02.08-03/22/96-00225

INTERNATIONAL TECHNOLOGY CORPORATION

TEST RESULTS SUMMARY REPORT
SITE 11-SCHOOL OF MUSIC PLATING SHOP
NAVAL AMPHIBIOUS BASE LITTLE CREEK
NORFOLK, VIRGINIA

VOLUME II OF II

Prepared for:
Naval Construction Battalion Center
Naval Facilities Engineering Command
Contracts Office, Code 2723, Building 90
Port Hueneme, California 93043-5000

Prepared by:
IT Corporation
2790 Mosside Boulevard
Monroeville, Pennsylvania 15146-2792

March 1996

APPENDIX B-3

STEP INC. ANALYTICAL VALIDATION REPORT

STEP Inc.

SOLUTIONS TO ENVIRONMENTAL PROBLEMS
13111 East Briarwood Avenue, Suite #250 • Englewood, Colorado 80112
Telephone 303/649-9092 • Fax 303/790-2285

IT - NAB LITTLE CREEK
DATA VALIDATION SUMMARY

DECEMBER 1995

STEP, Inc. received three data packages from IT Corp. for EPA Level III Data Validation. The three packages consisted of analytical data for volatile organics, metals, and hexavalent chromium and cyanide analyses. Each package included data for twenty soil samples. All samples were validated based on the principles of the EPA Functional Guidelines for Organic and Inorganic Data Validation. The data is generally of excellent quality for most analytes although all chromium data was rejected due to exceedence of acceptable holding times and extremely low recovery in associated Matrix Spike/Matrix Spike Duplicate (MS/MSD) QC analyses. Additional qualifications were required as described below.

VOAs. Twenty soil samples were analyzed for volatile organics. The QC data included in the volatile data package indicate that the data is of good quality. Twelve of the twenty samples analyzed for volatile organics were qualified as "B" for acetone due to contamination in associated method blank. In addition, the percent recovery for vinyl acetate in MS/MSD samples were extremely low (0%); however, qualifications are not assigned based on MS/MSD data alone. Remaining data was acceptable, and no further qualifications were required.

Metals. Twenty soil samples were analyzed for eight metal analytes. The eight metals included: silver, barium, cadmium, chromium, copper, nickel, zinc, and mercury. All twenty samples in the data package were qualified as estimated "J" for zinc due to low recovery in associated matrix spike QC sample. Based on the QC data included in the package, the remaining data appears to be of good quality, and no further qualifications were required.

Hexavalent Chromium/Cyanide. Twenty soil samples were analyzed for hexavalent chromium, total cyanide, and amenable cyanide. The cyanide data was all within acceptable QC limits, and is of acceptable quality. The hexavalent chromium samples were analyzed about eleven days past holding times (holding time for hexavalent chromium is 24 hours). In addition, MS/MSD recoveries for hexavalent chromium were extremely low. Based on this information, all hexavalent chromium data was rejected.

SDG: 305951 Project: IT- NAB Little Creek

Method: Volatiles - Level C Matrix/No. of Samples: Soil / 20

Validation Samples: SOM-NT-15, SOM-NT-86, SOM-NT-76, SOM-NT-26, SOM-NT-14, SOM-NT-4, SOM-NT-151, SOM-DL-92, SOM-DL-48, SOM-DL-104, SOM-DL-70, SOM-DL-22, SOM-DL-66, SOM-DL-221, SOM-IL-29, SOM-IL-50, SOM-IL-91, SOM-IL-61, SOM-IL-4, SOM-IL-79

Data Validation Report Summary

		Status Code	Comments
1.	Sample Preservation, Handling, and Transport	A	NO COOLER TEMP RECORDED
2.	Chain of Custody	A	
3.	Holding Times	A	
4.	GC/MS Tune/Inst Perf	N/A	
5.	Calibrations	N/A	
6.	Blanks	A/X	
7.	Blank Spike/LCS	A	
8.	Matrix Spike	A	
9.	Surrogates		
10.	Internal Standards	N/A	
11.	Compound Identification	A	
12.	System Performance	N/A	
.	Field QC Samples	N/A	
14.	Overall Assessment	A	

Status Codes:
A = Acceptable
R = Data Rejected
X = Data acceptable but qualified due to problems

Qualifications:

Qualify Acetone as "B" in samples SOM-NT-15, SOM-NT-86, SOM-NT-76, SOM-NT-14, SOM-NT-4, SOM-NT-151, SOM-DL-92, SOM-DL-48, SOM-DL-104, SOM-IL-61, SOM-IL-4, SOM-IL-79 based on method blank contamination.

Significant Findings/Recommendations:

Vinyl Acetate had MS/MSD %R of 0% however qualifications are not given based on MS data alone - rest of QC data was acceptable and no qualifications were required.

Overall Data Quality:

Acceptable

Validator's Signature: Clarissa Owenby Date: 12-18-95

Peer Reviewer: Michael P. Newman Date: 12/19/95

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-1S

WO #: A5V5A109
LAB #: C5K170011-001
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	RevQual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	U	ND	5.9	SW846 8240A	11/27/95	5333023
Bromodichloromethane		ND	5.9	SW846 8240A	11/27/95	5333023
Bromoform		ND	5.9	SW846 8240A	11/27/95	5333023
Bromomethane		ND	12	SW846 8240A	11/27/95	5333023
2-Butanone		ND	59	SW846 8240A	11/27/95	5333023
Carbon disulfide		ND	5.9	SW846 8240A	11/27/95	5333023
Carbon tetrachloride		ND	5.9	SW846 8240A	11/27/95	5333023
Chlorobenzene		ND	5.9	SW846 8240A	11/27/95	5333023
Dibromochloromethane		ND	5.9	SW846 8240A	11/27/95	5333023
Chloroethane		ND	12	SW846 8240A	11/27/95	5333023
Chloroform		ND	5.9	SW846 8240A	11/27/95	5333023
Chloromethane		ND	12	SW846 8240A	11/27/95	5333023
1,1-Dichloroethane		ND	5.9	SW846 8240A	11/27/95	5333023
1,2-Dichloroethane		ND	5.9	SW846 8240A	11/27/95	5333023
1,1-Dichloroethene		ND	5.9	SW846 8240A	11/27/95	5333023
1,2-Dichloroethene, Total		ND	5.9	SW846 8240A	11/27/95	5333023
1,2-Dichloropropane		ND	5.9	SW846 8240A	11/27/95	5333023
cis-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/27/95	5333023
trans-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/27/95	5333023
Ethylbenzene		ND	5.9	SW846 8240A	11/27/95	5333023
2-Hexanone		ND	59	SW846 8240A	11/27/95	5333023
Methylene chloride	J	**2.9 J**	**12**	**SW846 8240A**	**11/27/95**	**5333023**
4-Methyl-2-pentanone	U	ND	59	SW846 8240A	11/27/95	5333023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	97	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	93	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-15

WO #: A5V5A109
LAB #: C5K170011-001
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.9	SW846 8240A	11/27/95	5333023
1,1,2,2-Tetrachloroethane		ND	5.9	SW846 8240A	11/27/95	5333023
Tetrachloroethene		ND	5.9	SW846 8240A	11/27/95	5333023
Toluene		ND	5.9	SW846 8240A	11/27/95	5333023
1,1,1-Trichloroethane		ND	5.9	SW846 8240A	11/27/95	5333023
1,1,2-Trichloroethane		ND	5.9	SW846 8240A	11/27/95	5333023
Trichloroethene		ND	5.9	SW846 8240A	11/27/95	5333023
Vinyl chloride		ND	12	SW846 8240A	11/27/95	5333023
Xylenes, Total		ND	5.9	SW846 8240A	11/27/95	5333023
Acetone	B	4.5 B J	59	SW846 8240A	11/27/95	5333023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	97	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	93	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-86

