101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/21/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 15 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	39	ug/kg
Aroclor 1221	ND	39	ug/kg
Aroclor 1232	ND	39	ug/kg
Aroclor 1242	ND	39	ug/kg
Aroclor 1248	ND	39	ug/kg
Aroclor 1254	ND	39	ug/kg
Aroclor 1260	ND	39	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	70	(10 - 129)
Decachlorobiphenyl	99	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-112

GC Semivolatiles

Lot-Sample #...: A9I150209-031 Work Order #...: D2GEW101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/21/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 8.1 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	**360**	**36**	**ug/kg**
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	102	(10 - 129)
Decachlorobiphenyl	83	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-113

GC Semivolatiles

Lot-Sample #...: A9I150209-032
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 10

Work Order #...: D2GF3101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	**45**	**37**	**ug/kg**
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	**200**	**37**	**ug/kg**
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	49	(10 - 129)
Decachlorobiphenyl	80	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern matches have been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-114

GC Semivolatiles

Lot-Sample #...: A9I150209-033	Work Order #...: D2GF5101	Matrix.....: SOLID	
Date Sampled...: 09/14/99	Date Received..: 09/15/99		
Prep Date.....: 09/22/99	Analysis Date..: 09/25/99		
Prep Batch #...: 9265113			
Dilution Factor: 1			
% Moisture.....: 19	Method.....: SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	41	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	**200**	**41**	**ug/kg**
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	83	(10 - 129)
Decachlorobiphenyl	94	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-115

GC Semivolatiles

Lot-Sample #...: A9I150209-034
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 5.0

Work Order #...: D2GF7101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Matrix.....: SOLID

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	35	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	170	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	75	(10 - 129)
Decachlorobiphenyl	92	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-116

GC Semivolatiles

Lot-Sample #...: A9I150209-035 Work Order #...: D2GF8101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 13 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	68	(10 - 129)
Decachlorobiphenyl	82	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-117

GC Semivolatiles

Lot-Sample #...: A9I150209-036	Work Order #...: D2GF9101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/23/99	
Prep Batch #...: 9258339		
Dilution Factor: 1		
% Moisture.....: 9.6	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	**43**	**37**	**ug/kg**
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	64	(10 - 129)
Decachlorobiphenyl	94	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-118

GC Semivolatiles

Lot-Sample #...: A9I150209-037	Work Order #...: D2GFA101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/21/99	
Prep Batch #...: 9258338		
Dilution Factor: 1		
% Moisture.....: 10	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	**46**	**37**	**ug/kg**
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	108	(10 - 129)
Decachlorobiphenyl	89	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-119

GC Semivolatiles

Lot-Sample #...: A9I150209-038
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 5.1

Work Order #...: D2GFC101
Date Received..: 09/15/99
Analysis Date..: 09/21/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	35	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	ND	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	78	(10 - 129)
Decachlorobiphenyl	100	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-120

GC Semivolatiles

Lot-Sample #...:	A9I150209-039	Work Order #...:	D2GFD101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/21/99		
Prep Batch #...:	9258338				
Dilution Factor:	1				
% Moisture.....:	5.2	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	35	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	ND	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	74	(10 - 129)
Decachlorobiphenyl	104	(10 - 138)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-121

GC Semivolatiles

Lot-Sample #...: A9I150209-040
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 6.5

Work Order #...: D2GFE101
Date Received..: 09/15/99
Analysis Date..: 09/21/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	35	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	430	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85	(10 - 129)
Decachlorobiphenyl	106	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-122

GC Semivolatiles

Lot-Sample #...: A9I150209-041	Work Order #...: D2GFF101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/21/99	
Prep Batch #...: 9258338		
Dilution Factor: 1		
% Moisture.....: 11	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	**580**	37	**ug/kg**
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	72	(10 - 129)
Decachlorobiphenyl	94	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-123

GC Semivolatiles

Lot-Sample #...: A9I150209-042
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 8.6

Work Order #...: D2GFJ101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	ND	36	ug/kg
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	63	(10 - 129)
Decachlorobiphenyl	71	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-124

GC Semivolatiles

Lot-Sample #...:	A9I150209-043	Work Order #...:	D2GFK101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/23/99		
Prep Batch #...:	9258339				
Dilution Factor:	1				
% Moisture.....:	14	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	46	(10 - 129)
Decachlorobiphenyl	57	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-125

GC Semivolatiles

Lot-Sample #...: A9I150209-044
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 2
% Moisture.....: 6.4

Work Order #...: D2GFM101
Date Received..: 09/15/99
Analysis Date..: 09/29/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	70	ug/kg
Aroclor 1221	ND	70	ug/kg
Aroclor 1232	ND	70	ug/kg
Aroclor 1242	ND	70	ug/kg
Aroclor 1248	**910**	**70**	**ug/kg**
Aroclor 1254	ND	70	ug/kg
Aroclor 1260	ND	70	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	39	(10 - 129)
Decachlorobiphenyl	39	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-126

GC Semivolatiles

Lot-Sample #...: A9I150209-045 Work Order #...: D2GFN101 Matrix.....: SOLID
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 7.1 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	**140**	**36**	**ug/kg**
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	52	(10 - 129)
Decachlorobiphenyl	58	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-127

GC Semivolatiles

Lot-Sample #...: A9I150209-046
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 7.8

Work Order #...: D2GFP101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	ND	36	ug/kg
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	41	(10 - 129)
Decachlorobiphenyl	57	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-128

GC Semivolatiles

Lot-Sample #...: A9I150209-047	Work Order #...: D2GFQ101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/23/99	
Prep Batch #...: 9258339		
Dilution Factor: 1		
% Moisture.....: 7.0	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	35	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	**480**	35	**ug/kg**
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	67	(10 - 129)
Decachlorobiphenyl	79	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-129

GC Semivolatiles

Lot-Sample #...: A9I150209-048
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 11

Work Order #...: D2GFR101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Matrix.....: SOLID

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	**65**	**37**	**ug/kg**
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	46	(10 - 129)
Decachlorobiphenyl	56	(10 - 138)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-130

GC Semivolatiles

Lot-Sample #...:	A9I150209-049	Work Order #...:	D2GFV101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/23/99		
Prep Batch #...:	9258339				
Dilution Factor:	1				
% Moisture.....:	13	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	**43**	**38**	**ug/kg**
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	62	(10 - 129)
Decachlorobiphenyl	88	(10 - 138)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-131

GC Semivolatiles

Lot-Sample #...: A9I150209-050
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 14

Work Order #...: D2GFX101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	79	(10 - 129)
Decachlorobiphenyl	92	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-132

GC Semivolatiles

Lot-Sample #...: A9I150209-051	Work Order #...: D2GG0101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/23/99	
Prep Batch #...: 9258339		
Dilution Factor: 1		
% Moisture.....: 11	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	ND	37	ug/kg
Aroclor 1248	**360**	**37**	**ug/kg**
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	119	(10 - 129)
Decachlorobiphenyl	82	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-133

GC Semivolatiles

Lot-Sample #...: A9I150209-052
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 14

Work Order #...: D2GG1101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	39	ug/kg
Aroclor 1221	ND	39	ug/kg
Aroclor 1232	ND	39	ug/kg
Aroclor 1242	ND	39	ug/kg
Aroclor 1248	590	39	ug/kg
Aroclor 1254	ND	39	ug/kg
Aroclor 1260	ND	39	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	62	(10 - 129)
Decachlorobiphenyl	88	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-134

GC Semivolatiles

Lot-Sample #...:	A9I150209-053	Work Order #...: D2GG2101	Matrix.....: SOLID
Date Sampled...:	09/14/99	Date Received..: 09/15/99	
Prep Date.....:	09/16/99	Analysis Date..: 09/29/99	
Prep Batch #...:	9258337		
Dilution Factor:	2		
% Moisture.....:	14	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	77	ug/kg
Aroclor 1221	ND	77	ug/kg
Aroclor 1232	ND	77	ug/kg
Aroclor 1242	ND	77	ug/kg
Aroclor 1248	**900**	**77**	**ug/kg**
Aroclor 1254	ND	77	ug/kg
Aroclor 1260	ND	77	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	84	(10 - 129)
Decachlorobiphenyl	105	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-135

GC Semivolatiles

Lot-Sample #...: A9I150209-054
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258337
Dilution Factor: 10
% Moisture.....: 12

Work Order #...: D2GG3101
Date Received..: 09/15/99
Analysis Date..: 09/29/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	370	ug/kg
Aroclor 1221	ND	370	ug/kg
Aroclor 1232	ND	370	ug/kg
Aroclor 1242	ND	370	ug/kg
Aroclor 1248	**2200**	**370**	**ug/kg**
Aroclor 1254	ND	370	ug/kg
Aroclor 1260	ND	370	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	97 DIL	(10 - 129)
Decachlorobiphenyl	132 DIL	(10 - 138)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-136

GC Semivolatiles

Lot-Sample #...:	A9I150209-055	Work Order #...:	D2GG5101	Matrix.....:	SOLID
Date Sampled...:	09/14/99	Date Received..:	09/15/99		
Prep Date.....:	09/16/99	Analysis Date..:	09/22/99		
Prep Batch #...:	9258338				
Dilution Factor:	10				
% Moisture.....:	10	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	370	ug/kg
Aroclor 1221	ND	370	ug/kg
Aroclor 1232	ND	370	ug/kg
Aroclor 1242	ND	370	ug/kg
Aroclor 1248	**2300**	**370**	**ug/kg**
Aroclor 1254	ND	370	ug/kg
Aroclor 1260	ND	370	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85 DIL	(10 - 129)
Decachlorobiphenyl	87 DIL	(10 - 138)

NOTE(S) :

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-137

GC Semivolatiles

Lot-Sample #...: A9I150209-056
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 9.2

Work Order #...: D2GG6101
Date Received..: 09/15/99
Analysis Date..: 09/22/99

Method.....: SW846 8082

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	36	ug/kg
Aroclor 1221	ND	36	ug/kg
Aroclor 1232	ND	36	ug/kg
Aroclor 1242	ND	36	ug/kg
Aroclor 1248	220	36	ug/kg
Aroclor 1254	ND	36	ug/kg
Aroclor 1260	ND	36	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	79	(10 - 129)
Decachlorobiphenyl	103	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-138

GC Semivolatiles

Lot-Sample #...: A9I150209-057	Work Order #...: D2GG7101	Matrix.....: SOLID
Date Sampled...: 09/14/99	Date Received..: 09/15/99	
Prep Date.....: 09/16/99	Analysis Date..: 09/29/99	
Prep Batch #...: 9258339		
Dilution Factor: 10		
% Moisture.....: 7.1	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	360	ug/kg
Aroclor 1221	ND	360	ug/kg
Aroclor 1232	ND	360	ug/kg
Aroclor 1242	ND	360	ug/kg
Aroclor 1248	**1700**	**360**	**ug/kg**
Aroclor 1254	ND	360	ug/kg
Aroclor 1260	ND	360	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85 DIL	(10 - 129)
Decachlorobiphenyl	95 DIL	(10 - 138)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-139

GC Semivolatiles

Lot-Sample #...: A9I150209-058
Date Sampled...: 09/14/99
Prep Date.....: 09/16/99
Prep Batch #...: 9258339
Dilution Factor: 1
% Moisture.....: 11

Work Order #...: D2GGA101
Date Received..: 09/15/99
Analysis Date..: 09/23/99

Matrix.....: SOLID

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	37	ug/kg
Aroclor 1221	ND	37	ug/kg
Aroclor 1232	ND	37	ug/kg
Aroclor 1242	**37**	**37**	**ug/kg**
Aroclor 1248	ND	37	ug/kg
Aroclor 1254	ND	37	ug/kg
Aroclor 1260	ND	37	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	61	(10 - 129)
Decachlorobiphenyl	87	(10 - 138)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-091499-JH-140

GC Semivolatiles

Lot-Sample #...: A9I150209-059	Work Order #...: D2GGK101	Matrix.....: SOLID	
Date Sampled...: 09/14/99	Date Received..: 09/15/99		
Prep Date.....: 09/16/99	Analysis Date..: 09/29/99		
Prep Batch #...: 9258339			
Dilution Factor: 20			
% Moisture.....: 10	Method.....: SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	740	ug/kg
Aroclor 1221	ND	740	ug/kg
Aroclor 1232	ND	740	ug/kg
Aroclor 1242	ND	740	ug/kg
Aroclor 1248	**8200**	**740**	**ug/kg**
Aroclor 1254	ND	740	ug/kg
Aroclor 1260	ND	740	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	90 DIL	(10 - 129)
Decachlorobiphenyl	159 DIL,*	(10 - 138)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Mixture of more than one aroclor may be present. The best pattern match has been quantitated.

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the paramcter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). Failure of the RPDs to fall within the laboratory-generated acceptance windows requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the MS/MSD RPDs are within acceptance criteria, the batch is acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

* *for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2GMM102 Matrix.....: SOLID
LCS Lot-Sample#: A9I150000-337
Prep Date.....: 09/16/99 Analysis Date..: 09/22/99
Prep Batch #...: 9258337
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1016	86	(60 - 133)	SW846 8082
Aroclor 1260	89	(59 - 129)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85	(10 - 129)
Decachlorobiphenyl	107	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2GMX102 Matrix.....: SOLID
LCS Lot-Sample#: A9I150000-338
Prep Date.....: 09/16/99 Analysis Date..: 09/21/99
Prep Batch #...: 9258338
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1016	72	(60 - 133)	SW846 8082
Aroclor 1260	76	(59 - 129)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77	(10 - 129)
Decachlorobiphenyl	99	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2GN4102 Matrix.....: SOLID
LCS Lot-Sample#: A9I150000-339
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258339
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1016	83	(60 - 133)	SW846 8082
Aroclor 1260	84	(59 - 129)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85	(10 - 129)
Decachlorobiphenyl	100	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2PCL102 Matrix.....: SOLID
LCS Lot-Sample#: A9I220000-113
Prep Date.....: 09/22/99 Analysis Date..: 09/25/99
Prep Batch #...: 9265113
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1260	**85**	**(59 - 129)**	**SW846 8082**
Aroclor 1016	**84**	**(60 - 133)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	86	(10 - 129)
Decachlorobiphenyl	102	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2GMM101 Matrix.....: SOLID
MB Lot-Sample #: A9I150000-337

Prep Date.....: 09/16/99
Analysis Date..: 09/22/99 Prep Batch #...: 9258337
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	74	(10 - 129)
Decachlorobiphenyl	99	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A9I150209
MB Lot-Sample #: A9I150000-338

Work Order #...: D2GMX101

Matrix.....: SOLID

Prep Date.....: 09/16/99
Prep Batch #...: 9258338

Analysis Date..: 09/21/99
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	83	(10 - 129)
Decachlorobiphenyl	102	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2GN4101 Matrix.....: SOLID
MB Lot-Sample #: A9I150000-339

Prep Date.....: 09/16/99
Analysis Date..: 09/23/99 Prep Batch #...: 9258339
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	74	(10 - 129)
Decachlorobiphenyl	94	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A9I150209
MB Lot-Sample #: A9I220000-113