WO #: A5V5C109
LAB #: C5K170011-002
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:10
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	u	ND	6.2	SW846 8240A	11/27/95	5333023
Bromodichloromethane		ND	6.2	SW846 8240A	11/27/95	5333023
Bromoform		ND	6.2	SW846 8240A	11/27/95	5333023
Bromomethane		ND	12	SW846 8240A	11/27/95	5333023
2-Butanone		ND	62	SW846 8240A	11/27/95	5333023
Carbon disulfide		ND	6.2	SW846 8240A	11/27/95	5333023
Carbon tetrachloride		ND	6.2	SW846 8240A	11/27/95	5333023
Chlorobenzene		ND	6.2	SW846 8240A	11/27/95	5333023
Dibromochloromethane		ND	6.2	SW846 8240A	11/27/95	5333023
Chloroethane		ND	12	SW846 8240A	11/27/95	5333023
Chloroform		ND	6.2	SW846 8240A	11/27/95	5333023
Chloromethane		ND	12	SW846 8240A	11/27/95	5333023
1,1-Dichloroethane		ND	6.2	SW846 8240A	11/27/95	5333023
1,2-Dichloroethane		ND	6.2	SW846 8240A	11/27/95	5333023
1,1-Dichloroethene		ND	6.2	SW846 8240A	11/27/95	5333023
1,2-Dichloroethene, Total		ND	6.2	SW846 8240A	11/27/95	5333023
1,2-Dichloropropane		ND	6.2	SW846 8240A	11/27/95	5333023
cis-1,3-Dichloropropene		ND	6.2	SW846 8240A	11/27/95	5333023
trans-1,3-Dichloropropene		ND	6.2	SW846 8240A	11/27/95	5333023
Ethylbenzene		ND	6.2	SW846 8240A	11/27/95	5333023
2-Hexanone		ND	62	SW846 8240A	11/27/95	5333023
Methylene chloride	J	3.1 J	12	SW846 8240A	11/27/95	5333023
4-Methyl-2-pentanone	u	ND	62	SW846 8240A	11/27/95	5333023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	99	(70 - 121)
Toluene-d8	103	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-86

WO #: A5V5C109
LAB #: C5K170011-002
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:10
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rw Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	u	ND	6.2	SW846 8240A	11/27/95	5333023
1,1,2,2-Tetrachloroethane		ND	6.2	SW846 8240A	11/27/95	5333023
Tetrachloroethene		ND	6.2	SW846 8240A	11/27/95	5333023
Toluene		ND	6.2	SW846 8240A	11/27/95	5333023
1,1,1-Trichloroethane		ND	6.2	SW846 8240A	11/27/95	5333023
1,1,2-Trichloroethane		ND	6.2	SW846 8240A	11/27/95	5333023
Trichloroethene		ND	6.2	SW846 8240A	11/27/95	5333023
Vinyl chloride		ND	12	SW846 8240A	11/27/95	5333023
Xylenes, Total		ND	6.2	SW846 8240A	11/27/95	5333023
Acetone	B	2.6 B J	62	SW846 8240A	11/27/95	5333023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	99	(70 - 121)
Toluene-d8	103	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-76

WO #: A5V5D109
LAB #: C5K170011-003
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:20
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Reviewed	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	ul	ND	6.1	SW846 8240A	11/27/95	5333023
Bromodichloromethane		ND	6.1	SW846 8240A	11/27/95	5333023
Bromoform		ND	6.1	SW846 8240A	11/27/95	5333023
Bromomethane		ND	12	SW846 8240A	11/27/95	5333023
2-Butanone		ND	61	SW846 8240A	11/27/95	5333023
Carbon disulfide		ND	6.1	SW846 8240A	11/27/95	5333023
Carbon tetrachloride		ND	6.1	SW846 8240A	11/27/95	5333023
Chlorobenzene		ND	6.1	SW846 8240A	11/27/95	5333023
Dibromochloromethane		ND	6.1	SW846 8240A	11/27/95	5333023
Chloroethane		ND	12	SW846 8240A	11/27/95	5333023
Chloroform		ND	6.1	SW846 8240A	11/27/95	5333023
Chloromethane		ND	12	SW846 8240A	11/27/95	5333023
1,1-Dichloroethane		ND	6.1	SW846 8240A	11/27/95	5333023
1,2-Dichloroethane		ND	6.1	SW846 8240A	11/27/95	5333023
1,1-Dichloroethene		ND	6.1	SW846 8240A	11/27/95	5333023
1,2-Dichloroethene, Total		ND	6.1	SW846 8240A	11/27/95	5333023
1,2-Dichloropropane		ND	6.1	SW846 8240A	11/27/95	5333023
cis-1,3-Dichloropropene		ND	6.1	SW846 8240A	11/27/95	5333023
trans-1,3-Dichloropropene		ND	6.1	SW846 8240A	11/27/95	5333023
Ethylbenzene		ND	6.1	SW846 8240A	11/27/95	5333023
2-Hexanone		ND	61	SW846 8240A	11/27/95	5333023
Methylene chloride	J	**2.1 J**	**12**	**SW846 8240A**	**11/27/95**	**5333023**
4-Methyl-2-pentanone	ul	ND	61	SW846 8240A	11/27/95	5333023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	99	(70 - 121)
Toluene-d8	99	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-76

WO #: A5V5D109
LAB #: C5K170011-003
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:20
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	R&U Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	6.1	SW846 8240A	11/27/95	5333023
1,1,2,2-Tetrachloroethane		ND	6.1	SW846 8240A	11/27/95	5333023
Tetrachloroethene		ND	6.1	SW846 8240A	11/27/95	5333023
Toluene		ND	6.1	SW846 8240A	11/27/95	5333023
1,1,1-Trichloroethane		ND	6.1	SW846 8240A	11/27/95	5333023
1,1,2-Trichloroethane		ND	6.1	SW846 8240A	11/27/95	5333023
Trichloroethene		ND	6.1	SW846 8240A	11/27/95	5333023
Vinyl chloride		ND	12	SW846 8240A	11/27/95	5333023
Xylenes, Total		ND	6.1	SW846 8240A	11/27/95	5333023
Acetone	B	**2.1 B J**	**61**	**SW846 8240A**	**11/27/95**	**5333023**

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	99	(70 - 121)
Toluene-d8	99	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-26

WO #: A5V5E109
LAB #: C5K170011-004
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:30
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rivised	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	U	ND	6.0	SW846 8240A	11/27/95	5333023
Bromodichloromethane		ND	6.0	SW846 8240A	11/27/95	5333023
Bromoform		ND	6.0	SW846 8240A	11/27/95	5333023
Bromomethane		ND	12	SW846 8240A	11/27/95	5333023
2-Butanone		ND	60	SW846 8240A	11/27/95	5333023
Carbon disulfide		ND	6.0	SW846 8240A	11/27/95	5333023
Carbon tetrachloride		ND	6.0	SW846 8240A	11/27/95	5333023
Chlorobenzene		ND	6.0	SW846 8240A	11/27/95	5333023
Dibromochloromethane		ND	6.0	SW846 8240A	11/27/95	5333023
Chloroethane		ND	12	SW846 8240A	11/27/95	5333023
Chloroform		ND	6.0	SW846 8240A	11/27/95	5333023
Chloromethane		ND	12	SW846 8240A	11/27/95	5333023
1,1-Dichloroethane		ND	6.0	SW846 8240A	11/27/95	5333023
1,2-Dichloroethane		ND	6.0	SW846 8240A	11/27/95	5333023
1,1-Dichloroethene		ND	6.0	SW846 8240A	11/27/95	5333023
1,2-Dichloroethene, Total		ND	6.0	SW846 8240A	11/27/95	5333023
1,2-Dichloropropane		ND	6.0	SW846 8240A	11/27/95	5333023
cis-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/27/95	5333023
trans-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/27/95	5333023
Ethylbenzene		ND	6.0	SW846 8240A	11/27/95	5333023
2-Hexanone		ND	60	SW846 8240A	11/27/95	5333023
Methylene chloride		ND	12	SW846 8240A	11/27/95	5333023
4-Methyl-2-pentanone		ND	60	SW846 8240A	11/27/95	5333023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	100	(70 - 121)
Toluene-d8	102	(81 - 117)
4-Bromofluorobenzene	97	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-26

WO #: A5V5E109
LAB #: C5K170011-004
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:30
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Requal	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	6.0	SW846 8240A	11/27/95	5333023
1,1,2,2-Tetrachloroethane		ND	6.0	SW846 8240A	11/27/95	5333023
Tetrachloroethene		ND	6.0	SW846 8240A	11/27/95	5333023
Toluene		ND	6.0	SW846 8240A	11/27/95	5333023
1,1,1-Trichloroethane		ND	6.0	SW846 8240A	11/27/95	5333023
1,1,2-Trichloroethane		ND	6.0	SW846 8240A	11/27/95	5333023
Trichloroethene		ND	6.0	SW846 8240A	11/27/95	5333023
Vinyl chloride		ND	12	SW846 8240A	11/27/95	5333023
Xylenes, Total		ND	6.0	SW846 8240A	11/27/95	5333023
Acetone		ND	60	SW846 8240A	11/27/95	5333023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	100	(70 - 121)
Toluene-d8	102	(81 - 117)
4-Bromofluorobenzene	97	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-14

WO #: A5V5F109
LAB #: C5K170011-005
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:45
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Revised	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	u	ND	6.0	SW846 8240A	11/29/95	5334010
Bromodichloromethane		ND	6.0	SW846 8240A	11/29/95	5334010
Bromoform		ND	6.0	SW846 8240A	11/29/95	5334010
Bromomethane		ND	12	SW846 8240A	11/29/95	5334010
2-Butanone		ND	60	SW846 8240A	11/29/95	5334010
Carbon disulfide		ND	6.0	SW846 8240A	11/29/95	5334010
Carbon tetrachloride		ND	6.0	SW846 8240A	11/29/95	5334010
Chlorobenzene		ND	6.0	SW846 8240A	11/29/95	5334010
Dibromochloromethane		ND	6.0	SW846 8240A	11/29/95	5334010
Chloroethane		ND	12	SW846 8240A	11/29/95	5334010
Chloroform		ND	6.0	SW846 8240A	11/29/95	5334010
Chloromethane		ND	12	SW846 8240A	11/29/95	5334010
1,1-Dichloroethane		ND	6.0	SW846 8240A	11/29/95	5334010
1,2-Dichloroethane		ND	6.0	SW846 8240A	11/29/95	5334010
1,1-Dichloroethene		ND	6.0	SW846 8240A	11/29/95	5334010
1,2-Dichloroethene, Total		ND	6.0	SW846 8240A	11/29/95	5334010
1,2-Dichloropropane		ND	6.0	SW846 8240A	11/29/95	5334010
cis-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/29/95	5334010
trans-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/29/95	5334010
Ethylbenzene		ND	6.0	SW846 8240A	11/29/95	5334010
2-Hexanone		ND	60	SW846 8240A	11/29/95	5334010
Methylene chloride	J	**2.8 B J**	**12**	**SW846 8240A**	**11/29/95**	**5334010**
4-Methyl-2-pentanone	u	ND	60	SW846 8240A	11/29/95	5334010

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(70 - 121)
Toluene-d8	90	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-14

WO #: A5V5F109
LAB #: C5K170011-005
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:45
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	RevQual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	6.0	SW846 8240A	11/29/95	5334010
1,1,2,2-Tetrachloroethane		ND	6.0	SW846 8240A	11/29/95	5334010
Tetrachloroethene		ND	6.0	SW846 8240A	11/29/95	5334010
Toluene		ND	6.0	SW846 8240A	11/29/95	5334010
1,1,1-Trichloroethane		ND	6.0	SW846 8240A	11/29/95	5334010
1,1,2-Trichloroethane		ND	6.0	SW846 8240A	11/29/95	5334010
Trichloroethene		ND	6.0	SW846 8240A	11/29/95	5334010
Vinyl chloride		ND	12	SW846 8240A	11/29/95	5334010
Xylenes, Total	J	**4.0 J**	**6.0**	**SW846 8240A**	**11/29/95**	**5334010**
Acetone	B	1.6 B J	60	SW846 8240A	11/29/95	5334010

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(70 - 121)
Toluene-d8	90	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-4

WO #: A5V5G109
LAB #: C5K170011-006
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER		RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	J	**2.5 J**	**5.9**	**SW846 8240A**	**11/29/95**	**5334010**
Bromodichloromethane	U	ND	5.9	SW846 8240A	11/29/95	5334010
Bromoform		ND	5.9	SW846 8240A	11/29/95	5334010
Bromomethane		ND	12	SW846 8240A	11/29/95	5334010
2-Butanone		ND	59	SW846 8240A	11/29/95	5334010
Carbon disulfide		ND	5.9	SW846 8240A	11/29/95	5334010
Carbon tetrachloride		ND	5.9	SW846 8240A	11/29/95	5334010
Chlorobenzene		ND	5.9	SW846 8240A	11/29/95	5334010
Dibromochloromethane		ND	5.9	SW846 8240A	11/29/95	5334010
Chloroethane		ND	12	SW846 8240A	11/29/95	5334010
Chloroform		ND	5.9	SW846 8240A	11/29/95	5334010
Chloromethane		ND	12	SW846 8240A	11/29/95	5334010
1,1-Dichloroethane		ND	5.9	SW846 8240A	11/29/95	5334010
1,2-Dichloroethane		ND	5.9	SW846 8240A	11/29/95	5334010
1,1-Dichloroethene		ND	5.9	SW846 8240A	11/29/95	5334010
1,2-Dichloroethene, Total		ND	5.9	SW846 8240A	11/29/95	5334010
1,2-Dichloropropane		ND	5.9	SW846 8240A	11/29/95	5334010
cis-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/29/95	5334010
trans-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/29/95	5334010
Ethylbenzene		ND	5.9	SW846 8240A	11/29/95	5334010
2-Hexanone		ND	59	SW846 8240A	11/29/95	5334010
Methylene chloride	J	**3.1 B J**	**12**	**SW846 8240A**	**11/29/95**	**5334010**
4-Methyl-2-pentanone	U	ND	59	SW846 8240A	11/29/95	5334010

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	110	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	93	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-4

WO #: A5V5G109
LAB #: C5K170011-006
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.9	SW846 8240A	11/29/95	5334010
1,1,2,2-Tetrachloroethane		ND	5.9	SW846 8240A	11/29/95	5334010
Tetrachloroethene		ND	5.9	SW846 8240A	11/29/95	5334010
Toluene	J	2.0 J	5.9	SW846 8240A	11/29/95	5334010
1,1,1-Trichloroethane	U	ND	5.9	SW846 8240A	11/29/95	5334010
1,1,2-Trichloroethane		ND	5.9	SW846 8240A	11/29/95	5334010
Trichloroethene		ND	5.9	SW846 8240A	11/29/95	5334010
Vinyl chloride		ND	12	SW846 8240A	11/29/95	5334010
Xylenes, Total	J	1.8 J	5.9	SW846 8240A	11/29/95	5334010
Acetone	B	11 B J	59	SW846 8240A	11/29/95	5334010

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	110	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	93	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-151

WO #: A5V5H109
LAB #: C5K170011-007
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	U	ND	5.9	SW846 8240A	11/30/95	5335012
Bromodichloromethane		ND	5.9	SW846 8240A	11/30/95	5335012
Bromoform		ND	5.9	SW846 8240A	11/30/95	5335012
Bromomethane		ND	12	SW846 8240A	11/30/95	5335012
2-Butanone		ND	59	SW846 8240A	11/30/95	5335012
Carbon disulfide		ND	5.9	SW846 8240A	11/30/95	5335012
Carbon tetrachloride		ND	5.9	SW846 8240A	11/30/95	5335012
Chlorobenzene		ND	5.9	SW846 8240A	11/30/95	5335012
Dibromochloromethane		ND	5.9	SW846 8240A	11/30/95	5335012
Chloroethane		ND	12	SW846 8240A	11/30/95	5335012
Chloroform		ND	5.9	SW846 8240A	11/30/95	5335012
Chloromethane		ND	12	SW846 8240A	11/30/95	5335012
1,1-Dichloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
1,2-Dichloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
1,1-Dichloroethene		ND	5.9	SW846 8240A	11/30/95	5335012
1,2-Dichloroethene, Total		ND	5.9	SW846 8240A	11/30/95	5335012
1,2-Dichloropropane		ND	5.9	SW846 8240A	11/30/95	5335012
cis-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/30/95	5335012
trans-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/30/95	5335012
Ethylbenzene		ND	5.9	SW846 8240A	11/30/95	5335012
2-Hexanone		ND	59	SW846 8240A	11/30/95	5335012
Methylene chloride		ND	12	SW846 8240A	11/30/95	5335012
4-Methyl-2-pentanone		ND	59	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	97	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	85	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-151

WO #: A5V5H109
LAB #: C5K170011-007
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.9	SW846 8240A	11/30/95	5335012
1,1,2,2-Tetrachloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
Tetrachloroethene		ND	5.9	SW846 8240A	11/30/95	5335012
Toluene		ND	5.9	SW846 8240A	11/30/95	5335012
1,1,1-Trichloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
1,1,2-Trichloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
Trichloroethene		ND	5.9	SW846 8240A	11/30/95	5335012
Vinyl chloride		ND	12	SW846 8240A	11/30/95	5335012
Xylenes, Total		ND	5.9	SW846 8240A	11/30/95	5335012
Acetone	B	2.0 B J	59	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	97	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	85	(74 - 121)