Work Order #...: D2PCL101

Matrix.....: SOLID

Analysis Date..: 09/25/99
Dilution Factor: 1

Prep Date.....: 09/22/99
Prep Batch #...: 9265113

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	88	(10 - 129)
Decachlorobiphenyl	100	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2GD3102-MS Matrix.....: SOLID
MS Lot-Sample #: A9I150209-008 D2GD3103-MSD
Date Sampled...: 09/13/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258337
Dilution Factor: 5 % Moisture.....: 9.5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	108	(44 - 139)			SW846 8082
	199 a,p	(44 - 139)	59	(0-28)	SW846 8082
Aroclor 1260	95	(44 - 139)			SW846 8082
	91	(44 - 139)	5.1	(0-28)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	72 DIL	(10 - 129)
	85 DIL	(10 - 129)
Decachlorobiphenyl	123 DIL	(10 - 138)
	113 DIL	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

p Relative percent difference (RPD) is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209
Work Order #...: D2GEV102-MS
D2GEV103-MSD
Matrix.....: SOLID
MS Lot-Sample #: A9I150209-030
Date Sampled...: 09/14/99
Date Received..: 09/15/99
Prep Date.....: 09/16/99
Analysis Date..: 09/21/99
Prep Batch #...: 9258338
Dilution Factor: 1
% Moisture.....: 15

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	90	(44 - 139)			SW846 8082
	76	(44 - 139)	16	(0-28)	SW846 8082
Aroclor 1260	91	(44 - 139)			SW846 8082
	85	(44 - 139)	6.9	(0-28)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	88	(10 - 129)
	73	(10 - 129)
Decachlorobiphenyl	109	(10 - 138)
	107	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2GFN102-MS Matrix.....: SOLID
MS Lot-Sample #: A9I150209-045 D2GFN103-MSD
Date Sampled...: 09/14/99 Date Received..: 09/15/99
Prep Date.....: 09/16/99 Analysis Date..: 09/23/99
Prep Batch #...: 9258339
Dilution Factor: 1 % Moisture.....: 7.1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	92	(44 - 139)			SW846 8082
	66 p	(44 - 139)	32	(0-28)	SW846 8082
Aroclor 1260	69	(44 - 139)			SW846 8082
	48 p	(44 - 139)	35	(0-28)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	68	(10 - 129)
	46	(10 - 129)
Decachlorobiphenyl	86	(10 - 138)
	56	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9I150209 Work Order #...: D2NTF10F-MS Matrix.....: SOLID
MS Lot-Sample #: A9I210186-002 D2NTF10G-MSD
Date Sampled...: 09/15/99 13:45 Date Received..: 09/16/99
Prep Date.....: 09/22/99 Analysis Date..: 09/25/99
Prep Batch #...: 9265113
Dilution Factor: 1 % Moisture.....: 7.9

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**80**	**(44 - 139)**			**SW846 8082**
	83	**(44 - 139)**	**3.9**	**(0-28)**	**SW846 8082**
Aroclor 1260	**90**	**(44 - 139)**			**SW846 8082**
	89	**(44 - 139)**	**0.47**	**(0-28)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	83	(10 - 129)
	85	(10 - 129)
Decachlorobiphenyl	100	(10 - 138)
	101	(10 - 138)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p 1 of 4

CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

SHIPPED TO (Laboratory Name): Quanterra N. Canton

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar Mapleton

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB's	REMARKS
	9/13/99		S-091399-JH-082	soil	2	V	
			083		2	V	
			084		2	V	
			085		2	V	
			086		2	V	
			087		2	V	
			088		2	V	
			089		2	V	ms/msd
	9/14/99		S-091499-JH-090		2	V	
	9/14/99		-091		2	V	
			092		2	V	
			093		2	V	
			094		2	V	
			095		2	V	
			096		2	V	
			TOTAL NUMBER OF CONTAINERS		30		

RELINQUISHED BY: ① John Hargens	DATE: 9/14/99 TIME: 1900	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed EX AIR BILL No. 812337689403

White —Fully Executed Copy
Yellow —Receiving Laboratory Copy
Pink —Shipper Copy
Goldenrod —Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Rick Robertson
DATE: 9/15/99 TIME: 1052

4962

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CRA
CONESTOGA–ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

SHIPPED TO (Laboratory Name): Quanterra

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar Mapleton

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB	REMARKS
	9/14/99		S-041499-JH-097	Soil	2	✓	
			098		2	✓	
			099		2	✓	
			100		2	✓	
			101		2	✓	
			102		2	✓	
			103		2	✓	
			104		2	✓	
			105		2	✓	
			106		2	✓	
			107		2	✓	
			108		2	✓	
			109		2	✓	
			110		2	✓	
			111		2	✓	MS/MSD
			TOTAL NUMBER OF CONTAINERS		30		

RELINQUISHED BY: ① John Hargens	DATE: 9/14/99 TIME: 1900	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed-X AIR BILL No. 812 337 689 403

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Rick Morton
DATE: 9/15/99 TIME: 10:27

4915

1001(FORMS)–OCT. 24/96–REV.0–(C)(F–01)

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CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

CHAIN OF CUSTODY RECORD

SHIPPED TO (Laboratory Name): Quanterra

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar Mapleton

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS PCB	REMARKS
	9/14/99		S-091499-JH-112	soil	2	✓	
			113		2	✓	
			114		2	✓	
			115		2	✓	
			116		2	✓	
			117		2	✓	
			118		2	✓	
			119		2	✓	
			120		2	✓	
			121		2	✓	
			122		2	✓	
			123		2	✓	
			124		2	✓	
			125		2	✓	
			126		2	✓	ms/msd
			TOTAL NUMBER OF CONTAINERS		30		

RELINQUISHED BY: ① John Hargens	DATE: 9/14/99 TIME: 1900	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed-X AIR BILL No. 812337689403

White —Fully Executed Copy
Yellow —Receiving Laboratory Copy
Pink —Shipper Copy
Goldenrod —Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Rick Robertson
DATE: 9/15/99 TIME: 10:27

4980

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p 4 of 4

CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

SHIPPED TO (Laboratory Name): Quanterra

REFERENCE NUMBER: 13307

PROJECT NAME: caterpillar mpleton

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB	REMARKS
	9/14/99		S-091499-JH-0127	Soil	2	✓	
			128		2	✓	
			129		2	✓	
			130		2	✓	
			131		2	✓	
			132		2	✓	
			133		2	✓	
			134		2	✓	
			135		2	✓	
			136		2	✓	
			137		2	✓	
			138		2	✓	
			139		2	✓	
			140		2	✓	
			141			✓	

TOTAL NUMBER OF CONTAINERS 28 +30+30+30= 118

RELINQUISHED BY: ① John Hargens	DATE: 9/14/99 TIME: 1900	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed-X AIR BILL No. 812 337 689 403

White —Fully Executed Copy
Yellow —Receiving Laboratory Copy
Pink —Shipper Copy
Goldenrod —Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Liz Robertson
DATE: 9/15/99 TIME: 10:20

4981

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ANALYTICAL REPORT

PROJECT NO. 13307

CAT. MAPLETON

Lot #: A0A080117

Steve Day

Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick
Project Manager

January 20, 2000

CASE NARRATIVE

The following report contains the analytical results for one water sample submitted to Quanterra-North Canton by Conestoga-Rovers & Associates, Inc. from the Cat. Mapleton Site, project number 13307. The sample was received January 8, 2000, according to documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter listed on the analytical methods summary page in accordance with the method indicated. Preliminary results were provided to Steve Day on January 14, 2000 . A summary of QC data for this analysis is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

ANALYTICAL METHODS SUMMARY

A0A080117

PARAMETER	ANALYTICAL METHOD
PCBs by SW-846 8082	SW846 8082

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A0A080117

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D77KJ	001	GW-010600-JH-001	01/06/00	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: GW-010600-JH-001

GC Semivolatiles

Lot-Sample #...: A0A080117-001 Work Order #...: D77KJ101 Matrix.....: WATER
Date Sampled...: 01/06/00 Date Received..: 01/08/00
Prep Date.....: 01/11/00 Analysis Date..: 01/13/00
Prep Batch #...: 0010384
Dilution Factor: 1 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	56	(45 - 120)
Decachlorobiphenyl	34	(24 - 128)

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A0A080117 Work Order #...: D78J2102-LCS Matrix.....: WATER
LCS Lot-Sample#: A0A100000-384 D78J2103-LCSD
Prep Date.....: 01/11/00 Analysis Date..: 01/13/00
Prep Batch #...: 0010384
Dilution Factor: 2

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	86	(61 - 118)			SW846 8082
	76	(61 - 118)	12	(0-16)	SW846 8082
Aroclor 1260	76	(61 - 124)			SW846 8082
	70	(61 - 124)	8.8	(0-27)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	73	(45 - 120)
	64	(45 - 120)
Decachlorobiphenyl	37	(24 - 128)
	30	(24 - 128)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A0A080117 Work Order #...: D78J2101 Matrix.....: WATER
MB Lot-Sample #: A0A100000-384

Prep Date.....: 01/11/00
Analysis Date..: 01/13/00 Prep Batch #...: 0010384
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/L	SW846 8082
Aroclor 1221	ND	1.0	ug/L	SW846 8082
Aroclor 1232	ND	1.0	ug/L	SW846 8082
Aroclor 1242	ND	1.0	ug/L	SW846 8082
Aroclor 1248	ND	1.0	ug/L	SW846 8082
Aroclor 1254	ND	1.0	ug/L	SW846 8082
Aroclor 1260	ND	1.0	ug/L	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	55	(45 - 120)
Decachlorobiphenyl	82	(24 - 128)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

CHAIN OF CUSTODY RECORD

SHIPPED TO (Laboratory Name): Quanterra

REFERENCE NUMBER: 13307

PROJECT NAME: Cat. Mapleton

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB	Temp	REMARKS
	1/6/00		GW-010600-JH-001	water	2	✓		1-Week Turn
	↓		Temp Blank	↓	1		✓	

TOTAL NUMBER OF CONTAINERS: 3

RELINQUISHED BY: ① John Hargens	DATE: 01/06/00 TIME: 1400	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed-X AIR BILL No.

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Jenny Girard
DATE: 1-8-00 TIME: 10:15A

5633

1001(FORMS)-OCT 24/96-REV.0-(C)(F-01)

ANALYTICAL REPORT

PROJECT NO. 13307

CATERPILLAR MAPLETON

Lot #: A9L180149

Steve Castagneri

Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick
Project Manager

January 7, 2000

CASE NARRATIVE

The following report contains the analytical results for three water samples submitted to Quanterra-North Canton by Conestoga-Rovers & Associates, Inc. from the Caterpillar Mapleton Site, project number 13307. The samples were received December 18, 1999, according to documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter listed on the analytical methods summary page in accordance with the method indicated. Preliminary results were provided by facsimile transmission to Steve Castagneri on January 6, 2000. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

ANALYTICAL METHODS SUMMARY

A9L180149

PARAMETER	ANALYTICAL METHOD
PCBs by SW-846 8082	SW846 8082

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A9L180149

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D6KEJ	001	GW-121699-WP-001	12/16/99	09:30
D6KEK	002	GW-121699-WP-002	12/16/99	09:35
D6KEL	003	GW-121699-WP-003	12/16/99	11:45

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: GW-121699-WP-001

GC Semivolatiles

Lot-Sample #...: A9L180149-001 Work Order #...: D6KEJ101 Matrix.....: WATER
Date Sampled...: 12/16/99 09:30 Date Received..: 12/18/99
Prep Date.....: 12/20/99 Analysis Date..: 01/03/00
Prep Batch #...: 9353105
Dilution Factor: 1 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	93	(24 - 137)
Decachlorobiphenyl	49	(10 - 137)

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: GW-121699-WP-002

GC Semivolatiles

Lot-Sample #...: A9L180149-002 Work Order #...: D6KEK101 Matrix.....: WATER
Date Sampled...: 12/16/99 09:35 Date Received..: 12/18/99
Prep Date.....: 12/20/99 Analysis Date..: 01/03/00
Prep Batch #...: 9353105
Dilution Factor: 1 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	86	(24 - 137)
Decachlorobiphenyl	43	(10 - 137)

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: GW-121699-WP-003

GC Semivolatiles

Lot-Sample #...: A9L180149-003 Work Order #...: D6KEL101 Matrix.....: WATER
Date Sampled...: 12/16/99 11:45 Date Received..: 12/18/99
Prep Date.....: 12/20/99 Analysis Date..: 12/30/99
Prep Batch #...: 9353105
Dilution Factor: 1 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85	(24 - 137)
Decachlorobiphenyl	26	(10 - 137)

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

Quanterra® Incorporated conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. Quanterra requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criteria is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9L180149 Work Order #...: D6KVV102 Matrix.....: WATER
LCS Lot-Sample#: A9L190000-105
Prep Date.....: 12/20/99 Analysis Date..: 12/30/99
Prep Batch #...: 9353105
Dilution Factor: 2

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1016	**87**	**(56 - 124)**	**SW846 8082**
Aroclor 1260	**89**	**(65 - 130)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	78	(24 - 137)
Decachlorobiphenyl	41	(10 - 137)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A9L180149 Work Order #...: D6KVV101 Matrix.....: WATER
MB Lot-Sample #: A9L190000-105

Prep Date.....: 12/20/99
Analysis Date..: 12/30/99 Prep Batch #...: 9353105
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/L	SW846 8082
Aroclor 1221	ND	1.0	ug/L	SW846 8082
Aroclor 1232	ND	1.0	ug/L	SW846 8082
Aroclor 1242	ND	1.0	ug/L	SW846 8082
Aroclor 1248	ND	1.0	ug/L	SW846 8082
Aroclor 1254	ND	1.0	ug/L	SW846 8082
Aroclor 1260	ND	1.0	ug/L	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77	(24 - 137)
Decachlorobiphenyl	95	(10 - 137)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A9L180149 Work Order #...: D6KEL102-MS Matrix.....: WATER
MS Lot-Sample #: A9L180149-003 D6KEL103-MSD
Date Sampled...: 12/16/99 11:45 Date Received..: 12/18/99
Prep Date.....: 12/20/99 Analysis Date..: 12/30/99
Prep Batch #...: 9353105
Dilution Factor: 2

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	82	(29 - 139)			SW846 8082
	102	(29 - 139)	22	(0-29)	SW846 8082
Aroclor 1260	78	(10 - 164)			SW846 8082
	91	(10 - 164)	16	(0-38)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	74	(24 - 137)
	99	(24 - 137)
Decachlorobiphenyl	46	(10 - 137)
	53	(10 - 137)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Quanterra - North Canton

CRA
CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380-9933

SHIPPED TO (Laboratory Name): Quanterra

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar Mapleton

SAMPLER'S SIGNATURE: Walter J Pochron PRINTED NAME: Walter Pochron

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCBs	REMARKS
1	12/16/99	0930	GW-121699-WP-001	Water	2	X	
2		0935	GW-121699-WP-002		2	X	
3		1145	GW-121699-WP-003		6	X	MS/MSD
			Temp Blank		1		
			TOTAL NUMBER OF CONTAINERS		11 10		W3/12/16/99

RELINQUISHED BY: ① Walter J Pochron	DATE: 12/16/99 TIME: 13:30	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed-x AIR BILL No. 815297755240

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM: W. Pochron

RECEIVED FOR LABORATORY BY: Jennifer Reed
DATE: 9/12/18 TIME: 10:00A

5127

1001(FORMS)-OCT 24/96-REV.0-(C)(F-01)

H

APPENDIX H

HUMAN HEALTH RISK ASSESSMENT TABLES

TABLE 1.0

SELECTION OF EXPOSURE PATHWAYS

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Surface Soils (0-2 ft bgs)	Surface Soils (0-2 ft bgs)	Direct Contact	Industrial Workers	Adult	Dermal Ingestion	on-Site on-Site	Quant Quant	Potential low occupancy exposures by Site workers.
		Ambient Air	Particulates	Industrial Workers	Adult	Inhalation	on-Site	Quant	Inhalation of suspended particulates from surface soils on Site while working.
		Surface Soils (0-2 ft bgs)	Direct Contact	Trespassers	Adolescent	Dermal Ingestion	on-Site on-Site	None None	Unauthorized access onto Site property and subsequent direct contact to soils.
		Ambient Air	Particulates	Trespassers	Adolescent	Inhalation	on-Site	None	Unauthorized access onto Site property and subsequent inhalation of suspended particulates.
		Soil to Groundwater	Direct Contact	Residential	Child & Adult	Dermal Ingestion	Off-Site Off-Site	None None	Not quantified based on low leaching potential of PCBs.
Future	Soils (0-12 ft bgs)	Soils (0-12 ft bgs)	Direct Contact	Construction Workers	Adult	Dermal Ingestion	on-Site on-Site	Quant Quant	Construction workers involved in excavation activities could potentially be exposed to surface and subsurface soils.
		Ambient Air	Particulates	Construction Workers	Adult	Inhalation	on-Site	Quant	Inhalation of suspended particulates from soils during excavation activites.
		Soil to Groundwater	Direct Contact	Residential	Child & Adult	Dermal Ingestion	Off-Site Off-Site	None None	Not quantified based on low leaching potential of PCBs.