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-92

WO #: A5V5J109
LAB #: C5K170011-008
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:15
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	J	**1.6 J**	**5.7**	**SW846 8240A**	**11/30/95**	**5335012**
Bromodichloromethane	U	ND	5.7	SW846 8240A	11/30/95	5335012
Bromoform		ND	5.7	SW846 8240A	11/30/95	5335012
Bromomethane		ND	11	SW846 8240A	11/30/95	5335012
2-Butanone		ND	57	SW846 8240A	11/30/95	5335012
Carbon disulfide		ND	5.7	SW846 8240A	11/30/95	5335012
Carbon tetrachloride		ND	5.7	SW846 8240A	11/30/95	5335012
Chlorobenzene		ND	5.7	SW846 8240A	11/30/95	5335012
Dibromochloromethane		ND	5.7	SW846 8240A	11/30/95	5335012
Chloroethane		ND	11	SW846 8240A	11/30/95	5335012
Chloroform		ND	5.7	SW846 8240A	11/30/95	5335012
Chloromethane		ND	11	SW846 8240A	11/30/95	5335012
1,1-Dichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
1,2-Dichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
1,1-Dichloroethene		ND	5.7	SW846 8240A	11/30/95	5335012
1,2-Dichloroethene, Total		ND	5.7	SW846 8240A	11/30/95	5335012
1,2-Dichloropropane		ND	5.7	SW846 8240A	11/30/95	5335012
cis-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/30/95	5335012
trans-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/30/95	5335012
Ethylbenzene		ND	5.7	SW846 8240A	11/30/95	5335012
2-Hexanone		ND	57	SW846 8240A	11/30/95	5335012
Methylene chloride	J	**1.5 J**	**11**	**SW846 8240A**	**11/30/95**	**5335012**
4-Methyl-2-pentanone	U	ND	57	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	92	(70 - 121)
Toluene-d8	99	(81 - 117)
4-Bromofluorobenzene	86	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-92

WO #: A5V5J109
LAB #: C5K170011-008
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:15
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.7	SW846 8240A	11/30/95	5335012
1,1,2,2-Tetrachloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
Tetrachloroethene		ND	5.7	SW846 8240A	11/30/95	5335012
Toluene		ND	5.7	SW846 8240A	11/30/95	5335012
1,1,1-Trichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
1,1,2-Trichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
Trichloroethene		ND	5.7	SW846 8240A	11/30/95	5335012
Vinyl chloride		ND	11	SW846 8240A	11/30/95	5335012
Xylenes, Total		ND	5.7	SW846 8240A	11/30/95	5335012
Acetone	B	2.7 B J	57	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	92	(70 - 121)
Toluene-d8	99	(81 - 117)
4-Bromofluorobenzene	86	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-48

WO #: A5V5K109
LAB #: C5K170011-009
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:25
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	U	ND	5.6	SW846 8240A	11/30/95	5335012
Bromodichloromethane		ND	5.6	SW846 8240A	11/30/95	5335012
Bromoform		ND	5.6	SW846 8240A	11/30/95	5335012
Bromomethane		ND	11	SW846 8240A	11/30/95	5335012
2-Butanone		ND	56	SW846 8240A	11/30/95	5335012
Carbon disulfide		ND	5.6	SW846 8240A	11/30/95	5335012
Carbon tetrachloride		ND	5.6	SW846 8240A	11/30/95	5335012
Chlorobenzene		ND	5.6	SW846 8240A	11/30/95	5335012
Dibromochloromethane		ND	5.6	SW846 8240A	11/30/95	5335012
Chloroethane		ND	11	SW846 8240A	11/30/95	5335012
Chloroform		ND	5.6	SW846 8240A	11/30/95	5335012
Chloromethane		ND	11	SW846 8240A	11/30/95	5335012
1,1-Dichloroethane		ND	5.6	SW846 8240A	11/30/95	5335012
1,2-Dichloroethane		ND	5.6	SW846 8240A	11/30/95	5335012
1,1-Dichloroethene		ND	5.6	SW846 8240A	11/30/95	5335012
1,2-Dichloroethene, Total		ND	5.6	SW846 8240A	11/30/95	5335012
1,2-Dichloropropane		ND	5.6	SW846 8240A	11/30/95	5335012
cis-1,3-Dichloropropene		ND	5.6	SW846 8240A	11/30/95	5335012
trans-1,3-Dichloropropene		ND	5.6	SW846 8240A	11/30/95	5335012
Ethylbenzene		ND	5.6	SW846 8240A	11/30/95	5335012
2-Hexanone		ND	56	SW846 8240A	11/30/95	5335012
Methylene chloride	J	1.3 J	11	SW846 8240A	11/30/95	5335012
4-Methyl-2-pentanone	U	ND	56	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	91	(70 - 121)
Toluene-d8	103	(81 - 117)
4-Bromofluorobenzene	81	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-48

WO #: A5V5K109
LAB #: C5K170011-009
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:25
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Revised	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	u	ND	5.6	SW846 8240A	11/30/95	5335012
1,1,2,2-Tetrachloroethane		ND	5.6	SW846 8240A	11/30/95	5335012
Tetrachloroethene		ND	5.6	SW846 8240A	11/30/95	5335012
Toluene		ND	5.6	SW846 8240A	11/30/95	5335012
1,1,1-Trichloroethane		ND	5.6	SW846 8240A	11/30/95	5335012
1,1,2-Trichloroethane		ND	5.6	SW846 8240A	11/30/95	5335012
Trichloroethene		ND	5.6	SW846 8240A	11/30/95	5335012
Vinyl chloride		ND	11	SW846 8240A	11/30/95	5335012
Xylenes, Total		ND	5.6	SW846 8240A	11/30/95	5335012
Acetone	B	**1.9 B J**	**56**	**SW846 8240A**	**11/30/95**	**5335012**

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	91	(70 - 121)
Toluene-d8	103	(81 - 117)
4-Bromofluorobenzene	81	(74 - 121)

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

J ESTIMATED VALUE. (DETECTED); BUT BELOW QUANTITATION LIMIT.

B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-104

WO #: A5V5L109
LAB #: C5K170011-010
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:35
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	U	ND	5.7	SW846 8240A	11/30/95	5335012
Bromodichloromethane		ND	5.7	SW846 8240A	11/30/95	5335012
Bromoform		ND	5.7	SW846 8240A	11/30/95	5335012
Bromomethane		ND	11	SW846 8240A	11/30/95	5335012
2-Butanone		ND	57	SW846 8240A	11/30/95	5335012
Carbon disulfide		ND	5.7	SW846 8240A	11/30/95	5335012
Carbon tetrachloride		ND	5.7	SW846 8240A	11/30/95	5335012
Chlorobenzene		ND	5.7	SW846 8240A	11/30/95	5335012
Dibromochloromethane		ND	5.7	SW846 8240A	11/30/95	5335012
Chloroethane		ND	11	SW846 8240A	11/30/95	5335012
Chloroform		ND	5.7	SW846 8240A	11/30/95	5335012
Chloromethane		ND	11	SW846 8240A	11/30/95	5335012
1,1-Dichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
1,2-Dichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
1,1-Dichloroethene		ND	5.7	SW846 8240A	11/30/95	5335012
1,2-Dichloroethene, Total		ND	5.7	SW846 8240A	11/30/95	5335012
1,2-Dichloropropane		ND	5.7	SW846 8240A	11/30/95	5335012
cis-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/30/95	5335012
trans-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/30/95	5335012
Ethylbenzene		ND	5.7	SW846 8240A	11/30/95	5335012
2-Hexanone		ND	57	SW846 8240A	11/30/95	5335012
Methylene chloride	J	1.6 J	11	SW846 8240A	11/30/95	5335012
4-Methyl-2-pentanone	U	ND	57	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	94	(70 - 121)
Toluene-d8	106	(81 - 117)
4-Bromofluorobenzene	83	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-104

WO #: ASV5L109
LAB #: C5K170011-010
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:35
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.7	SW846 8240A	11/30/95	5335012
1,1,2,2-Tetrachloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
Tetrachloroethene		ND	5.7	SW846 8240A	11/30/95	5335012
Toluene		ND	5.7	SW846 8240A	11/30/95	5335012
1,1,1-Trichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
1,1,2-Trichloroethane		ND	5.7	SW846 8240A	11/30/95	5335012
Trichloroethene		ND	5.7	SW846 8240A	11/30/95	5335012
Vinyl chloride		ND	11	SW846 8240A	11/30/95	5335012
Xylenes, Total	U	**1.3 J**	**5.7**	**SW846 8240A**	**11/30/95**	**5335012**
Acetone	B	**1.9 B J**	**57**	**SW846 8240A**	**11/30/95**	**5335012**

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	94	(70 - 121)
Toluene-d8	106	(81 - 117)
4-Bromofluorobenzene	83	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-70

WO #: A5V5M109
LAB #: C5K170011-011
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:45
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	J	3.0 J	5.7	SW846 8240A	11/28/95	5333024
Bromodichloromethane	U	ND	5.7	SW846 8240A	11/28/95	5333024
Bromoform		ND	5.7	SW846 8240A	11/28/95	5333024
Bromomethane		ND	11	SW846 8240A	11/28/95	5333024
2-Butanone		ND	57	SW846 8240A	11/28/95	5333024
Carbon disulfide		ND	5.7	SW846 8240A	11/28/95	5333024
Carbon tetrachloride		ND	5.7	SW846 8240A	11/28/95	5333024
Chlorobenzene		ND	5.7	SW846 8240A	11/28/95	5333024
Dibromochloromethane		ND	5.7	SW846 8240A	11/28/95	5333024
Chloroethane		ND	11	SW846 8240A	11/28/95	5333024
Chloroform		ND	5.7	SW846 8240A	11/28/95	5333024
Chloromethane		ND	11	SW846 8240A	11/28/95	5333024
1,1-Dichloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
1,2-Dichloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
1,1-Dichloroethene		ND	5.7	SW846 8240A	11/28/95	5333024
1,2-Dichloroethene, Total		ND	5.7	SW846 8240A	11/28/95	5333024
1,2-Dichloropropane		ND	5.7	SW846 8240A	11/28/95	5333024
cis-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/28/95	5333024
trans-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/28/95	5333024
Ethylbenzene		ND	5.7	SW846 8240A	11/28/95	5333024
2-Hexanone		ND	57	SW846 8240A	11/28/95	5333024
Methylene chloride		ND	11	SW846 8240A	11/28/95	5333024
4-Methyl-2-pentanone		ND	57	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	105	(70 - 121)
Toluene-d8	104	(81 - 117)
4-Bromofluorobenzene	95	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-70

WO #: A5V5M109
LAB #: C5K170011-011
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:45
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	RW Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	u	ND	5.7	SW846 8240A	11/28/95	5333024
1,1,2,2-Tetrachloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
Tetrachloroethene		ND	5.7	SW846 8240A	11/28/95	5333024
Toluene		ND	5.7	SW846 8240A	11/28/95	5333024
1,1,1-Trichloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
1,1,2-Trichloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
Trichloroethene		ND	5.7	SW846 8240A	11/28/95	5333024
Vinyl chloride		ND	11	SW846 8240A	11/28/95	5333024
Xylenes, Total	J	**3.7 J**	**5.7**	**SW846 8240A**	**11/28/95**	**5333024**
Acetone	u	ND	57	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	105	(70 - 121)
Toluene-d8	104	(81 - 117)
4-Bromofluorobenzene	95	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-22

WO #: A5V5N109
LAB #: C5K170011-012
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	J	**4.2 J**	**5.6**	**SW846 8240A**	**11/28/95**	**5333024**
Bromodichloromethane	u	ND	5.6	SW846 8240A	11/28/95	5333024
Bromoform		ND	5.6	SW846 8240A	11/28/95	5333024
Bromomethane		ND	11	SW846 8240A-	11/28/95	5333024
2-Butanone		ND	56	SW846 8240A	11/28/95	5333024
Carbon disulfide		ND	5.6	SW846 8240A	11/28/95	5333024
Carbon tetrachloride		ND	5.6	SW846 8240A	11/28/95	5333024
Chlorobenzene		ND	5.6	SW846 8240A	11/28/95	5333024
Dibromochloromethane		ND	5.6	SW846 8240A	11/28/95	5333024
Chloroethane		ND	11	SW846 8240A	11/28/95	5333024
Chloroform		ND	5.6	SW846 8240A	11/28/95	5333024
Chloromethane		ND	11	SW846 8240A	11/28/95	5333024
1,1-Dichloroethane		ND	5.6	SW846 8240A	11/28/95	5333024
1,2-Dichloroethane		ND	5.6	SW846 8240A	11/28/95	5333024
1,1-Dichloroethene		ND	5.6	SW846 8240A	11/28/95	5333024
1,2-Dichloroethene, Total		ND	5.6	SW846 8240A	11/28/95	5333024
1,2-Dichloropropane		ND	5.6	SW846 8240A	11/28/95	5333024
cis-1,3-Dichloropropene		ND	5.6	SW846 8240A	11/28/95	5333024
trans-1,3-Dichloropropene		ND	5.6	SW846 8240A	11/28/95	5333024
Ethylbenzene		ND	5.6	SW846 8240A	11/28/95	5333024
2-Hexanone		ND	56	SW846 8240A	11/28/95	5333024
Methylene chloride		ND	11	SW846 8240A	11/28/95	5333024
4-Methyl-2-pentanone		ND	56	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	108	(70 - 121)
Toluene-d8	114	(81 - 117)
4-Bromofluorobenzene	91	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-22

WO #: A5V5N109
LAB #: C5K170011-012
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER		RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.6	SW846 8240A	11/28/95	5333024
1,1,2,2-Tetrachloroethane		ND	5.6	SW846 8240A	11/28/95	5333024
Tetrachloroethene		ND	5.6	SW846 8240A	11/28/95	5333024
Toluene	J	**3.4 J**	**5.6**	**SW846 8240A**	**11/28/95**	**5333024**
1,1,1-Trichloroethane	U	ND	5.6	SW846 8240A	11/28/95	5333024
1,1,2-Trichloroethane	U	ND	5.6	SW846 8240A	11/28/95	5333024
Trichloroethene	U	ND	5.6	SW846 8240A	11/28/95	5333024
Vinyl chloride	U	ND	11	SW846 8240A	11/28/95	5333024
Xylenes, Total	CO ~~J~~	**5.6**	**5.6**	**SW846 8240A**	**11/28/95**	**5333024**
Acetone	U	ND	56	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	108	(70 - 121)
Toluene-d8	114	(81 - 117)
4-Bromofluorobenzene	91	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-66

WO #: A5V5P109
LAB #: C5K170011-013
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:15
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene		6.3	5.8	SW846 8240A	11/28/95	5333024
Bromodichloromethane	u	ND	5.8	SW846 8240A	11/28/95	5333024
Bromoform		ND	5.8	SW846 8240A	11/28/95	5333024
Bromomethane		ND	12	SW846 8240A	11/28/95	5333024
2-Butanone		ND	58	SW846 8240A	11/28/95	5333024
Carbon disulfide		ND	5.8	SW846 8240A	11/28/95	5333024
Carbon tetrachloride		ND	5.8	SW846 8240A	11/28/95	5333024
Chlorobenzene		ND	5.8	SW846 8240A	11/28/95	5333024
Dibromochloromethane		ND	5.8	SW846 8240A	11/28/95	5333024
Chloroethane		ND	12	SW846 8240A	11/28/95	5333024
Chloroform		ND	5.8	SW846 8240A	11/28/95	5333024
Chloromethane		ND	12	SW846 8240A	11/28/95	5333024
1,1-Dichloroethane		ND	5.8	SW846 8240A	11/28/95	5333024
1,2-Dichloroethane		ND	5.8	SW846 8240A	11/28/95	5333024
1,1-Dichloroethene		ND	5.8	SW846 8240A	11/28/95	5333024
1,2-Dichloroethene, Total		ND	5.8	SW846 8240A	11/28/95	5333024
1,2-Dichloropropane		ND	5.8	SW846 8240A	11/28/95	5333024
cis-1,3-Dichloropropene		ND	5.8	SW846 8240A	11/28/95	5333024
trans-1,3-Dichloropropene		ND	5.8	SW846 8240A	11/28/95	5333024
Ethylbenzene		ND	5.8	SW846 8240A	11/28/95	5333024
2-Hexanone		ND	58	SW846 8240A	11/28/95	5333024
Methylene chloride		ND	12	SW846 8240A	11/28/95	5333024
4-Methyl-2-pentanone		ND	58	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(70 - 121)
Toluene-d8	109	(81 - 117)
4-Bromofluorobenzene	94	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-66

WO #: A5V5P109
LAB #: C5K170011-013
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:15
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.8	SW846 8240A	11/28/95	5333024
1,1,2,2-Tetrachloroethane		ND	5.8	SW846 8240A	11/28/95	5333024
Tetrachloroethene		ND	5.8	SW846 8240A	11/28/95	5333024
Toluene	J	**4.4 J**	**5.8**	**SW846 8240A**	**11/28/95**	**5333024**
1,1,1-Trichloroethane	U	ND	5.8	SW846 8240A	11/28/95	5333024
1,1,2-Trichloroethane	U	ND	5.8	SW846 8240A	11/28/95	5333024
Trichloroethene	U	ND	5.8	SW846 8240A	11/28/95	5333024
Vinyl chloride	U	ND	12	SW846 8240A	11/28/95	5333024
Xylenes, Total	J	**2.6 J**	**5.8**	**SW846 8240A**	**11/28/95**	**5333024**
Acetone	U	ND	58	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(70 - 121)
Toluene-d8	109	(81 - 117)
4-Bromofluorobenzene	94	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED); BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-221