TABLE 2.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN FOR SURFACE SOIL
SWALE AREA
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion, Dermal and Inhalation

CAS Number	Chemical	Minimum (1,2) Detected Concentration	Minimum Qualifier	Maximum (1,2) Detected Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection (2)	Concentration Used for Screening	Screening Criteria (3)		COPC Flag	Rationale for Contaminant Deletion or Selection (3)
	PCBs													
12674-11-2	Aroclor-1016	0.43				mg/kg	B-10; 0-2' (12/2/98)	1/22	0.43	NA	NA	B2	X	PAD
11104-28-2	Aroclor-1221					mg/kg		0/22	ND	NA	NA	B2		ND
11141-16-5	Aroclor-1232					mg/kg		0/22	ND	NA	NA	B2		ND
53469-21-9	Aroclor-1242	0.6		17		mg/kg	B-15; 0-2' (2/23/99) *	8/22	0.6 - 17	NA	NA	B2	X	PAD
12672-29-6	Aroclor-1248	0.1		96		mg/kg	B-12; 0-2' (12/2/98)	10/22	0.1 - 96	NA	NA	B2	X	PAD
11097-69-1	Aroclor-1254					mg/kg		0/22	ND	NA	NA	B2		ND
11096-82-5	Aroclor-1260					mg/kg		0/22	ND	NA	NA	B2		ND
--	Total PCBs	0.1		96		mg/kg	B-12; 0-2' (12/2/98)	19/22	0.1 - 96	NA	NA	B2	X	PAD

(1) Minimum/maximum detected concentration.
(2) Based on data collected from sampling locations : B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-10, B-11, B-12, B-13, B-14, B-15, B-16, B-17, B-18, B-19, B-20, B-21, B-26.
(3) Rationale Codes Selection Reason: Positive Analyte Detection (PAD)
Deletion Reason: Analyte Not Detected (ND)

A = Known Human Carcinogen
B1 = Probable Human Carcinogen with limited evidence in humans
B2 = Probable Human Carcinogen with sufficient evidence in animals
C = Possible Human Carcinogen with limited evidence in animals
D = Not Classified as to Human Carcinogenicity
NA = Not Applicable

TABLE 2.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN FOR SURFACE SOIL
LAND WEST OF BUILDING B
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion, Dermal and Inhalation

CAS Number	Chemical	Minimum (1,2) Detected Concentration	Minimum Qualifier	Maximum (1,2) Detected Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection (2)	Concentration Used for Screening	Screening Criteria (3)		COPC Flag	Rationale for Contaminant Deletion or Selection (3)
	PCBs													
12674-11-2	Aroclor-1016					mg/kg		0/12	ND	NA	NA	B2		ND
11104-28-2	Aroclor-1221					mg/kg		0/12	ND	NA	NA	B2		ND
11141-16-5	Aroclor-1232					mg/kg		0/12	ND	NA	NA	B2		ND
53469-21-9	Aroclor-1242					mg/kg		0/12	ND	NA	NA	B2		ND
12672-29-6	Aroclor-1248	0.2		0.9		mg/kg	B-34; 0-2' (9/14/99)	3/12	0.2 - 0.9	NA	NA	B2	X	PAD
11097-69-1	Aroclor-1254					mg/kg		0/22	ND	NA	NA	B2		ND
11096-82-5	Aroclor-1260					mg/kg		0/22	ND	NA	NA	B2		ND
--	Total PCBs	0.2		0.9		mg/kg	B-34; 0-2' (9/14/99)	3/12	0.2 - 0.9	NA	NA	B2	X	PAD

(1) Minimum/maximum detected concentration.
(2) Based on data collected from sampling locations : B-22, B-23, B-24, B-25, B-27, B-28, B-29, B-30, B-31, B-32, B-33, B-34.
(3) Rationale Codes Selection Reason: Positive Analyte Detection (PAD)
Deletion Reason: Analyte Not Detected (ND)

A = Known Human Carcinogen
B1 = Probable Human Carcinogen with limited evidence in humans
B2 = Probable Human Carcinogen with sufficient evidence in animals
C = Possible Human Carcinogen with limited evidence in animals
D = Not Classified as to Human Carcinogenicity
NA = Not Applicable

TABLE 2.3
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN FOR SOIL
SWALE AREA
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Ingestion, Dermal and Inhalation

CAS Number	Chemical	Minimum (1,2) Detected Concentration	Minimum Qualifier	Maximum (1,2) Detected Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection (2)	Concentration Used for Screening	Screening Criteria (3)		COPC Flag	Rationale for Contaminant Deletion or Selection (3)
	PCBs													
12674-11-2	Aroclor-1016	0.43		700		mg/kg	B-9; 6-8' (12/2/98)	7/210	0.43 - 700	NA	NA	B2	X	PAD
11104-28-2	Aroclor-1221					mg/kg		0/210	ND	NA	NA	B2		ND
11141-16-5	Aroclor-1232					mg/kg		0/210	ND	NA	NA	B2		ND
53469-21-9	Aroclor-1242	0.08		570		mg/kg	B-2; 4-6' (12/1/98)	151/210	0.08 - 570	NA	NA	B2	X	PAD
12672-29-6	Aroclor-1248	0.049		96		mg/kg	B-12; 0-2' (12/2/98)	26/210	0.049 - 96	NA	NA	B2	X	PAD
11097-69-1	Aroclor-1254					mg/kg		0/210	ND	NA	NA	B2		ND
11096-82-5	Aroclor-1260					mg/kg		0/210	ND	NA	NA	B2		ND
--	Total PCBs	0.049		700		mg/kg	B-9; 6-8' (12/2/98)	184/210	0.049 - 700	NA	NA	B2	X	PAD

(1) Minimum/maximum detected concentration.
(2) Based on data collected from sampling locations : B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-10, B-11, B-12, B-13, B-14, B-15, B-16, B-17, B-18, B-19, B-20, B-21, B-26, G-12, J-24, K-5, N-12, R-7, R-19, K-13, R-19, K-13A, K-13B, K-13C, R-19A, R-19B, R-19C, R-19D, R-19E, H-11, H-15, K-9, K-17, L-10, L-14, M-7, M-11, M-15, M-19, P-9, P-15, P-19, P-23, R-13, R-24, T-28, U-14, U-22, W-13, W-25, EX-1, K-1, K-3, P-3, Q-29, Q-34, T-32, T-36, T-42, T-46, U-50, W-5, W-9, W-39, Y-7, Y-19, AA-7, CC-3, CC-7.
(3) Rationale Codes Selection Reason: Positive Analyte Detection (PAD)
Deletion Reason: Analyte Not Detected (ND)

A = Known Human Carcinogen
B1 = Probable Human Carcinogen with limited evidence in humans
B2 = Probable Human Carcinogen with sufficient evidence in animals
C = Possible Human Carcinogen with limited evidence in animals
D = Not Classified as to Human Carcinogenicity
NA = Not Applicable

TABLE 2.4
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN FOR SOIL
LAND WEST OF BUILDING B
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Ingestion, Dermal and Inhalation

CAS Number	Chemical	Minimum (1,2) Detected Concentration	Minimum Qualifier	Maximum (1,2) Detected Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection (2)	Concentration Used for Screening	Screening Criteria (3)		COPC Flag	Rationale for Contaminant Deletion or Selection (3)
	PCBs													
12674-11-2	Aroclor-1016					mg/kg		0/47	ND	NA	NA	B2		ND
11104-28-2	Aroclor-1221	0.045				mg/kg	B-27; 6-8' (9/14/99)	1/47	0.045	NA	NA	B2	X	PAD
11141-16-5	Aroclor-1232					mg/kg		0/47	ND	NA	NA	B2		ND
53469-21-9	Aroclor-1242	0.037		0.046		mg/kg	B-28; 8-9' (9/14/99)	3/47	0.037 - 0.046	NA	NA	B2	X	PAD
12672-29-6	Aroclor-1248	0.043		8.2		mg/kg	B-32; 6-7' (9/14/99)	22/47	0.043 - 8.2	NA	NA	B2	X	PAD
11097-69-1	Aroclor-1254					mg/kg		0/47	ND	NA	NA	B2		ND
11096-82-5	Aroclor-1260					mg/kg		0/47	ND	NA	NA	B2		ND
--	Total PCBs	0.037		8.2		mg/kg	B-32; 6-7' (9/14/99)	25/47	0.037 - 8.2	NA	NA	B2	X	PAD

(1) Minimum/maximum detected concentration.
(2) Based on data collected from sampling locations : B-22, B-23, B-24, B-25, B-27, B-28, B-29, B-30, B-31, B-32, B-33, B-34.
(3) Rationale Codes Selection Reason: Positive Analyte Detection (PAD)
Deletion Reason: Analyte Not Detected (ND)

A = Known Human Carcinogen
B1 = Probable Human Carcinogen with limited evidence in humans
B2 = Probable Human Carcinogen with sufficient evidence in animals
C = Possible Human Carcinogen with limited evidence in animals
D = Not Classified as to Human Carcinogenicity
NA = Not Applicable

TABLE 3.1
EXPOSURE POINT CONCENTRATION (EPC) SUMMARY FOR CHEMICALS OF POTENTIAL CONCERN IN SURFACE SOIL
SWALE AREA
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion, Dermal and Inhalation

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	EPC Units	Reasonable Maximum Exposure			Central Tendency		
						Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
PCBs											
Aroclor-1016	mg/kg	7.44E-01	--	4.30E-01	mg/kg	3.29E+00	95% UCL-T	W-Test (1)	7.44E-01	--	Mean-N
Aroclor-1242	mg/kg	2.65E+00	--	1.70E+01	mg/kg	9.04E+01	95% UCL-T	W-Test (1)	2.65E+00	--	Mean-N
Aroclor-1248	mg/kg	5.21E+00	--	9.60E+01	mg/kg	2.08E+01	95% UCL-T	W-Test (1)	5.21E+00	--	Mean-N
Total PCBs	mg/kg	7.14E+00	--	9.60E+01	mg/kg	1.39E+02	95% UCL-T	W-Test (1)	7.14E+00	--	Mean-N

For non-detects, 1/2 laboratory detection limit was used as a proxy concentration.
W-Test : Developed by Shapiro and Wilks for data sets with under 50 samples.
Refer to USEPA Supplemental Guidance to RAGS: Calculating the Concentration Term (RAGS, 1992), OSWER Directive 9285.7-081, May 1992.
Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T);
Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Shapiro-Wilks W Test was used since n<=50.

TABLE 3.2
EXPOSURE POINT CONCENTRATION (EPC) SUMMARY FOR CHEMICALS OF POTENTIAL CONCERN IN SURFACE SOIL
LAND WEST OF BUILDING B
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil
Exposure Point: Ingestion, Dermal and Inhalation

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	EPC Units	Reasonable Maximum Exposure			Central Tendency		
						Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
PCBs											
Aroclor-1248	mg/kg	1.24E-01	--	9.00E-01	mg/kg	4.37E-01	95% UCL-T	W-Test (1)	1.24E-01	--	Mean-N
Total PCBs	mg/kg	1.24E-01	--	9.00E-01	mg/kg	4.37E-01	95% UCL-T	W-Test (1)	1.24E-01	--	Mean-N

For non-detects, 1/2 laboratory detection limit was used as a proxy concentration.
W-Test : Developed by Shapiro and Wilks for data sets with under 50 samples.
Refer to USEPA Supplemental Guidance to RAGS: Calculating the Concentration Term (RAGS, 1992), OSWER Directive 9285.7-081, May 1992.
Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T);
Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Shapiro-Wilks W Test was used since n<=50.

TABLE 3.3
EXPOSURE POINT CONCENTRATION (EPC) SUMMARY FOR CHEMICALS OF POTENTIAL CONCERN IN SOIL
SWALE AREA
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Ingestion, Dermal and Inhalation

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	EPC Units	Reasonable Maximum Exposure			Central Tendency		
						Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
PCBs											
Aroclor-1016	mg/kg	9.02E+00	--	7.00E+02	mg/kg	4.41E+01	95% UCL-T	(1)	9.02E+00	--	Mean-N
Aroclor-1242	mg/kg	4.36E+01	--	5.70E+02	mg/kg	1.91E+03	95% UCL-T	(1)	4.36E+01	--	Mean-N
Aroclor-1248	mg/kg	4.11E+00	--	9.60E+01	mg/kg	1.51E+01	95% UCL-T	(1)	4.11E+00	--	Mean-N
Total PCBs	mg/kg	4.86E+01	--	7.00E+02	mg/kg	9.35E+02	95% UCL-T	(1)	4.86E+01	--	Mean-N

For non-detects, 1/2 laboratory detection limit was used as a proxy concentration.
Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) It was assumed this data set was log-normally distributed due to the sample size.
EPA states, large or "complete" environmental data sets are lognormally distributed rather than normally distributed. Refer to RAGS (1992).
USEPA Supplemental Guidance to RAGS: Calculating the Concentration Term (RAGS, 1992), OSWER Directive 9285.7-081, May 1992.

TABLE 3.4
EXPOSURE POINT CONCENTRATION (EPC) SUMMARY FOR CHEMICALS OF POTENTIAL CONCERN IN SOIL
LAND WEST OF BUILDING B
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil
Exposure Point: Ingestion, Dermal and Inhalation

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	EPC Units	Reasonable Maximum Exposure			Central Tendency		
						Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
PCBs											
Aroclor-1221	mg/kg	4.11E-02	--	4.50E-02	mg/kg	4.35E-02	95% UCL-T	W-Test (1)	4.11E-02	--	Mean-N
Aroclor-1242	mg/kg	4.20E-02	--	4.60E-02	mg/kg	4.51E-02	95% UCL-T	W-Test (1)	4.20E-02	--	Mean-N
Aroclor-1248	mg/kg	4.76E-01	--	8.20E+00	mg/kg	1.11E+00	95% UCL-T	W-Test (1)	4.76E-01	--	Mean-N
Total PCBs	mg/kg	4.78E-01	--	8.20E+00	mg/kg	1.06E+00	95% UCL-T	W-Test (1)	4.78E-01	--	Mean-N

For non-detects, 1/2 laboratory detection limit was used as a proxy concentration.
W-Test : Developed by Shapiro and Wilks for data sets with under 50 samples.
Refer to USEPA Supplemental Guidance to RAGS: Calculating the Concentration Term (RAGS, 1992), OSWER Directive 9285.7-081, May 1992.
Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T);
Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Shapiro-Wilks W Test was used since n<=50.

TABLE 4.1
VALUES USED FOR DAILY INTAKE CALCULATIONS - CURRENT/FUTURE TRESPASSER SCENARIO
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal and Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Soil	mg/kg	(1)	EPA, 1989	(1)	EPA, 1989	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Soil	mg soil/ day	100	EPA, 1991	100	EPA, 1991	CS x IR x ABS x CF x EF x ED x 1/BW x 1/AT x PTF
	CF	Conversion Factor	kg/mg	1.00E-06	EPA, 1991	1.00E-06	EPA, 1991	
	EF	Exposure Frequency	days/year	16	Professional Judgement (2)	8	Professional Judgement (2)	
	ED	Exposure Duration	years	10	Professional Judgement	10	Professional Judgement	
	BW	Body Weight	kg	45	EPA, 1997	45	EPA, 1997	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	3,650	EPA, 1989	3,650	EPA, 1989	
	ABS	Absorption Factor	%/100	1	(3)	1	(3)	
	PTF	Percent Time Factor	%/100	1	Professional Judgement	1	Professional Judgment	
Dermal	CS	Chemical Concentration in Soil	mg/kg	(1)	EPA, 1989	(1)	EPA, 1989	CDI (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm2/event	3500	EPA, 1997	3500	EPA, 1997	CS x CF x SA x AF x ABS x EF x ED x 1/BW x 1/AT x PTF
	CF	Conversion Factor	kg/mg	1.00E-06	EPA, 1991	1.00E-06	EPA, 1991	
	EF	Exposure Frequency	days/year	16	Professional Judgement (2)	8	Professional Judgement (2)	
	ED	Exposure Duration	years	10	Professional Judgement	10	Professional Judgement	
	BW	Body Weight	kg	45	EPA, 1997	45	EPA, 1997	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	3,650	EPA, 1989	3,650	EPA, 1989	
	AF	Soil to Skin Adherence Factor	mg/cm2	0.2	EPA, 1999	0.04	EPA, 1999	
	ABS	Absorption Factor (PCBs)	%/100	0.14	EPA, 1999	0.14	EPA, 1999	
	PTF	Percent Time Factor	%/100	1	Professional Judgement	1	Professional Judgment	
Inhalation	CA	Chemical Concentration modeled from Soil	mg/m3	See Appendix ?	See Appendix ?	See Appendix ?	See Appendix ?	CDI (mg/kd-day) =
	IR	Inhalation Rate	m3/hour	1.2	EPA, 1997	1.2	EPA, 1997	CA x IR x ET x EF x ED x 1/BW x 1/AT x PTF
	ET	Exposure Time	hours/day	2	Professional Judgement	0.5	Professional Judgement	
	EF	Exposure Frequency	days/year	16	Professional Judgement (2)	8	Professional Judgement (2)	
	ED	Exposure Duration	years	10	Professional Judgement	10	Professional Judgement	
	BW	Body Weight	kg	45	EPA, 1997	45	EPA, 1997	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	3,650	EPA, 1989	3,650	EPA, 1989	
	PTF	Percent Time Factor	%/100	1	Professional Judgement	1	Professional Judgment	

(1) Refer to Table 3.1 and 3.2 for surface soil chemical concentrations.
(2) Professional Judgement; assumes trespassing occurs twice a month (RME), and once a month (Mean) during an eigth month period that includes the spring, summer and fall months.
(3) Professional Judgement; assumes 100 percent absorption after ingestion.

Sources :
EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A OERR. EPA/540-1-89-002.
EPA, 1991: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.
EPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa.
EPA, 1999: Dermal Risk Assessment Interim Supplemental Guidance to RAGS. Volume 1.

TABLE 4.2
VALUES USED FOR DAILY INTAKE CALCULATIONS - CURRENT/FUTURE INDUSTRIAL WORKER SCENARIO
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal and Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Soil	mg/kg	(1)	EPA, 1989	(1)	EPA,1989	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Soil	mg soil/ hour	6.25	EPA, 1991	6.25	EPA, 1991	CS x IR x ABS x CF x ET x EF x ED x 1/BW x 1/AT
	CF	Conversion Factor	kg/mg	1.00E-06	EPA, 1991	1.00E-06	EPA, 1991	
	ET	Exposure Time	hours/week	6.7	(2)	6.7	(2)	
	EF	Exposure Frequency	weeks/year	50	EPA, 1991	50	EPA, 1991	
	ED	Exposure Duration	years	25	EPA, 1991	9	EPA, 1991	
	BW	Body Weight	kg	70	EPA, 1991	70	EPA, 1991	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	9,125	EPA, 1989	3,285	EPA, 1989	
	ABS	Absorption Factor	%/100	1	(3)	1	(3)	
Dermal	CS	Chemical Concentration in Soil	mg/kg	(1)	EPA, 1989	(1)	EPA,1989	CDI (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm2/work day	3300	EPA, 1999	3300	EPA, 1999	CS x CF x SA x AF x ABS x ET x EF x ECF x ED x 1/BW x 1/AT
	CF	Conversion Factor	kg/mg	1.00E-06	EPA, 1991	1.00E-06	EPA, 1991	
	ET	Exposure Time	hours/week	6.7	(2)	6.7	(2)	
	EF	Exposure Frequency	weeks/year	50	EPA, 1991	50	EPA, 1991	
	ECF	Exposure Conversion Factor	work day/hour	0.125	--	0.125	--	
	ED	Exposure Duration	years	25	EPA, 1991	9	EPA, 1991	
	BW	Body Weight	kg	70	EPA, 1991	70	EPA, 1991	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	9,125	EPA, 1989	3,285	EPA, 1989	
	AF	Soil to Skin Adherence Factor	mg/cm2	0.2	EPA, 1999	0.02	EPA, 1999	
	ABS	Absorption Factor (PCBs)	%/100	0.14	EPA, 1999	0.14	EPA, 1999	
Inhalation	CA	Chemical Concentration in Ambient Air	mg/m3	See Appendix ?	See Appendix ?	See Appendix ?	See Appendix ?	CDI (mg/kg-day) =
	IR	Inhalation Rate	m3/hour	2.5	EPA, 1997	2.5	EPA, 1997	CA x IR x ET x EF x ED x 1/BW x 1/AT
	ET	Exposure Time	hours/week	6.7	(2)	6.7	(2)	
	EF	Exposure Frequency	weeks/year	50	EPA, 1991	50	EPA, 1991	
	ED	Exposure Duration	years	25	EPA, 1991	9	EPA, 1991	
	BW	Body Weight	kg	70	EPA, 1991	70	EPA, 1991	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	9,125	EPA, 1989	3,285	EPA, 1989	

(1) Refer to Table 3.1 and 3.2 for surface soil chemical concentrations.
(2) EPA PCB Rules and Regulations, 40 CFR Part 761, Federal Register Vol. 63, No. 124, Monday June 29, 1998.
(3) Professional Judgement; assumes 100 percent absorption after ingestion.

Sources :
EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A OERR. EPA/540-1-89-002.
EPA, 1991: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.
EPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa.
EPA, 1999: Dermal Risk Assessment Interim Supplemental Guidance to RAGS. Volume 1.

TABLE 4.3
VALUES USED FOR DAILY INTAKE CALCULATIONS - FUTURE CONSTRUCTION WORKER SCENARIO
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal and Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Soil	mg/kg	(1)	EPA, 1989	(1)	EPA, 1989	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Soil	mg soil/ day	480	EPA, 1991	480	EPA, 1991	CS x IR x ABS x CF x EF x ED x 1/BW x 1/AT
	CF	Conversion Factor	kg/mg	1.00E-06	EPA, 1991	1.00E-06	EPA, 1991	
	EF	Exposure Frequency	days/year	20	(2)	5	(2)	
	ED	Exposure Duration	years	1	(2)	1	(2)	
	BW	Body Weight	kg	70	EPA, 1991	70	EPA, 1991	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	365	EPA, 1989	365	EPA, 1989	
	ABS	Absorption Factor	%/100	1	(3)	1	(3)	
Dermal	CS	Chemical Concentration in Soil	mg/kg	(1)	EPA, 1989	(1)	EPA, 1989	CDI (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm2/event	3300	EPA, 1999	3300	EPA, 1999	CS x CF x SA x AF x ABS x EF x ED x 1/BW x 1/AT
	CF	Conversion Factor	kg/mg	1.00E-06	EPA, 1991	1.00E-06	EPA, 1991	
	EF	Exposure Frequency	days/year	20	(2)	5	(2)	
	ED	Exposure Duration	years	1	(2)	1	(2)	
	BW	Body Weight	kg	70	EPA, 1991	70	EPA, 1991	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	365	EPA, 1989	365	EPA, 1989	
	AF	Soil to Skin Adherence Factor	mg/cm2	0.3	EPA, 1999	0.1	EPA, 1999	
	ABS	Absorption Factor (PCBs)	%/100	0.14	EPA, 1999	0.14	EPA, 1999	
Inhalation	CA	Chemical Concentration in Air	mg/m3	See Appendix ?	See Appendix ?	See Appendix ?	See Appendix ?	CDI (mg/kd-day) =
	IR	Inhalation Rate	m3/day	20	EPA, 1997	20	EPA, 1997	CA x IR x EF x ED x 1/BW x 1/AT
	EF	Exposure Frequency	days/year	20	(2)	5	(2)	
	ED	Exposure Duration	years	1	(2)	1	(2)	
	BW	Body Weight	kg	70	EPA, 1991	70	EPA, 1991	
	AT-C	Averaging Time (cancer)	days	27,375	EPA, 2000	27,375	EPA, 2000	
	AT-N	Averaging Time (non-cancer)	days	365	EPA, 1989	365	EPA, 1989	

(1) Refer to Table 3.3 and 3.4 for soil chemical concentrations.
(2) Professional Judgement; assumes excavation activities on Site would be a short term event occuring during the year for 1 week (5 days) and 4 weeks (20 days).
(3) Professional Judgement; assumes 100 percent absorption after ingestion.

Sources :
EPA, 1989: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual, Part A OERR. EPA/540-1-89-002.
EPA, 1991: Risk Assessment Guidance for Superfund. Vol. 1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.
EPA, 1997: Exposure Factors Handbook, EPA/600/P-95/002Fa.
EPA, 1999: Dermal Risk Assessment Interim Supplemental Guidance to RAGS. Volume 1.

TABLE 5.1
NON-CANCER TOXICITY DATA -- ORAL/DERMAL ROUTE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Chemical of Potential Concern (COPC)	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal RfD (2)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfD: Target Organ	Dates of RfD: Target Organ (3) (MM/DD/YY)
PCBs										
Aroclor-1016	chronic	7.00E-05	mg/kg-d	100%	7.00E-05	mg/kg-d	reduced birth weights	100	IRIS	9/15/00
Aroclor-1221	--	--	mg/kg-d	100%	--	mg/kg-d	--	--	--	--
Aroclor-1242	--	--	mg/kg-d	100%	--	mg/kg-d	--	--	--	--
Aroclor-1248	--	--	mg/kg-d	100%	--	mg/kg-d	--	--	--	--
Total PCBs	--	--	mg/kg-d	100%	--	mg/kg-d	--	--	--	--

-- = Not Available
(1) USEPA, Risk Assessment Guidance for Superfund, Volume 1: Human Health Evaluation Manual, Supplemental Guidance, Dermal Risk Assessment, March 14, 1999.
(2) Adjusted Dermal RfD = Oral RfD x Oral to Dermal Adjustment Factor
(3) IRIS, Integrated Risk Information System Database, September 15, 2000.

TABLE 5.2
NON-CANCER TOXICITY DATA – INHALATION
CATERPILLAR INC.
MAPLETON, ILLINOIS

Chemical of Potential Concern (COPC)	Chronic/ Subchronic	Value Inhalation RfC	Units	Adjusted Inhalation RfD (1)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfC:RfD: Target Organ	Dates (2) (MM/DD/YY)
PCBs									
Aroclor-1016	chronic	--	mg/m^3	7.00E-05	mg/kg-d	reduced birth weights	100	IRIS	9/15/00
Aroclor-1221	--	--	mg/m^3	--	mg/kg-d	--	--	--	--
Aroclor-1242	--	--	mg/m^3	--	mg/kg-d	--	--	--	--
Aroclor-1248	--	--	mg/m^3	--	mg/kg-d	--	--	--	--
Total PCBs	--	--	mg/m^3	--	mg/kg-d	--	--	--	--

-- = Not Available

(1) Non-cancer inhalation toxicity data for PCBs is not available, therefore route to route extrapolation was assumed. Therefore, oral RfD toxicity data was substituted.

(2) IRIS, Integrated Risk Information System Database, September 15, 2000.

TABLE 6.1
CANCER TOXICITY DATA -- ORAL/DERMAL ROUTE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Chemical of Potential Concern (COPC)	Oral Cancer Slope Factor	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal Cancer Slope Factor (2)	Units	Weight of Evidence/ Cancer Guideline Description	Source	Date (3) (MM/DD/YY)
PCBs							
Aroclor-1016	2.00E+00	100%	2.00E+00	(mg/kg-day) $^{-1}$	B2	IRIS	9/15/00
Aroclor-1221	2.00E+00	100%	2.00E+00	(mg/kg-day) $^{-1}$	B2	IRIS	9/15/00
Aroclor-1242	2.00E+00	100%	2.00E+00	(mg/kg-day) $^{-1}$	B2	IRIS	9/15/00
Aroclor-1248	2.00E+00	100%	2.00E+00	(mg/kg-day) $^{-1}$	B2	IRIS	9/15/00
Total PCBs	2.00E+00	100%	2.00E+00	(mg/kg-day) $^{-1}$	B2	IRIS	9/15/00

(1) USEPA, Risk Assessment Guidance for Superfund, Volume 1:
Human Health Evaluation Manual, Dermal Risk Assessment, March 14, 1999.
(2) Adjusted Dermal CSF = Oral CSF / Oral to Dermal Adjustment Factor
(3) IRIS, Integrated Risk Information System Database, September 15, 2000.