WO #: A5V5Q109
LAB #: C5K170011-014
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER		RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	J	4.7 J	5.7	SW846 8240A	11/28/95	5333024
Bromodichloromethane	u	ND	5.7	SW846 8240A	11/28/95	5333024
Bromoform		ND	5.7	SW846 8240A	11/28/95	5333024
Bromomethane		ND	11	SW846 8240A	11/28/95	5333024
2-Butanone		ND	57	SW846 8240A	11/28/95	5333024
Carbon disulfide		ND	5.7	SW846 8240A	11/28/95	5333024
Carbon tetrachloride		ND	5.7	SW846 8240A	11/28/95	5333024
Chlorobenzene		ND	5.7	SW846 8240A	11/28/95	5333024
Dibromochloromethane		ND	5.7	SW846 8240A	11/28/95	5333024
Chloroethane		ND	11	SW846 8240A	11/28/95	5333024
Chloroform		ND	5.7	SW846 8240A	11/28/95	5333024
Chloromethane		ND	11	SW846 8240A	11/28/95	5333024
1,1-Dichloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
1,2-Dichloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
1,1-Dichloroethene		ND	5.7	SW846 8240A	11/28/95	5333024
1,2-Dichloroethene, Total		ND	5.7	SW846 8240A	11/28/95	5333024
1,2-Dichloropropane		ND	5.7	SW846 8240A	11/28/95	5333024
cis-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/28/95	5333024
trans-1,3-Dichloropropene		ND	5.7	SW846 8240A	11/28/95	5333024
Ethylbenzene		ND	5.7	SW846 8240A	11/28/95	5333024
2-Hexanone		ND	57	SW846 8240A	11/28/95	5333024
Methylene chloride		ND	11	SW846 8240A	11/28/95	5333024
4-Methyl-2-pentanone		ND	57	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	109	(70 - 121)
Toluene-d8	110	(81 - 117)
4-Bromofluorobenzene	87	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED); BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-221

WO #: A5V5Q109
LAB #: C5K170011-014
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Requal	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	u	ND	5.7	SW846 8240A	11/28/95	5333024
1,1,2,2-Tetrachloroethane		ND	5.7	SW846 8240A	11/28/95	5333024
Tetrachloroethene		ND	5.7	SW846 8240A	11/28/95	5333024
Toluene	J	**2.3 J**	**5.7**	**SW846 8240A**	**11/28/95**	**5333024**
1,1,1-Trichloroethane	u	ND	5.7	SW846 8240A	11/28/95	5333024
1,1,2-Trichloroethane	u	ND	5.7	SW846 8240A	11/28/95	5333024
Trichloroethene	u	ND	5.7	SW846 8240A	11/28/95	5333024
Vinyl chloride	u	ND	11	SW846 8240A	11/28/95	5333024
Xylenes, Total	J	**3.1 J**	**5.7**	**SW846 8240A**	**11/28/95**	**5333024**
Acetone	u	ND	57	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	109	(70 - 121)
Toluene-d8	110	(81 - 117)
4-Bromofluorobenzene	87	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-29

WO #: A5V5R109
LAB #: C5K170011-015
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:30
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene		**12**	**5.9**	**SW846 8240A**	**11/28/95**	**5333024**
Bromodichloromethane	u	ND	5.9	SW846 8240A	11/28/95	5333024
Bromoform		ND	5.9	SW846 8240A	11/28/95	5333024
Bromomethane		ND	12	SW846 8240A	11/28/95	5333024
2-Butanone		ND	59	SW846 8240A	11/28/95	5333024
Carbon disulfide		ND	5.9	SW846 8240A	11/28/95	5333024
Carbon tetrachloride		ND	5.9	SW846 8240A	11/28/95	5333024
Chlorobenzene		ND	5.9	SW846 8240A	11/28/95	5333024
Dibromochloromethane		ND	5.9	SW846 8240A	11/28/95	5333024
Chloroethane		ND	12	SW846 8240A	11/28/95	5333024
Chloroform		ND	5.9	SW846 8240A	11/28/95	5333024
Chloromethane		ND	12	SW846 8240A	11/28/95	5333024
1,1-Dichloroethane		ND	5.9	SW846 8240A	11/28/95	5333024
1,2-Dichloroethane		ND	5.9	SW846 8240A	11/28/95	5333024
1,1-Dichloroethene		ND	5.9	SW846 8240A	11/28/95	5333024
1,2-Dichloroethene, Total		ND	5.9	SW846 8240A	11/28/95	5333024
1,2-Dichloropropane		ND	5.9	SW846 8240A	11/28/95	5333024
cis-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/28/95	5333024
trans-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/28/95	5333024
Ethylbenzene		ND	5.9	SW846 8240A	11/28/95	5333024
2-Hexanone		ND	59	SW846 8240A	11/28/95	5333024
Methylene chloride		ND	12	SW846 8240A	11/28/95	5333024
4-Methyl-2-pentanone		ND	59	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	108	(70 - 121)
Toluene-d8	113	(81 - 117)
4-Bromofluorobenzene	93	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-29

WO #: A5V5R109
LAB #: C5K170011-015
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:30
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	u	ND	5.9	SW846 8240A	11/28/95	5333024
1,1,2,2-Tetrachloroethane		ND	5.9	SW846 8240A	11/28/95	5333024
Tetrachloroethene		ND	5.9	SW846 8240A	11/28/95	5333024
Toluene		10	5.9	SW846 8240A	11/28/95	5333024
1,1,1-Trichloroethane	u	ND	5.9	SW846 8240A	11/28/95	5333024
1,1,2-Trichloroethane		ND	5.9	SW846 8240A	11/28/95	5333024
Trichloroethene		ND	5.9	SW846 8240A	11/28/95	5333024
Vinyl chloride		ND	12	SW846 8240A	11/28/95	5333024
Xylenes, Total		9.0	5.9	SW846 8240A	11/28/95	5333024
Acetone	u	ND	59	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	108	(70 - 121)
Toluene-d8	113	(81 - 117)
4-Bromofluorobenzene	93	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-50

WO #: A5V5T109
LAB #: C5K170011-016
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:40
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene		**8.5**	**6.1**	**SW846 8240A**	**11/28/95**	**5333024**
Bromodichloromethane	u	ND	6.1	SW846 8240A	11/28/95	5333024
Bromoform		ND	6.1	SW846 8240A	11/28/95	5333024
Bromomethane		ND	12	SW846 8240A	11/28/95	5333024
2-Butanone		ND	61	SW846 8240A	11/28/95	5333024
Carbon disulfide		ND	6.1	SW846 8240A	11/28/95	5333024
Carbon tetrachloride		ND	6.1	SW846 8240A	11/28/95	5333024
Chlorobenzene		ND	6.1	SW846 8240A	11/28/95	5333024
Dibromochloromethane		ND	6.1	SW846 8240A	11/28/95	5333024
Chloroethane		ND	12	SW846 8240A	11/28/95	5333024
Chloroform		ND	6.1	SW846 8240A	11/28/95	5333024
Chloromethane		ND	12	SW846 8240A	11/28/95	5333024
1,1-Dichloroethane		ND	6.1	SW846 8240A	11/28/95	5333024
1,2-Dichloroethane		ND	6.1	SW846 8240A	11/28/95	5333024
1,1-Dichloroethene		ND	6.1	SW846 8240A	11/28/95	5333024
1,2-Dichloroethene, Total		ND	6.1	SW846 8240A	11/28/95	5333024
1,2-Dichloropropane		ND	6.1	SW846 8240A	11/28/95	5333024
cis-1,3-Dichloropropene		ND	6.1	SW846 8240A	11/28/95	5333024
trans-1,3-Dichloropropene		ND	6.1	SW846 8240A	11/28/95	5333024
Ethylbenzene		ND	6.1	SW846 8240A	11/28/95	5333024
2-Hexanone		ND	61	SW846 8240A	11/28/95	5333024
Methylene chloride		ND	12	SW846 8240A	11/28/95	5333024
4-Methyl-2-pentanone		ND	61	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	110	(70 - 121)
Toluene-d8	112	(81 - 117)
4-Bromofluorobenzene	92	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-50

WO #: A5V5T109
LAB #: C5K170011-016
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:40
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	6.1	SW846 8240A	11/28/95	5333024
1,1,2,2-Tetrachloroethane		ND	6.1	SW846 8240A	11/28/95	5333024
Tetrachloroethene		ND	6.1	SW846 8240A	11/28/95	5333024
Toluene		**6.7**	**6.1**	**SW846 8240A**	**11/28/95**	**5333024**
1,1,1-Trichloroethane	U	ND	6.1	SW846 8240A	11/28/95	5333024
1,1,2-Trichloroethane		ND	6.1	SW846 8240A	11/28/95	5333024
Trichloroethene		ND	6.1	SW846 8240A	11/28/95	5333024
Vinyl chloride		ND	12	SW846 8240A	11/28/95	5333024
Xylenes, Total	J	**4.7 J**	**6.1**	**SW846 8240A**	**11/28/95**	**5333024**
Acetone	U	ND	61	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	110	(70 - 121)
Toluene-d8	112	(81 - 117)
4-Bromofluorobenzene	92	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-91