EPA Weight of Evidence Classification :
A - Known Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

TABLE 6.2
CANCER TOXICITY DATA -- INHALATION
CATERPILLAR INC.
MAPLETON, ILLINOIS

Chemical of Potential Concern (COPC)	Unit Risk	Units	Adjustment (1)	Inhalation Cancer Slope Factor (2)	Units	Weight of Evidence/ Cancer Guideline Description	Source	Date (3) (MM/DD/YY)
PCBs								
Aroclor-1016	5.70E-05	ug/m^3	3500	2.00E+00	$(mg/kg-day)^{-1}$	B2	IRIS	9/15/00
Aroclor-1221	5.70E-05	ug/m^3	3500	2.00E+00	$(mg/kg-day)^{-1}$	B2	IRIS	9/15/00
Aroclor-1242	5.70E-05	ug/m^3	3500	2.00E+00	$(mg/kg-day)^{-1}$	B2	IRIS	9/15/00
Aroclor-1248	5.70E-05	ug/m^3	3500	2.00E+00	$(mg/kg-day)^{-1}$	B2	IRIS	9/15/00
Total PCBs	5.70E-05	ug/m^3	3500	2.00E+00	$(mg/kg-day)^{-1}$	B2	IRIS	9/15/00

(1) Adjustment Factor = 70 kg x 1/20 m3/day x 1000 ug/mg
(2) Inhalation CSF = Unit Risk x Adjustment Factor
(3) IRIS, Integrated Risk Information System Database, September 15, 2000.

EPA Weight of Evidence Classification :
A - Known Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

TABLE 7.1.CT
CALCULATION OF NON-CANCER HAZARDS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
SWALE AREA
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	2.09E-08	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	2.99E-04
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	1.29E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	2.54E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												2.99E-04
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	3.48E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	4.10E-09	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	5.86E-05
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	2.53E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	4.97E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												5.86E-05
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	6.82E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1016	4.30E-01	mg/kg	3.33E-09	mg/m3	R	9.73E-13	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	1.39E-08
	Aroclor 1242	1.70E+01	mg/kg	1.32E-07	mg/m3	R	3.86E-11	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	2.08E+01	mg/kg	1.61E-07	mg/m3	R	4.71E-11	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												1.39E-08
	Total PCBs	9.60E+01	mg/kg	7.44E-07	mg/m3	R	2.17E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
												Total Aroclor Hazard Index Across All Exposure Routes/Pathways	3.6E-04
												Total PCBs Hazard Index Across All Exposure Routes/Pathways	0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.1.RME
CALCULATION OF NON-CANCER HAZARDS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
SWALE AREA
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	4.19E-08	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	5.98E-04
	Aroclor 1242	1.70E+01	mg/kg	1.70E+01	mg/kg	M	1.66E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	2.08E+01	mg/kg	2.08E+01	mg/kg	M	2.03E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												5.98E-04
	Total PCBs	9.60E+01	mg/kg	9.60E+01	mg/kg	M	9.35E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	4.10E-08	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	5.86E-04
	Aroclor 1242	1.70E+01	mg/kg	1.70E+01	mg/kg	M	1.62E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	2.08E+01	mg/kg	2.08E+01	mg/kg	M	1.99E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												5.86E-04
	Total PCBs	9.60E+01	mg/kg	9.60E+01	mg/kg	M	9.16E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1016	4.30E-01	mg/kg	3.33E-09	mg/m3	R	7.79E-12	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	1.11E-07
	Aroclor 1242	1.70E+01	mg/kg	1.32E-07	mg/m3	R	3.09E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	2.08E+01	mg/kg	1.61E-07	mg/m3	R	3.76E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												1.11E-07
	Total PCBs	9.60E+01	mg/kg	7.44E-07	mg/m3	R	1.74E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00

Total Aroclor Hazard Index Across All Exposure Routes/Pathways 1.2E-03
Total PCBs Hazard Index Across All Exposure Routes/Pathways 0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.2.CT
CALCULATION OF NON-CANCER HAZARDS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	6.04E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	6.04E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.18E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.18E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	9.91E-13	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	9.91E-13	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
												Total Aroclor Hazard Index Across All Exposure Routes/Pathways	0.0E+00
												Total PCBs Hazard Index Across All Exposure Routes/Pathways	0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.2.RME
CALCULATION OF NON-CANCER HAZARDS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	4.26E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	4.26E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	4.17E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	4.17E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	7.93E-12	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	7.93E-12	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Total Aroclor Hazard Index Across All Exposure Routes/Pathways													0.0E+00
Total PCBs Hazard Index Across All Exposure Routes/Pathways													0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.3.CT
CALCULATION OF NON-CANCER HAZARDS FOR CURRENT/FUTURE INDUSTRIAL WORKER EXPOSURE TO SURFACE SOIL
SWALE AREA
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	3.52E-08	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	5.03E-04
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	2.17E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	4.27E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												5.03E-04
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	5.85E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	6.51E-09	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	9.30E-05
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	4.01E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	7.89E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												9.30E-05
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	1.08E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1016	4.30E-01	mg/kg	3.33E-09	mg/m3	R	1.09E-10	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	1.56E-06
	Aroclor 1242	1.70E+01	mg/kg	1.32E-07	mg/m3	R	4.33E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	2.08E+01	mg/kg	1.61E-07	mg/m3	R	5.28E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												1.56E-06
	Total PCBs	9.60E+01	mg/kg	7.44E-07	mg/m3	R	2.44E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00

Total Aroclor Hazard Index Across All Exposure Routes/Pathways 6.0E-04
Total PCBs Hazard Index Across All Exposure Routes/Pathways 0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.4.CT
CALCULATION OF NON-CANCER HAZARDS FOR CURRENT/FUTURE INDUSTRIAL WORKER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.02E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.02E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.88E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.88E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.11E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.11E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
												Total Aroclor Hazard Index Across All Exposure Routes/Pathways	0.0E+00
												Total PCBs Hazard Index Across All Exposure Routes/Pathways	0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.4.RME
CALCULATION OF NON-CANCER HAZARDS FOR CURRENT/FUTURE INDUSTRIAL WORKER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	3.58E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	3.58E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	6.62E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	6.62E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.11E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.11E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
												Total Aroclor Hazard Index Across All Exposure Routes/Pathways	0.0E+00
												Total PCBs Hazard Index Across All Exposure Routes/Pathways	0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.5.CT
CALCULATION OF NON-CANCER HAZARDS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
SWALE AREA
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1016	9.02E+00	mg/kg	9.02E+00	mg/kg	M	8.47E-07	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	1.21E-02
	Aroclor 1242	4.36E+01	mg/kg	4.36E+01	mg/kg	M	4.10E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	4.11E+00	mg/kg	4.11E+00	mg/kg	M	3.86E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												1.21E-02
	Total PCBs	4.86E+01	mg/kg	4.86E+01	mg/kg	M	4.57E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1016	9.02E+00	mg/kg	9.02E+00	mg/kg	M	8.16E-08	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	1.17E-03
	Aroclor 1242	4.36E+01	mg/kg	4.36E+01	mg/kg	M	3.94E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	4.11E+00	mg/kg	4.11E+00	mg/kg	M	3.72E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												1.17E-03
	Total PCBs	4.86E+01	mg/kg	4.86E+01	mg/kg	M	4.39E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1016	4.41E+01	mg/kg	2.09E-05	mg/m3	R	8.18E-08	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	1.17E-03
	Aroclor 1242	5.70E+02	mg/kg	2.70E-04	mg/m3	R	1.06E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.51E+01	mg/kg	7.14E-06	mg/m3	R	2.79E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												1.17E-03
	Total PCBs	7.00E+02	mg/kg	3.31E-04	mg/m3	R	1.30E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00

Total Aroclor Hazard Index Across All Exposure Routes/Pathways 1.4E-02
Total PCBs Hazard Index Across All Exposure Routes/Pathways 0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.5.RME
CALCULATION OF NON-CANCER HAZARDS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
SWALE AREA
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1016	4.41E+01	mg/kg	4.41E+01	mg/kg	M	1.66E-05	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	2.37E-01
	Aroclor 1242	5.70E+02	mg/kg	5.70E+02	mg/kg	M	2.14E-04	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.51E+01	mg/kg	1.51E+01	mg/kg	M	5.67E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												2.37E-01
	Total PCBs	7.00E+02	mg/kg	7.00E+02	mg/kg	M	2.63E-04	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1016	4.41E+01	mg/kg	4.41E+01	mg/kg	M	4.78E-06	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	6.84E-02
	Aroclor 1242	5.70E+02	mg/kg	5.70E+02	mg/kg	M	6.18E-05	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.51E+01	mg/kg	1.51E+01	mg/kg	M	1.64E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												6.84E-02
	Total PCBs	7.00E+02	mg/kg	7.00E+02	mg/kg	M	7.59E-05	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1016	4.41E+01	mg/kg	2.09E-05	mg/m3	R	3.27E-07	mg/kg-day	7.00E-05	mg/kg-day	N/A	N/A	4.67E-03
	Aroclor 1242	5.70E+02	mg/kg	2.70E-04	mg/m3	R	4.23E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.51E+01	mg/kg	7.14E-06	mg/m3	R	1.12E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												4.67E-03
	Total PCBs	7.00E+02	mg/kg	3.31E-04	mg/m3	R	5.18E-06	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
												Total Aroclor Hazard Index Across All Exposure Routes/Pathways	3.1E-01
												Total PCBs Hazard Index Across All Exposure Routes/Pathways	0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.6.CT
CALCULATION OF NON-CANCER HAZARDS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1221	4.11E-02	mg/kg	4.11E-02	mg/kg	M	3.86E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1242	4.20E-02	mg/kg	4.20E-02	mg/kg	M	3.95E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	4.76E-01	mg/kg	4.76E-01	mg/kg	M	4.47E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												0.00E+00
	Total PCBs	4.78E-01	mg/kg	4.78E-01	mg/kg	M	4.49E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1221	4.11E-02	mg/kg	4.11E-02	mg/kg	M	3.72E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1242	4.20E-02	mg/kg	4.20E-02	mg/kg	M	3.80E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	4.76E-01	mg/kg	4.76E-01	mg/kg	M	4.30E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												0.00E+00
	Total PCBs	4.78E-01	mg/kg	4.78E-01	mg/kg	M	4.32E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1221	4.35E-02	mg/kg	2.06E-08	mg/m3	R	8.06E-11	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1242	4.51E-02	mg/kg	2.13E-08	mg/m3	R	8.34E-11	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.11E+00	mg/kg	5.25E-07	mg/m3	R	2.05E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												0.00E+00
	Total PCBs	1.06E+00	mg/kg	5.01E-07	mg/m3	R	1.96E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
												Total Aroclor Hazard Index Across All Exposure Routes/Pathways	0.0E+00
												Total PCBs Hazard Index Across All Exposure Routes/Pathways	0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 7.6.RME
CALCULATION OF NON-CANCER HAZARDS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
LAND WEST OF BUILDING B
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, and Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aroclor 1221	4.35E-02	mg/kg	4.35E-02	mg/kg	M	1.63E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1242	4.51E-02	mg/kg	4.51E-02	mg/kg	M	1.69E-08	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.11E+00	mg/kg	1.11E+00	mg/kg	M	4.17E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												0.00E+00
	Total PCBs	1.06E+00	mg/kg	1.06E+00	mg/kg	M	3.98E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Dermal	Aroclor 1221	4.35E-02	mg/kg	4.35E-02	mg/kg	M	4.72E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1242	4.51E-02	mg/kg	4.51E-02	mg/kg	M	4.89E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.11E+00	mg/kg	1.11E+00	mg/kg	M	1.20E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												0.00E+00
	Total PCBs	1.06E+00	mg/kg	1.06E+00	mg/kg	M	1.15E-07	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
Inhalation	Aroclor 1221	4.35E-02	mg/kg	2.06E-08	mg/m3	R	3.23E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1242	4.51E-02	mg/kg	2.13E-08	mg/m3	R	3.33E-10	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	Aroclor 1248	1.11E+00	mg/kg	5.25E-07	mg/m3	R	8.22E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
	(Aroclor Total)												0.00E+00
	Total PCBs	1.06E+00	mg/kg	5.01E-07	mg/m3	R	7.84E-09	mg/kg-day	--	mg/kg-day	N/A	N/A	0.00E+00
												Total Aroclor Hazard Index Across All Exposure Routes/Pathways	0.0E+00
												Total PCBs Hazard Index Across All Exposure Routes/Pathways	0.0E+00

-- = Not Available
N/A = Not Applicable
(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.1.CT
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
SWALE AREA
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	2.79E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.58E-09
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	1.72E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	3.44E-08
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	3.38E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	6.77E-08
	(Aroclor Total)										1.08E-07
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	4.64E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	9.27E-08
Dermal	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	5.47E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.09E-09
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	3.37E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	6.75E-09
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	6.63E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.33E-08
	(Aroclor Total)										2.11E-08
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	9.09E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.82E-08
Inhalation	Aroclor 1016	4.30E-01	mg/kg	3.33E-09	mg/m3	R	1.30E-13	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.60E-13
	Aroclor 1242	1.70E+01	mg/kg	1.32E-07	mg/m3	R	5.14E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.03E-11
	Aroclor 1248	2.08E+01	mg/kg	1.61E-07	mg/m3	R	6.27E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.25E-11
	(Aroclor Total)										2.31E-11
	Total PCBs	9.60E+01	mg/kg	7.44E-07	mg/m3	R	2.90E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.80E-11

Total Aroclor Risk Across All Exposure Routes/Pathways 1.3E-07
Total PCBs Risk Across All Exposure Routes/Pathways 1.1E-07

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.1.RME
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
SWALE AREA
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	5.58E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.12E-08
	Aroclor 1242	1.70E+01	mg/kg	1.70E+01	mg/kg	M	2.21E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.42E-07
	Aroclor 1248	2.08E+01	mg/kg	2.08E+01	mg/kg	M	2.70E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.40E-07
	(Aroclor Total)										9.93E-07
	Total PCBs	9.60E+01	mg/kg	9.60E+01	mg/kg	M	1.25E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.49E-06
Dermal	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	5.47E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.09E-08
	Aroclor 1242	1.70E+01	mg/kg	1.70E+01	mg/kg	M	2.16E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.33E-07
	Aroclor 1248	2.08E+01	mg/kg	2.08E+01	mg/kg	M	2.65E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.30E-07
	(Aroclor Total)										9.73E-07
	Total PCBs	9.60E+01	mg/kg	9.60E+01	mg/kg	M	1.22E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.44E-06
Inhalation	Aroclor 1016	4.30E-01	mg/kg	3.33E-09	mg/m3	R	1.04E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.08E-12
	Aroclor 1242	1.70E+01	mg/kg	1.32E-07	mg/m3	R	4.11E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	8.23E-11
	Aroclor 1248	2.08E+01	mg/kg	1.61E-07	mg/m3	R	5.02E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.00E-10
	(Aroclor Total)										1.85E-10
	Total PCBs	9.60E+01	mg/kg	7.44E-07	mg/m3	R	2.32E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.64E-10
										Total Aroclor Risk Across All Exposure Routes/Pathways	2.0E-06
										Total PCBs Risk Across All Exposure Routes/Pathways	4.9E-06

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.2.CT
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	8.05E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.61E-09
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	8.05E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.61E-09
Dermal	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.58E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	3.16E-10
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.58E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	3.16E-10
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.32E-13	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.64E-13
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.32E-13	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.64E-13

Total Aroclor Risk Across All Exposure Routes/Pathways 1.9E-09
Total PCBs Risk Across All Exposure Routes/Pathways 1.9E-09

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.2.RME
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE TRESPASSER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	5.68E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.14E-08
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	5.68E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.14E-08
Dermal	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	5.56E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.11E-08
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	5.56E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.11E-08
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.06E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.11E-12
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.06E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.11E-12
										Total Aroclor Risk Across All Exposure Routes/Pathways	2.2E-08
										Total PCBs Risk Across All Exposure Routes/Pathways	2.2E-08

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.3.CT
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE INDUSTRIAL WORKER EXPOSURE TO SURFACE SOIL
SWALE AREA
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	4.23E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	8.46E-09
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	2.61E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.21E-08
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	5.12E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.02E-07
	(Aroclor Total)										1.63E-07
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	7.02E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.40E-07
Dermal	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	7.81E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.56E-09
	Aroclor 1242	2.65E+00	mg/kg	2.65E+00	mg/kg	M	4.82E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	9.63E-09
	Aroclor 1248	5.21E+00	mg/kg	5.21E+00	mg/kg	M	9.47E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.89E-08
	(Aroclor Total)										3.01E-08
	Total PCBs	7.14E+00	mg/kg	7.14E+00	mg/kg	M	1.30E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.60E-08
Inhalation	Aroclor 1016	4.30E-01	mg/kg	3.33E-09	mg/m3	R	1.31E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.62E-11
	Aroclor 1242	1.70E+01	mg/kg	1.32E-07	mg/m3	R	5.19E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.04E-09
	Aroclor 1248	2.08E+01	mg/kg	1.61E-07	mg/m3	R	6.33E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.27E-09
	(Aroclor Total)										2.33E-09
	Total PCBs	9.60E+01	mg/kg	7.44E-07	mg/m3	R	2.93E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.85E-09

Total Aroclor Risk Across All Exposure Routes/Pathways 2.0E-07
Total PCBs Risk Across All Exposure Routes/Pathways 1.7E-07

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.3.RME
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE INDUSTRIAL WORKER EXPOSURE TO SURFACE SOIL
SWALE AREA
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	1.17E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.35E-08
	Aroclor 1242	1.70E+01	mg/kg	1.70E+01	mg/kg	M	4.64E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	9.29E-07
	Aroclor 1248	2.08E+01	mg/kg	2.08E+01	mg/kg	M	5.68E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.14E-06
	(Aroclor Total)										2.09E-06
	Total PCBs	9.60E+01	mg/kg	9.60E+01	mg/kg	M	2.62E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.24E-06
Dermal	Aroclor 1016	4.30E-01	mg/kg	4.30E-01	mg/kg	M	2.17E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.34E-08
	Aroclor 1242	1.70E+01	mg/kg	1.70E+01	mg/kg	M	8.58E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.72E-06
	Aroclor 1248	2.08E+01	mg/kg	2.08E+01	mg/kg	M	1.05E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.10E-06
	(Aroclor Total)										3.86E-06
	Total PCBs	9.60E+01	mg/kg	9.60E+01	mg/kg	M	4.85E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	9.69E-06
Inhalation	Aroclor 1016	4.30E-01	mg/kg	3.33E-09	mg/m3	R	3.64E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	7.28E-11
	Aroclor 1242	1.70E+01	mg/kg	1.32E-07	mg/m3	R	1.44E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.88E-09
	Aroclor 1248	2.08E+01	mg/kg	1.61E-07	mg/m3	R	1.76E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	3.52E-09
	(Aroclor Total)										6.48E-09
	Total PCBs	9.60E+01	mg/kg	7.44E-07	mg/m3	R	8.13E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.63E-08
										Total Aroclor Risk Across All Exposure Routes/Pathways	6.0E-06
										Total PCBs Risk Across All Exposure Routes/Pathways	1.5E-05

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.4.CT
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE INDUSTRIAL WORKER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.22E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.44E-09
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	1.22E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.44E-09
Dermal	Aroclor 1248	1.24E-01	mg/kg	1.24E-01	mg/kg	M	2.25E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.51E-10
	Total PCBs	1.24E-01	mg/kg	1.24E-01	mg/kg	M	2.25E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.51E-10
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.33E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.67E-11
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	1.33E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.67E-11

Total Aroclor Risk Across All Exposure Routes/Pathways	2.9E-09
Total PCBs Risk Across All Exposure Routes/Pathways	2.9E-09

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.4.RME
CALCULATION OF CANCER RISKS FOR CURRENT/FUTURE INDUSTRIAL WORKER EXPOSURE TO SURFACE SOIL
LAND WEST OF BUILDING B
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Industrial Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	1.19E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.39E-08
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	1.19E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.39E-08
Dermal	Aroclor 1248	4.37E-01	mg/kg	4.37E-01	mg/kg	M	2.21E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.41E-08
	Total PCBs	4.37E-01	mg/kg	4.37E-01	mg/kg	M	2.21E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.41E-08
Inhalation	Aroclor 1248	4.37E-01	mg/kg	3.39E-09	mg/m3	R	3.70E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	7.41E-11
	Total PCBs	4.37E-01	mg/kg	3.39E-09	mg/m3	R	3.70E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	7.41E-11
										Total Aroclor Risk Across All Exposure Routes/Pathways	6.8E-08
										Total PCBs Risk Across All Exposure Routes/Pathways	6.8E-08

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.5.CT
CALCULATION OF CANCER RISKS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
SWALE AREA
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1016	9.02E+00	mg/kg	9.02E+00	mg/kg	M	1.13E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.26E-08
	Aroclor 1242	4.36E+01	mg/kg	4.36E+01	mg/kg	M	5.46E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.09E-07
	Aroclor 1248	4.11E+00	mg/kg	4.11E+00	mg/kg	M	5.15E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.03E-08
	(Aroclor Total)										1.42E-07
	Total PCBs	4.86E+01	mg/kg	4.86E+01	mg/kg	M	6.09E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.22E-07
Dermal	Aroclor 1016	9.02E+00	mg/kg	9.02E+00	mg/kg	M	1.09E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.17E-09
	Aroclor 1242	4.36E+01	mg/kg	4.36E+01	mg/kg	M	5.26E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.05E-08
	Aroclor 1248	4.11E+00	mg/kg	4.11E+00	mg/kg	M	4.95E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	9.91E-10
	(Aroclor Total)										1.37E-08
	Total PCBs	4.86E+01	mg/kg	4.86E+01	mg/kg	M	5.86E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.17E-08
Inhalation	Aroclor 1016	4.41E+01	mg/kg	2.09E-05	mg/m3	R	1.09E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.18E-09
	Aroclor 1242	5.70E+02	mg/kg	2.70E-04	mg/m3	R	1.41E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.82E-08
	Aroclor 1248	1.51E+01	mg/kg	7.14E-06	mg/m3	R	3.73E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	7.45E-10
	(Aroclor Total)										3.11E-08
	Total PCBs	7.00E+02	mg/kg	3.31E-04	mg/m3	R	1.73E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	3.45E-08

Total Aroclor Risk Across All Exposure Routes/Pathways 1.9E-07
Total PCBs Risk Across All Exposure Routes/Pathways 1.7E-07

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.5.RME
CALCULATION OF CANCER RISKS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
SWALE AREA
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1016	4.41E+01	mg/kg	4.41E+01	mg/kg	M	2.21E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.42E-07
	Aroclor 1242	5.70E+02	mg/kg	5.70E+02	mg/kg	M	2.86E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.71E-06
	Aroclor 1248	1.51E+01	mg/kg	1.51E+01	mg/kg	M	7.56E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.51E-07
	(Aroclor Total)										6.30E-06
	Total PCBs	7.00E+02	mg/kg	7.00E+02	mg/kg	M	3.51E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	7.01E-06
Dermal	Aroclor 1016	4.41E+01	mg/kg	4.41E+01	mg/kg	M	6.38E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.28E-07
	Aroclor 1242	5.70E+02	mg/kg	5.70E+02	mg/kg	M	8.25E-07	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.65E-06
	Aroclor 1248	1.51E+01	mg/kg	1.51E+01	mg/kg	M	2.18E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.37E-08
	(Aroclor Total)										1.82E-06
	Total PCBs	7.00E+02	mg/kg	7.00E+02	mg/kg	M	1.01E-06	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.03E-06
Inhalation	Aroclor 1016	4.41E+01	mg/kg	2.09E-05	mg/m3	R	4.36E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	8.73E-09
	Aroclor 1242	5.70E+02	mg/kg	2.70E-04	mg/m3	R	5.64E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.13E-07
	Aroclor 1248	1.51E+01	mg/kg	7.14E-06	mg/m3	R	1.49E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.98E-09
	(Aroclor Total)										1.24E-07
	Total PCBs	7.00E+02	mg/kg	3.31E-04	mg/m3	R	6.91E-08	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.38E-07
										Total Aroclor Risk Across All Exposure Routes/Pathways	8.2E-06
										Total PCBs Risk Across All Exposure Routes/Pathways	9.2E-06

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.6.CT
CALCULATION OF CANCER RISKS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1221	4.11E-02	mg/kg	4.11E-02	mg/kg	M	5.15E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.03E-10
	Aroclor 1242	4.20E-02	mg/kg	4.20E-02	mg/kg	M	5.26E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.05E-10
	Aroclor 1248	4.76E-01	mg/kg	4.76E-01	mg/kg	M	5.96E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.19E-09
	(Aroclor Total)										1.40E-09
	Total PCBs	4.78E-01	mg/kg	4.78E-01	mg/kg	M	5.99E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.20E-09
Dermal	Aroclor 1221	4.11E-02	mg/kg	4.11E-02	mg/kg	M	4.95E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	9.91E-12
	Aroclor 1242	4.20E-02	mg/kg	4.20E-02	mg/kg	M	5.06E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.01E-11
	Aroclor 1248	4.76E-01	mg/kg	4.76E-01	mg/kg	M	5.74E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.15E-10
	(Aroclor Total)										1.35E-10
	Total PCBs	4.78E-01	mg/kg	4.78E-01	mg/kg	M	5.76E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.15E-10
Inhalation	Aroclor 1221	4.35E-02	mg/kg	2.06E-08	mg/m3	R	1.08E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.15E-12
	Aroclor 1242	4.51E-02	mg/kg	2.13E-08	mg/m3	R	1.11E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.22E-12
	Aroclor 1248	1.11E+00	mg/kg	5.25E-07	mg/m3	R	2.74E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.48E-11
	(Aroclor Total)										5.92E-11
	Total PCBs	1.06E+00	mg/kg	5.01E-07	mg/m3	R	2.61E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	5.23E-11

Total Aroclor Risk Across All Exposure Routes/Pathways 1.6E-09
Total PCBs Risk Across All Exposure Routes/Pathways 1.4E-09

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 8.6.RME
CALCULATION OF CANCER RISKS FOR FUTURE CONSTRUCTION WORKER EXPOSURE TO SOIL
LAND WEST OF BUILDING B
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil/Ambient Air
Exposure Point: Ingestion, Dermal, Inhalation
Receptor Population: Construction Worker
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Aroclor 1016	4.35E-02	mg/kg	4.35E-02	mg/kg	M	2.18E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.36E-10
	Aroclor 1242	4.51E-02	mg/kg	4.51E-02	mg/kg	M	2.26E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	4.52E-10
	Aroclor 1248	1.11E+00	mg/kg	1.11E+00	mg/kg	M	5.56E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.11E-08
	(Aroclor Total)										1.20E-08
	Total PCBs	1.06E+00	mg/kg	1.06E+00	mg/kg	M	5.31E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.06E-08
Dermal	Aroclor 1016	4.35E-02	mg/kg	4.35E-02	mg/kg	M	6.29E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.26E-10
	Aroclor 1242	4.51E-02	mg/kg	4.51E-02	mg/kg	M	6.52E-11	mg/kg-day	2.00E+00	(mg/kg-day) -1	1.30E-10
	Aroclor 1248	1.11E+00	mg/kg	1.11E+00	mg/kg	M	1.61E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	3.21E-09
	(Aroclor Total)										3.47E-09
	Total PCBs	1.06E+00	mg/kg	1.06E+00	mg/kg	M	1.53E-09	mg/kg-day	2.00E+00	(mg/kg-day) -1	3.07E-09
Inhalation	Aroclor 1016	4.35E-02	mg/kg	2.06E-08	mg/m3	R	4.30E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	8.60E-12
	Aroclor 1242	4.51E-02	mg/kg	2.13E-08	mg/m3	R	4.45E-12	mg/kg-day	2.00E+00	(mg/kg-day) -1	8.89E-12
	Aroclor 1248	1.11E+00	mg/kg	5.25E-07	mg/m3	R	1.10E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.19E-10
	(Aroclor Total)										2.37E-10
	Total PCBs	1.06E+00	mg/kg	5.01E-07	mg/m3	R	1.05E-10	mg/kg-day	2.00E+00	(mg/kg-day) -1	2.09E-10
										Total Aroclor Risk Across All Exposure Routes/Pathways	1.6E-08
										Total PCBs Risk Across All Exposure Routes/Pathways	1.4E-08

(1) M - Medium-Specific EPC selected for hazard calculation.
R - Route-Specific EPC selected for hazard calculation.