WO #: A5V5W109
LAB #: C5K170011-017
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:55
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	J	**3.5 J**	**6.0**	**SW846 8240A**	**11/28/95**	**5333024**
Bromodichloromethane	U	ND	6.0	SW846 8240A	11/28/95	5333024
Bromoform		ND	6.0	SW846 8240A	11/28/95	5333024
Bromomethane		ND	12	SW846 8240A	11/28/95	5333024
2-Butanone		ND	60	SW846 8240A	11/28/95	5333024
Carbon disulfide		ND	6.0	SW846 8240A	11/28/95	5333024
Carbon tetrachloride		ND	6.0	SW846 8240A	11/28/95	5333024
Chlorobenzene		ND	6.0	SW846 8240A	11/28/95	5333024
Dibromochloromethane		ND	6.0	SW846 8240A	11/28/95	5333024
Chloroethane		ND	12	SW846 8240A	11/28/95	5333024
Chloroform		ND	6.0	SW846 8240A	11/28/95	5333024
Chloromethane		ND	12	SW846 8240A	11/28/95	5333024
1,1-Dichloroethane		ND	6.0	SW846 8240A	11/28/95	5333024
1,2-Dichloroethane		ND	6.0	SW846 8240A	11/28/95	5333024
1,1-Dichloroethene		ND	6.0	SW846 8240A	11/28/95	5333024
1,2-Dichloroethene, Total		ND	6.0	SW846 8240A	11/28/95	5333024
1,2-Dichloropropane		ND	6.0	SW846 8240A	11/28/95	5333024
cis-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/28/95	5333024
trans-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/28/95	5333024
Ethylbenzene		ND	6.0	SW846 8240A	11/28/95	5333024
2-Hexanone		ND	60	SW846 8240A	11/28/95	5333024
Methylene chloride		ND	12	SW846 8240A	11/28/95	5333024
4-Methyl-2-pentanone		ND	60	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(70 - 121)
Toluene-d8	110	(81 - 117)
4-Bromofluorobenzene	92	(74 - 121)

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-91

WO #: A5V5W109
LAB #: C5K170011-017
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:55
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	u	ND	6.0	SW846 8240A	11/28/95	5333024
1,1,2,2-Tetrachloroethane		ND	6.0	SW846 8240A	11/28/95	5333024
Tetrachloroethene		ND	6.0	SW846 8240A	11/28/95	5333024
Toluene	J	2.4 J	6.0	SW846 8240A-	11/28/95	5333024
1,1,1-Trichloroethane	u	ND	6.0	SW846 8240A	11/28/95	5333024
1,1,2-Trichloroethane		ND	6.0	SW846 8240A	11/28/95	5333024
Trichloroethene		ND	6.0	SW846 8240A	11/28/95	5333024
Vinyl chloride		ND	12	SW846 8240A	11/28/95	5333024
Xylenes, Total		ND	6.0	SW846 8240A	11/28/95	5333024
Acetone		ND	60	SW846 8240A	11/28/95	5333024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(70 - 121)
Toluene-d8	110	(81 - 117)
4-Bromofluorobenzene	92	(74 - 121)

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-61

WO #: A5V5X109
LAB #: C5K170011-018
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:15
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	U	ND	6.0	SW846 8240A	11/30/95	5335012
Bromodichloromethane		ND	6.0	SW846 8240A	11/30/95	5335012
Bromoform		ND	6.0	SW846 8240A	11/30/95	5335012
Bromomethane		ND	12	SW846 8240A	11/30/95	5335012
2-Butanone		ND	60	SW846 8240A	11/30/95	5335012
Carbon disulfide		ND	6.0	SW846 8240A	11/30/95	5335012
Carbon tetrachloride		ND	6.0	SW846 8240A	11/30/95	5335012
Chlorobenzene		ND	6.0	SW846 8240A	11/30/95	5335012
Dibromochloromethane		ND	6.0	SW846 8240A	11/30/95	5335012
Chloroethane		ND	12	SW846 8240A	11/30/95	5335012
Chloroform		ND	6.0	SW846 8240A	11/30/95	5335012
Chloromethane		ND	12	SW846 8240A	11/30/95	5335012
1,1-Dichloroethane		ND	6.0	SW846 8240A	11/30/95	5335012
1,2-Dichloroethane		ND	6.0	SW846 8240A	11/30/95	5335012
1,1-Dichloroethene		ND	6.0	SW846 8240A	11/30/95	5335012
1,2-Dichloroethene, Total		ND	6.0	SW846 8240A	11/30/95	5335012
1,2-Dichloropropane		ND	6.0	SW846 8240A	11/30/95	5335012
cis-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/30/95	5335012
trans-1,3-Dichloropropene		ND	6.0	SW846 8240A	11/30/95	5335012
Ethylbenzene		ND	6.0	SW846 8240A	11/30/95	5335012
2-Hexanone		ND	60	SW846 8240A	11/30/95	5335012
Methylene chloride	J	1.4 J	12	SW846 8240A	11/30/95	5335012
4-Methyl-2-pentanone	U	ND	60	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	89	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	89	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-61

WO #: A5V5X109
LAB #: C5K170011-018
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:15
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Lab Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	6.0	SW846 8240A	11/30/95	5335012
1,1,2,2-Tetrachloroethane		ND	6.0	SW846 8240A	11/30/95	5335012
Tetrachloroethene		ND	6.0	SW846 8240A	11/30/95	5335012
Toluene		ND	6.0	SW846 8240A	11/30/95	5335012
1,1,1-Trichloroethane		ND	6.0	SW846 8240A	11/30/95	5335012
1,1,2-Trichloroethane		ND	6.0	SW846 8240A	11/30/95	5335012
Trichloroethene		ND	6.0	SW846 8240A	11/30/95	5335012
Vinyl chloride		ND	12	SW846 8240A	11/30/95	5335012
Xylenes, Total		ND	6.0	SW846 8240A	11/30/95	5335012
Acetone	B	**4.5 B J**	**60**	**SW846 8240A**	**11/30/95**	**5335012**

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	89	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	89	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-4

WO #: A5V60109
LAB #: C5K170011-019
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:25
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	J	2.6 J	5.9	SW846 8240A	11/30/95	5335012
Bromodichloromethane	u	ND	5.9	SW846 8240A	11/30/95	5335012
Bromoform		ND	5.9	SW846 8240A	11/30/95	5335012
Bromomethane		ND	12	SW846 8240A	11/30/95	5335012
2-Butanone		ND	59	SW846 8240A	11/30/95	5335012
Carbon disulfide		ND	5.9	SW846 8240A	11/30/95	5335012
Carbon tetrachloride		ND	5.9	SW846 8240A	11/30/95	5335012
Chlorobenzene		ND	5.9	SW846 8240A	11/30/95	5335012
Dibromochloromethane		ND	5.9	SW846 8240A	11/30/95	5335012
Chloroethane		ND	12	SW846 8240A	11/30/95	5335012
Chloroform		ND	5.9	SW846 8240A	11/30/95	5335012
Chloromethane		ND	12	SW846 8240A	11/30/95	5335012
1,1-Dichloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
1,2-Dichloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
1,1-Dichloroethene		ND	5.9	SW846 8240A	11/30/95	5335012
1,2-Dichloroethene, Total		ND	5.9	SW846 8240A	11/30/95	5335012
1,2-Dichloropropane		ND	5.9	SW846 8240A	11/30/95	5335012
cis-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/30/95	5335012
trans-1,3-Dichloropropene		ND	5.9	SW846 8240A	11/30/95	5335012
Ethylbenzene		ND	5.9	SW846 8240A	11/30/95	5335012
2-Hexanone		ND	59	SW846 8240A	11/30/95	5335012
Methylene chloride	J	1.3 J	12	SW846 8240A	11/30/95	5335012
4-Methyl-2-pentanone	u	ND	59	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	93	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	92	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-4

WO #: A5V60109
LAB #: C5K170011-019
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:25
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.9	SW846 8240A	11/30/95	5335012
1,1,2,2-Tetrachloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
Tetrachloroethene		ND	5.9	SW846 8240A	11/30/95	5335012
Toluene	J	1.2 J	5.9	SW846 8240A	11/30/95	5335012
1,1,1-Trichloroethane	U	ND	5.9	SW846 8240A	11/30/95	5335012
1,1,2-Trichloroethane		ND	5.9	SW846 8240A	11/30/95	5335012
Trichloroethene		ND	5.9	SW846 8240A	11/30/95	5335012
Vinyl chloride		ND	12	SW846 8240A	11/30/95	5335012
Xylenes, Total		ND	5.9	SW846 8240A	11/30/95	5335012
Acetone	B	3.9 B J	59	SW846 8240A	11/30/95	5335012

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	93	(70 - 121)
Toluene-d8	100	(81 - 117)
4-Bromofluorobenzene	92	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-79