TABLE 9.1.CT

SUMMARY OF CURRENT/FUTURE TRESPASSER RISKS AND HAZARDS FOR COPCs

SWALE AREA

CENTRAL TENDENCY

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1016	5.58E-09	2.60E-13	1.09E-09	6.68E-09	Aroclor 1016	reduced birth weights	2.99E-04	1.39E-08	5.86E-05	3.58E-04
			Aroclor 1242	3.44E-08	1.03E-11	6.75E-09	4.12E-08	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	6.77E-08	1.25E-11	1.33E-08	8.09E-08	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	9.27E-08	5.80E-11	1.82E-08	1.11E-07	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total Aroclor Risk from All Media and Exposure Routes				1.3E-07		Total Aroclor Hazard from All Media and Exposure Routes				3.6E-04
			Total PCBs Risk Across All Media and All Exposure Routes				1.1E-07		Total PCBs Hazard Across All Media and All Exposure Routes				0.0E+00

TABLE 9.1.RME

SUMMARY OF CURRENT/FUTURE TRESPASSER RISKS AND HAZARDS FOR COPCs

SWALE AREA

REASONABLE MAXIMUM EXPOSURE

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Trespasser
Receptor Age: Adolescent (8 to 17 years old)

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1016	1.12E-08	2.08E-12	1.09E-08	2.21E-08	Aroclor 1016	reduced birth weights	5.98E-04	1.11E-07	5.86E-04	1.18E-03
			Aroclor 1242	4.42E-07	8.23E-11	4.33E-07	8.74E-07	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	5.40E-07	1.00E-10	5.30E-07	1.07E-06	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	2.49E-06	4.64E-10	2.44E-06	4.94E-06	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
							Total Aroclor Risk from All Media and Exposure Routes						Total Aroclor Hazard from All Media and Exposure Routes
							2.0E-06						1.2E-03
							Total PCBs Risk Across All Media and All Exposure Routes						Total PCBs Hazard Across All Media and All Exposure Routes
							4.9E-06						0.0E+00

TABLE 9.2.CT
SUMMARY OF CURRENT/FUTURE TRESPASSER RISKS AND HAZARDS FOR COPCs
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Trespasser
Receptor Age: Adolescent (6 to 17 years old)

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1248	1.61E-09	2.64E-13	3.16E-10	1.93E-09	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	1.61E-09	2.64E-13	3.16E-10	1.93E-09	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
							Total Aroclor Risk from All Media and Exposure Routes						1.9E-09
							Total PCBs Risk Across All Media and All Exposure Routes						1.9E-09
													Total Aroclor Hazard from All Media and Exposure Routes 0.0E+00
													Total PCBs Hazard Across All Media and All Exposure Routes 0.0E+00

TABLE 9.2.RME

SUMMARY OF CURRENT/FUTURE TRESPASSER RISKS AND HAZARDS FOR COPCs

LAND WEST OF BUILDING B

REASONABLE MAXIMUM EXPOSURE

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Trespasser
Receptor Age: Adolescent (6 to 17 years old)

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1248	1.14E-08	2.11E-12	1.11E-08	2.25E-08	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	1.14E-08	2.11E-12	1.11E-08	2.25E-08	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
							Total Aroclor Risk from All Media and Exposure Routes						Total Aroclor Hazard from All Media and Exposure Routes
							2.2E-08						0.0E+00
							Total PCBs Risk Across All Media and All Exposure Routes						Total PCBs Hazard Across All Media and All Exposure Routes
							2.2E-08						0.0E+00

TABLE 9.3.CT

SUMMARY OF CURRENT/FUTURE INDUSTRIAL WORKER RISKS AND HAZARDS FOR COPCs

SWALE AREA

CENTRAL TENDENCY

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1016	8.46E-09	2.62E-11	1.56E-09	1.00E-08	Aroclor 1016	reduced birth weights	5.03E-04	1.56E-06	9.30E-05	5.98E-04
			Aroclor 1242	5.21E-08	1.04E-09	9.63E-09	6.28E-08	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	1.02E-07	1.27E-09	1.89E-08	1.23E-07	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	1.40E-07	5.85E-09	2.60E-08	1.72E-07	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total Aroclor Risk from All Media and Exposure Routes				2.0E-07		Total Aroclor Hazard from All Media and Exposure Routes				6.0E-04
			Total PCBs Risk Across All Media and All Exposure Routes				1.7E-07		Total PCBs Hazard Across All Media and All Exposure Routes				0.0E+00

TABLE 9.3.RME

SUMMARY OF CURRENT/FUTURE INDUSTRIAL WORKER RISKS AND HAZARDS FOR COPCs

SWALE AREA

REASONABLE MAXIMUM EXPOSURE

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1016	2.35E-08	7.28E-11	4.34E-08	6.70E-08	Aroclor 1016	reduced birth weights	5.03E-04	1.56E-06	9.30E-04	1.44E-03
			Aroclor 1242	9.29E-07	2.88E-09	1.72E-06	2.65E-06	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	1.14E-06	3.52E-09	2.10E-06	3.24E-06	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	5.24E-06	1.63E-08	9.69E-06	1.50E-05	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total Aroclor Risk from All Media and Exposure Routes				6.0E-06		Total Aroclor Hazard from All Media and Exposure Routes				1.4E-03
			Total PCBs Risk Across All Media and All Exposure Routes				1.5E-05		Total PCBs Hazard Across All Media and All Exposure Routes				0.0E+00

TABLE 9.4.CT

SUMMARY OF CURRENT/FUTURE INDUSTRIAL WORKER RISKS AND HAZARDS FOR COPCs

LAND WEST OF BUILDING B

CENTRAL TENDENCY

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1248	2.44E-09	2.67E-11	4.51E-10	2.92E-09	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	2.44E-09	2.67E-11	4.51E-10	2.92E-09	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
							Total Aroclor Risk from All Media and Exposure Routes						Total Aroclor Hazard from All Media and Exposure Routes
							2.9E-09						0.0E+00
							Total PCBs Risk Across All Media and All Exposure Routes						Total PCBs Hazard Across All Media and All Exposure Routes
							2.9E-09						0.0E+00

TABLE 9.4.RME

SUMMARY OF CURRENT/FUTURE INDUSTRIAL WORKER RISKS AND HAZARDS FOR COPCs

LAND WEST OF BUILDING B

REASONABLE MAXIMUM EXPOSURE

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil/ Ambient Air	--	Aroclor 1248	2.39E-08	7.41E-11	4.41E-08	6.81E-08	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	2.39E-08	7.41E-11	4.41E-08	6.81E-08	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
							Total Aroclor Risk from All Media and Exposure Routes						Total Aroclor Hazard from All Media and Exposure Routes
							6.8E-08						0.0E+00
							Total PCBs Risk Across All Media and All Exposure Routes						Total PCBs Hazard Across All Media and All Exposure Routes
							6.8E-08						0.0E+00

TABLE 9.5.CT
SUMMARY OF FUTURE CONSTRUCTION WORKER RISKS AND HAZARDS FOR COPCs
SWALE AREA
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil/Ambient Air	--	Aroclor 1016	2.26E-08	2.18E-09	2.17E-09	2.70E-08	Aroclor 1016	reduced birth weights	1.21E-02	1.17E-03	1.17E-03	1.44E-02
			Aroclor 1242	1.09E-07	2.82E-08	1.05E-08	1.48E-07	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	1.03E-08	7.45E-10	9.91E-10	1.20E-08	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	1.22E-07	3.45E-08	1.17E-08	1.68E-07	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total Aroclor Risk from All Media and Exposure Routes				1.9E-07		Total Aroclor Hazard from All Media and Exposure Routes				1.4E-02
			Total PCBs Risk Across All Media and All Exposure Routes				1.7E-07		Total PCBs Hazard Across All Media and All Exposure Routes				0.0E+00

TABLE 9.5.RME

SUMMARY OF FUTURE CONSTRUCTION WORKER RISKS AND HAZARDS FOR COPCs

SWALE AREA

REASONABLE MAXIMUM EXPOSURE

CATERPILLAR INC.

MAPLETON, ILLINOIS

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil/Ambient Air	--	Aroclor 1016	4.42E-07	8.73E-09	1.28E-07	5.78E-07	Aroclor 1016	reduced birth weights	2.37E-01	4.67E-03	6.84E-02	3.10E-01
			Aroclor 1242	5.71E-06	1.13E-07	1.65E-06	7.47E-06	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	1.51E-07	2.98E-09	4.37E-08	1.98E-07	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	7.01E-06	1.38E-07	2.03E-06	9.18E-06	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total Aroclor Risk from All Media and Exposure Routes				8.2E-06		Total Aroclor Hazard from All Media and Exposure Routes				3.1E-01
			Total PCBs Risk Across All Media and All Exposure Routes				9.2E-06		Total PCBs Hazard Across All Media and All Exposure Routes				0.0E+00

TABLE 9.6.CT
SUMMARY OF FUTURE CONSTRUCTION WORKER RISKS AND HAZARDS FOR COPCs
LAND WEST OF BUILDING B
CENTRAL TENDENCY
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil/Ambient Air	--	Aroclor 1221	1.03E-10	2.15E-12	9.91E-12	1.15E-10	Aroclor 1221	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1242	1.05E-10	2.22E-12	1.01E-11	1.18E-10	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	1.19E-09	5.48E-11	1.15E-10	1.36E-09	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	1.20E-09	5.23E-11	1.15E-10	1.36E-09	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total Aroclor Risk from All Media and Exposure Routes				1.6E-09	Total Aroclor Hazard from All Media and Exposure Routes					0.0E+00
			Total PCBs Risk Across All Media and All Exposure Routes				1.4E-09	Total PCBs Hazard Across All Media and All Exposure Routes					0.0E+00

TABLE 9.6.RME
SUMMARY OF FUTURE CONSTRUCTION WORKER RISKS AND HAZARDS FOR COPCs
LAND WEST OF BUILDING B
REASONABLE MAXIMUM EXPOSURE
CATERPILLAR INC.
MAPLETON, ILLINOIS

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil/Ambient Air	--	Aroclor 1221	4.36E-10	8.60E-12	1.26E-10	5.70E-10	Aroclor 1221	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1242	4.52E-10	8.89E-12	1.30E-10	5.91E-10	Aroclor 1242	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Aroclor 1248	1.11E-08	2.19E-10	3.21E-09	1.46E-08	Aroclor 1248	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
			Total PCBs	1.06E-08	2.09E-10	3.07E-09	1.39E-08	Total PCBs	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
							Total Aroclor Risk from All Media and Exposure Routes						Total Aroclor Hazard from All Media and Exposure Routes
							1.6E-08						0.0E+00
							Total PCBs Risk Across All Media and All Exposure Routes						Total PCBs Hazard Across All Media and All Exposure Routes
							1.4E-08						0.0E+00

TABLE 10.0
SUMMARY OF ADDITIONAL LIFETIME CANCER RISKS
AND HAZARD INDICES
CATERPILLAR INC.
MAPLETON, ILLINOIS

SCENARIO	AREA OF CONCERN		ADDITION LIFETIME CANCER RISKS MEAN	ADDITION LIFETIME CANCER RISKS RME	HAZARD INDICES MEAN	HAZARD INDICES RME
Current / Future :						
Trespasser	Swale Area					
		Aroclors :	1.30E-07	2.00E-06	3.60E-04	1.20E-03
		Total PCBs :	1.10E-07	4.90E-06	0.00E+00	0.00E+00
	Land West of Building B					
		Aroclors :	1.90E-09	2.20E-08	0.00E+00	0.00E+00
		Total PCBs :	1.90E-09	2.20E-08	0.00E+00	0.00E+00
Industrial Worker	Swale Area					
		Aroclors :	2.00E-07	6.00E-06	6.00E-04	1.40E-03
		Total PCBs :	1.70E-07	1.50E-05	0.00E+00	0.00E+00
	Land West of Building B					
		Aroclors :	2.90E-09	6.80E-08	0.00E+00	0.00E+00
		Total PCBs :	2.90E-09	6.80E-08	0.00E+00	0.00E+00
Future :						
Construction Worker	Swale Area					
		Aroclors :	1.90E-07	8.20E-06	1.40E-02	3.10E-01
		Total PCBs :	1.70E-07	9.20E-06	0.00E+00	0.00E+00
	Land West of Building B					
		Aroclors :	1.60E-09	1.60E-08	0.00E+00	0.00E+00
		Total PCBs :	1.40E-09	1.40E-08	0.00E+00	0.00E+00

APPENDIX I

SOIL STOCKPILE ANALYTICAL DATA

ANALYTICAL REPORT

PROJECT NO. 13307

CATERPILLAR MAPLETON

Lot #: A0B120145

Steve Day

Conestoga-Rovers & Associates

QUANTERRA INCORPORATED

Amy L. McCormick
Project Manager

March 2, 2000

CASE NARRATIVE

The following report contains the analytical results for ten solid samples submitted to Severn Trent Laboratories, Inc. (STL), formerly Quanterra Incorporated North Canton, by Conestoga-Rovers & Associates, Inc. from the Caterpillar Mapleton Site, project number 13307. The samples were received February 12, 2000, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided to Steve Day on February 25, 2000. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

METALS

Matrix spike/duplicate spike recoveries were outside the acceptance limits for some analytes. The acceptable laboratory control sample analysis data indicated that the analytical system was operating within control and this condition is most likely due to matrix interference. See the Matrix Spike Report for the affected analytes which have been flagged with N.

Matrix spike/spike duplicate relative percent difference (RPD) exceeded the acceptance limits for some analytes. The imprecision may be attributed to sample heterogeneity. See the Matrix Spike Report for the affected analytes which have been flagged with *.

ANALYTICAL METHODS SUMMARY

A0B120145

PARAMETER	ANALYTICAL METHOD
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
PCBs by SW-846 8082	SW846 8082
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A0B120145

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D8HJW	001	S-021100-JH-001	02/11/00	
D8HK2	002	S-021100-JH-002	02/11/00	
D8HK3	003	S-021100-JH-003	02/11/00	
D8HK4	004	S-021100-JH-004	02/11/00	
D8HK6	005	S-021100-JH-005	02/11/00	
D8HK7	006	S-021100-JH-006	02/11/00	
D8HK8	007	S-021100-JH-007	02/11/00	
D8HK9	008	S-021100-JH-008	02/11/00	
D8HKA	009	S-021100-JH-009	02/11/00	
D8HKC	010	S-021100-JH-010	02/11/00	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-001

GC Semivolatiles

Lot-Sample #...:	A0B120145-001	Work Order #...:	D8HJW107	Matrix.....:	SOLID
Date Sampled...:	02/11/00	Date Received..:	02/12/00		
Prep Date.....:	02/14/00	Analysis Date..:	02/21/00		
Prep Batch #...:	0045104				
Dilution Factor:	1				
% Moisture.....:	1.9	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	80	(31 - 127)
Decachlorobiphenyl	96	(23 - 141)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-001

TOTAL Metals

Lot-Sample #...: A0B120145-001
Date Sampled...: 02/11/00 Date Received..: 02/12/00 Matrix.....: SOLID
% Moisture.....: 1.9

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.4 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HJW101
Cadmium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HJW102
Chromium	2.8	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HJW103
Arsenic	1.5	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HJW104
Lead	4.2	0.31 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HJW105
Selenium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HJW106

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-002

GC Semivolatiles

Lot-Sample #...: A0B120145-002 Work Order #...: D8HK2107 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
Prep Date.....: 02/14/00 Analysis Date..: 02/21/00
Prep Batch #...: 0045104
Dilution Factor: 1
% Moisture.....: 1.5 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	85	(31 - 127)
Decachlorobiphenyl	99	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-002

TOTAL Metals

Lot-Sample #...: A0B120145-002 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
% Moisture.....: 1.5

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	20.5	20.3 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK2101
Cadmium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK2102
Chromium	2.9	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK2103
Arsenic	1.6	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK2104
Lead	4.3	0.30 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK2105
Selenium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK2106

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-003

GC Semivolatiles

Lot-Sample #...:	A0B120145-003	Work Order #...:	D8HK3107	Matrix.....:	SOLID
Date Sampled...:	02/11/00	Date Received..:	02/12/00		
Prep Date.....:	02/14/00	Analysis Date..:	02/22/00		
Prep Batch #...:	0045104				
Dilution Factor:	1				
% Moisture.....:	4.4	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	35	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	ND	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	81	(31 - 127)
Decachlorobiphenyl	92	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-003

TOTAL Metals

Lot-Sample #...: A0B120145-003
Date Sampled...: 02/11/00 Date Received..: 02/12/00 Matrix.....: SOLID
% Moisture.....: 4.4

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.9 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK3101
Cadmium	ND	0.52 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK3102
Chromium	3.9	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK3103
Arsenic	1.2	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK3104
Lead	2.5	0.31 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK3105
Selenium	ND	0.52 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK3106

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-004

GC Semivolatiles

Lot-Sample #...: A0B120145-004 Work Order #...: D8HK4107 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
Prep Date.....: 02/14/00 Analysis Date..: 02/22/00
Prep Batch #...: 0045104
Dilution Factor: 1
% Moisture.....: 3.5 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	78	(31 - 127)
Decachlorobiphenyl	86	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-004

TOTAL Metals

Lot-Sample #...: A0B120145-004 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
% Moisture.....: 3.5

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.7	mg/kg	SW846 6010B	02/17-02/22/00	D8HK4101
		Dilution Factor: 1				
Cadmium	ND	0.52	mg/kg	SW846 6010B	02/17-02/22/00	D8HK4102
		Dilution Factor: 1				
Chromium	3.3	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8HK4103
		Dilution Factor: 1				
Arsenic	1.4	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8HK4104
		Dilution Factor: 1				
Lead	3.7	0.31	mg/kg	SW846 6010B	02/17-02/22/00	D8HK4105
		Dilution Factor: 1				
Selenium	ND	0.52	mg/kg	SW846 6010B	02/17-02/22/00	D8HK4106
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-005

GC Semivolatiles

Lot-Sample #...: A0B120145-005 Work Order #...: D8HK6107 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
Prep Date.....: 02/14/00 Analysis Date..: 02/22/00
Prep Batch #...: 0045104
Dilution Factor: 1
% Moisture.....: 1.7 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	91	(31 - 127)
Decachlorobiphenyl	97	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-005

TOTAL Metals

Lot-Sample #...: A0B120145-005
Date Sampled...: 02/11/00 Date Received..: 02/12/00
% Moisture.....: 1.7 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.4 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK6101
Cadmium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK6102
Chromium	4.7	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK6103
Arsenic	1.5	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK6104
Lead	6.3	0.31 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK6105
Selenium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK6106

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-006

GC Semivolatiles

Lot-Sample #...:	A0B120145-006	Work Order #...: D8HK7107	Matrix.....: SOLID
Date Sampled...:	02/11/00	Date Received..: 02/12/00	
Prep Date.....:	02/14/00	Analysis Date..: 02/22/00	
Prep Batch #...:	0045104		
Dilution Factor:	1		
% Moisture.....:	2.8	Method.....: SW846 8082	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	84	(31 - 127)
Decachlorobiphenyl	91	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-006

TOTAL Metals

Lot-Sample #...: A0B120145-006 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
% Moisture.....: 2.8

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.6	mg/kg	SW846 6010B	02/17-02/22/00	D8HK7101
		Dilution Factor: 1				
Cadmium	ND	0.51	mg/kg	SW846 6010B	02/17-02/22/00	D8HK7102
		Dilution Factor: 1				
Chromium	10.7	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8HK7103
		Dilution Factor: 1				
Arsenic	1.6	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8HK7104
		Dilution Factor: 1				
Lead	5.5	0.31	mg/kg	SW846 6010B	02/17-02/22/00	D8HK7105
		Dilution Factor: 1				
Selenium	ND	0.51	mg/kg	SW846 6010B	02/17-02/22/00	D8HK7106
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-007

GC Semivolatiles

Lot-Sample #...: A0B120145-007 Work Order #...: D8HK8107 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
Prep Date.....: 02/14/00 Analysis Date..: 02/22/00
Prep Batch #...: 0045104
Dilution Factor: 1
% Moisture.....: 2.4 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	87	(31 - 127)
Decachlorobiphenyl	95	(23 - 141)

NOTE(S):
Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-007

TOTAL Metals

Lot-Sample #...: A0B120145-007 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
% Moisture.....: 2.4

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.5	mg/kg	SW846 6010B	02/17-02/22/00	D8HK8101
		Dilution Factor: 1				
Cadmium	ND	0.51	mg/kg	SW846 6010B	02/17-02/22/00	D8HK8102
		Dilution Factor: 1				
Chromium	2.0	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8HK8103
		Dilution Factor: 1				
Arsenic	1.5	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8HK8104
		Dilution Factor: 1				
Lead	4.1	0.31	mg/kg	SW846 6010B	02/17-02/22/00	D8HK8105
		Dilution Factor: 1				
Selenium	ND	0.51	mg/kg	SW846 6010B	02/17-02/22/00	D8HK8106
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-008

GC Semivolatiles

Lot-Sample #...:	A0B120145-008	Work Order #...:	D8HK9107	Matrix.....:	SOLID
Date Sampled...:	02/11/00	Date Received..:	02/12/00		
Prep Date.....:	02/14/00	Analysis Date..:	02/22/00		
Prep Batch #...:	0045104				
Dilution Factor:	1				
% Moisture.....:	2.0	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	72	(31 - 127)
Decachlorobiphenyl	80	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-008

TOTAL Metals

Lot-Sample #...: A0B120145-008 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
% Moisture.....: 2.0

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.4 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK9101
Cadmium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK9102
Chromium	2.0	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK9103
Arsenic	1.2	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK9104
Lead	3.8	0.31 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK9105
Selenium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HK9106

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-009

GC Semivolatiles

Lot-Sample #...:	A0B120145-009	Work Order #...:	D8HKA107	Matrix.....:	SOLID
Date Sampled...:	02/11/00	Date Received..:	02/12/00		
Prep Date.....:	02/14/00	Analysis Date..:	02/22/00		
Prep Batch #...:	0045104				
Dilution Factor:	1				
% Moisture.....:	2.8	Method.....:	SW846 8082		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	75	(31 - 127)
Decachlorobiphenyl	85	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-009

TOTAL Metals

Lot-Sample #...: A0B120145-009
Date Sampled...: 02/11/00 Date Received..: 02/12/00 Matrix.....: SOLID
% Moisture.....: 2.8

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.6 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKA101
Cadmium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKA102
Chromium	2.6	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKA103
Arsenic	1.7	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKA104
Lead	4.3	0.31 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKA105
Selenium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKA106

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-010

GC Semivolatiles

Lot-Sample #...: A0B120145-010 Work Order #...: D8HKC107 Matrix.....: SOLID
Date Sampled...: 02/11/00 Date Received..: 02/12/00
Prep Date.....: 02/14/00 Analysis Date..: 02/22/00
Prep Batch #...: 0045104
Dilution Factor: 1
% Moisture.....: 2.6 Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	34	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	ND	34	ug/kg
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	75	(31 - 127)
Decachlorobiphenyl	88	(23 - 141)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CONESTOGA-ROVERS & ASSOCIATES INC

Client Sample ID: S-021100-JH-010

TOTAL Metals

Lot-Sample #...: A0B120145-010
Date Sampled...: 02/11/00 Date Received..: 02/12/00
% Moisture.....: 2.6
Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0047323						
Barium	ND	20.5 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKC101
Cadmium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKC102
Chromium	2.8	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKC103
Arsenic	1.5	1.0 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKC104
Lead	5.0	0.31 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKC105
Selenium	ND	0.51 Dilution Factor: 1	mg/kg	SW846 6010B	02/17-02/22/00	D8HKC106

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

STL North Canton, Certifications and Approvals:

Alabama (#41170), California (#2157), Connecticut (#PH-0590), Florida (#E87225) – Florida CompQAPP (#890651G), Kentucky (#90021), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), Missouri (#6090), New Jersey (#74001), New York (#10975), North Dakota (#R-156), Ohio (#6090), OhioVAP (#CL0024), Pennsylvania (#68-340), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A0B120145 **Work Order #...:** D8HPT102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: A0B140000-104 D8HPT103-LCSD
Prep Date.....: 02/14/00 **Analysis Date..:** 02/19/00
Prep Batch #...: 0045104
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**66**	**(49 - 122)**			**SW846 8082**
	88	**(49 - 122)**	**29**	**(0-39)**	**SW846 8082**
Aroclor 1260	**82**	**(51 - 127)**			**SW846 8082**
	98	**(51 - 127)**	**19**	**(0-33)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77	(31 - 127)
	92	(31 - 127)
Decachlorobiphenyl	121	(23 - 141)
	130	(23 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A0B120145 Matrix.....: SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A0B160000-323 Prep Batch #...: 0047323					
Barium	93	(83 - 113)	SW846 6010B	02/17-02/22/00	D8M5Q11D
		Dilution Factor: 1			
Cadmium	96	(80 - 115)	SW846 6010B	02/17-02/22/00	D8M5Q11F
		Dilution Factor: 1			
Chromium	105	(83 - 118)	SW846 6010B	02/17-02/22/00	D8M5Q11H
		Dilution Factor: 1			
Arsenic	86	(79 - 115)	SW846 6010B	02/17-02/22/00	D8M5Q115
		Dilution Factor: 1			
Lead	94	(81 - 112)	SW846 6010B	02/17-02/22/00	D8M5Q116
		Dilution Factor: 1			
Selenium	87	(80 - 112)	SW846 6010B	02/17-02/22/00	D8M5Q117
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

QUALITY CONTROL SECTION

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

** for analyses run on TJA Trace ICP or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS
(Continued)

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. The listed metals may be present in concentrations up to 2 times the reporting limit or must be twenty fold less than the results of the environmental samples. Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. When these values fail to meet acceptance criteria, the data is reviewed to determine the cause. If, in the analyst's judgment, sample matrix effects are indicated, no corrective action is performed. Otherwise, the MS/MSD and the environmental sample used to prepare them are reprepared and reanalyzed.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported. If the LCS, LCSD, or the Method Blank surrogates fail to meet recovery criteria (exception for dilutions), the entire batch of samples is reprepared and reanalyzed.

If the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch may be acceptable based on the analyst's judgment that sample matrix effects are indicated.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB, PAH, TPH, and Herbicide methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A0B120145 Work Order #...: D8HPT102-LCS Matrix.....: SOLID
LCS Lot-Sample#: A0B140000-104 D8HPT103-LCSD
Prep Date.....: 02/14/00 Analysis Date..: 02/19/00
Prep Batch #...: 0045104
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	66	(49 - 122)			SW846 8082
	88	(49 - 122)	29	(0-39)	SW846 8082
Aroclor 1260	82	(51 - 127)			SW846 8082
	98	(51 - 127)	19	(0-33)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77	(31 - 127)
	92	(31 - 127)
Decachlorobiphenyl	121	(23 - 141)
	130	(23 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A0B120145 Matrix.....: SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: A0B160000-323 Prep Batch #...: 0047323					
Barium	93	(83 - 113)	SW846 6010B	02/17-02/22/00	D8M5Q11D
		Dilution Factor: 1			
Cadmium	96	(80 - 115)	SW846 6010B	02/17-02/22/00	D8M5Q11F
		Dilution Factor: 1			
Chromium	105	(83 - 118)	SW846 6010B	02/17-02/22/00	D8M5Q11H
		Dilution Factor: 1			
Arsenic	86	(79 - 115)	SW846 6010B	02/17-02/22/00	D8M5Q115
		Dilution Factor: 1			
Lead	94	(81 - 112)	SW846 6010B	02/17-02/22/00	D8M5Q116
		Dilution Factor: 1			
Selenium	87	(80 - 112)	SW846 6010B	02/17-02/22/00	D8M5Q117
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A0B120145 Work Order #...: D8HPT101 Matrix.....: SOLID
MB Lot-Sample #: A0B140000-104

Prep Date.....: 02/14/00
Analysis Date..: 02/19/00 Prep Batch #...: 0045104
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	102	(31 - 127)
Decachlorobiphenyl	136	(23 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A0B120145 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A0B160000-323 Prep Batch #...: 0047323						
Barium	ND	20.0	mg/kg	SW846 6010B	02/17-02/22/00	D8M5Q10L
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	02/17-02/22/00	D8M5Q10N
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8M5Q10Q
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6010B	02/17-02/22/00	D8M5Q10D
		Dilution Factor: 1				
Lead	ND	0.30	mg/kg	SW846 6010B	02/17-02/22/00	D8M5Q10E
		Dilution Factor: 1				
Selenium	ND	0.50	mg/kg	SW846 6010B	02/17-02/22/00	D8M5Q10F
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A0B120145 Matrix.....: SOLID
Date Sampled...: 02/14/00 13:50 Date Received..: 02/15/00

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A0B150198-001 Prep Batch #...: 0047323							
Barium	105	(80 - 120)			SW846 6010B	02/17-02/22/00	D8KJP123
	100	(80 - 120)	4.2	(0-20)	SW846 6010B	02/17-02/22/00	D8KJP124
		Dilution Factor: 1					
Cadmium	91	(80 - 120)			SW846 6010B	02/17-02/22/00	D8KJP127
	91	(80 - 120)	0.60	(0-20)	SW846 6010B	02/17-02/22/00	D8KJP128
		Dilution Factor: 1					
Chromium	98	(80 - 120)			SW846 6010B	02/17-02/22/00	D8KJP12C
	128 N	(80 - 120)	15	(0-20)	SW846 6010B	02/17-02/22/00	D8KJP12D
		Dilution Factor: 1					
Arsenic	81	(80 - 120)			SW846 6010B	02/17-02/22/00	D8KJP11L
	80	(80 - 120)	1.1	(0-20)	SW846 6010B	02/17-02/22/00	D8KJP11M
		Dilution Factor: 1					
Lead	670 N	(80 - 120)			SW846 6010B	02/17-02/22/00	D8KJP11N
	226 N,*	(80 - 120)	68	(0-20)	SW846 6010B	02/17-02/22/00	D8KJP11P
		Dilution Factor: 1					
Selenium	77 N	(80 - 120)			SW846 6010B	02/17-02/22/00	D8KJP11Q
	78 N	(80 - 120)	0.84	(0-20)	SW846 6010B	02/17-02/22/00	D8KJP11R
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

* Relative percent difference (RPD) is outside stated control limits.

Quanterra - North Canton

CRA
CONESTOGA–ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631 (773)380–9933

CHAIN OF CUSTODY RECORD

SHIPPED TO (Laboratory Name): Quanterra North Canton

REFERENCE NUMBER: 13307

PROJECT NAME: Caterpillar Mapleton

SAMPLER'S SIGNATURE: John Hargens PRINTED NAME: John Hargens

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: PCB's / RCRA metals	REMARKS
	2/11/00		S-021100-JH-001	soil	1	V V	*-except silver & mercury
			002		1	V V	
			003		1	V V	Standard T.A.T.
			004		1	V V	
			005		1	V V	
			006		1	V V	
			007		1	V V	
			008		1	V V	
			009		1	V V	
			010		1	V V	

TOTAL NUMBER OF CONTAINERS: 10

RELINQUISHED BY: ① John Hargens	DATE: 2/11/00 TIME: 1900	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Fed-X AIR BILL No. 813996671388

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY:

DATE: 2/12/00 TIME: 10:00

5173

1001(FORMS)–OCT 24/96–REV.0–(C)(F–01)