WO #: A5V61109
LAB #: C5K170011-020
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:40
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Bu Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	u	ND	5.8	SW846 8240A	11/30/95	5335012
Bromodichloromethane		ND	5.8	SW846 8240A	11/30/95	5335012
Bromoform		ND	5.8	SW846 8240A	11/30/95	5335012
Bromomethane		ND	12	SW846 8240A	11/30/95	5335012
2-Butanone		ND	58	SW846 8240A	11/30/95	5335012
Carbon disulfide		ND	5.8	SW846 8240A	11/30/95	5335012
Carbon tetrachloride		ND	5.8	SW846 8240A	11/30/95	5335012
Chlorobenzene		ND	5.8	SW846 8240A	11/30/95	5335012
Dibromochloromethane		ND	5.8	SW846 8240A	11/30/95	5335012
Chloroethane		ND	12	SW846 8240A	11/30/95	5335012
Chloroform		ND	5.8	SW846 8240A	11/30/95	5335012
Chloromethane		ND	12	SW846 8240A	11/30/95	5335012
1,1-Dichloroethane		ND	5.8	SW846 8240A	11/30/95	5335012
1,2-Dichloroethane		ND	5.8	SW846 8240A	11/30/95	5335012
1,1-Dichloroethene		ND	5.8	SW846 8240A	11/30/95	5335012
1,2-Dichloroethene, Total		ND	5.8	SW846 8240A	11/30/95	5335012
1,2-Dichloropropane		ND	5.8	SW846 8240A	11/30/95	5335012
cis-1,3-Dichloropropene		ND	5.8	SW846 8240A	11/30/95	5335012
trans-1,3-Dichloropropene		ND	5.8	SW846 8240A	11/30/95	533501
Ethylbenzene		ND	5.8	SW846 8240A	11/30/95	533501
2-Hexanone		ND	58	SW846 8240A	11/30/95	533501
Methylene chloride	J	**1.4 J**	**12**	**SW846 8240A**	**11/30/95**	**533501**
4-Methyl-2-pentanone	u	ND	58	SW846 8240A	11/30/95	533501

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	87	(70 - 121)
Toluene-d8	97	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-79

WO #: A5V61109
LAB #: C5K170011-020
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:40
DATE RECEIVED: 11/17/95

GC/MS Volatiles

PARAMETER	Rev Qual	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Styrene	U	ND	5.8	SW846 8240A	11/30/95	5335012
1,1,2,2-Tetrachloroethane		ND	5.8	SW846 8240A	11/30/95	5335012
Tetrachloroethene		ND	5.8	SW846 8240A	11/30/95	5335012
Toluene		ND	5.8	SW846 8240A-	11/30/95	5335012
1,1,1-Trichloroethane		ND	5.8	SW846 8240A	11/30/95	5335012
1,1,2-Trichloroethane		ND	5.8	SW846 8240A	11/30/95	5335012
Trichloroethene		ND	5.8	SW846 8240A	11/30/95	5335012
Vinyl chloride		ND	12	SW846 8240A	11/30/95	5335012
Xylenes, Total		ND	5.8	SW846 8240A	11/30/95	5335012
Acetone	B	**5.1 B J**	**58**	**SW846 8240A**	**11/30/95**	**5335012**

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	87	(70 - 121)
Toluene-d8	97	(81 - 117)
4-Bromofluorobenzene	90	(74 - 121)

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

SDG: Little Creek Metals

Project: IT - NAB Little Creek

Method: METALS

Matrix/No. of Samples: SOIL/20

Validation Samples: SOM-NT-15, SOM-NT-86, SOM-NT-76, SOM-NT-26, SOM-NT-14, SOM-NT-4, SOM-NT-151, SOM-DL-92, SOM-DL-48, SOM-DL-104, SOM-DL-70, SOM-DL-22, SOM-DL-66, SOM-DL-221, SOM-IL-29, SOM-IL-50, SOM-IL-91, SOM-IL-61, SOM-IL-4, SOM-IL-79

Data Validation Report Summary

	Status Code	Comments
1. Sample Preservation, Handling, and Transport	A	
2. Chain of Custody	A	
3. Holding Times	A	
4. Calibrations	N/A	Not Reported
5. Blanks	A	
6. ICP Interference Check Sample	N/A	Not Reported
7. Blank Spike/LCS	A	
8. Duplicates	A	
9. Matrix Spike	X	See Qualifications
10. Furnace Atomic Absorption QC	N/A	Not Reported
11. ICP Serial Dilution	N/A	Not Reported
12. Sample Result Verification	N/A	Not Required for Level III Review
13. Field QC Samples	N/A	No Associated Field QC IDd
14. Overall Assessment	X	Acceptable as Qualified

Status Codes:

A = Acceptable

R = Data Rejected

X = Data acceptable but qualified due to problems

Qualifications:

All samples were qualified as estimated "J" for zinc due to low recovery in associated matrix spike QC sample.

Significant Findings/Recommendations:

Cooler temperatures were not reported on COCs or any other associated documents. No qualifications were assigned based on this information.

Matrix spike recovery for zinc was low, indicating possible matrix interference. Associated samples were qualified accordingly.

Overall Data Quality: Data quality appears to be good. Acceptable as reviewed and qualified.

Date: December 18, 1995

Validator's Signature: Michael P. Varma

Peer Reviewer: Clarissa Quenby 12-19-95

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-15

WO #: A5V5A
LAB #: C5K170011-001
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	101		23.5	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.59	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	15.8		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	8.3		2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	7.5		4.7	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	27.1	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	0.16		0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-MT-86

WO #: A5V5C
LAB #: C5K170011-002
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:10
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	2.7		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	54.2		24.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.62	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	16.5		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	9.0		3.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	6.2		5.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	21.4	J	2.5	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-76

WO #: A5V5D
LAB #: C5K170011-003
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:20
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	46.2		24.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.61	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	10.1		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	5.5		3.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	27.9	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-26

WO #: A5V5E
LAB #: C5K170011-004
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:30
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	6.4		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	63.4		24.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.60	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	8.3		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	3.4		3.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	9.4	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-14

WO #: A5V5F
LAB #: C5K170011-005
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:45
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	2.0		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	64.8		24.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.60	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	14.0		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	9.1		3.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	7.0		4.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	52.1	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340D19

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-4

WO #: A5V5G
LAB #: C5K170011-006
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	39.2		23.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.59	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	9.4		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	5.1		3.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.7	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	17.2	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-151

WO #: A5V5H
LAB #: C5K170011-007
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	25.5		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	68.2		23.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.59	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	38.2		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	23.9		2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	7.7		4.7	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	21.7	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-92

WO #: A5V5J
LAB #: C5K170011-008
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:15
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	59.6		22.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.57	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	43.7		1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	4.7		2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	5.4		4.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	18.0	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.11	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-48

WO #: A5V5K
LAB #: C5K170011-009
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:25
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	38.2		22.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.56	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	30.1		1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	3.5		2.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.5	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	15.8	J	2.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.11	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-104

WO #: A5V5L
LAB #: C5K170011-010
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:35
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	47.8		22.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.57	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	11.8		1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	4.0		2.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	4.6		4.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	16.1	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.11	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-70

WO #: A5V5M
LAB #: C5K170011-011
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:45
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	34.4		22.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.57	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	8.7		1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	3.1		2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	11.8	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.11	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-22

WO #: A5V5N
LAB #: C5K170011-012
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	35.9		22.5	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.56	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	9.8		1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	3.2		2.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.5	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	15.0	J	2.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.11	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-66

WO #: A5V5P
LAB #: C5K170011-013
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:15
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	41.5		23.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.58	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	20.2		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	3.4		2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	14.3	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-221

WO #: A5V5Q
LAB #: C5K170011-014
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	22.9		22.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.57	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	6.3		1.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	3.1		2.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	12.9	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.11	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-29

WO #: A5V5R
LAB #: CSK170011-015
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:30
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	39.1		23.5	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.59	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	11.0		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	ND	U	2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	5.2		4.7	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	10.9	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-50

WO #: A5V5T
LAB #: C5K170011-016
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:40
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	71.2		24.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.61	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	9.5		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	6.0		3.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	5.4		4.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	22.1	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	0.12		0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-91

WO #: A5V5W
LAB #: C5K170011-017
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:55
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	69.9		23.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.60	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	8.3		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	6.0		3.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	5.6		4.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	22.2	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	0.18		0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-61

WO #: ASV5X
LAB #: C5K170011-018
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:15
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	48.5		24.1	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.60	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	14.9		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	4.2		3.0	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	5.3		4.8	mg/kg	SW846 6010A	11/29-12/04/95	5333015
µ7BZinc	13.4	J	2.4	mg/kg	SW846 6010A	11/29-12/04/95	5333
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-4

WO #: A5V60
LAB #: C5K170011-019
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:25
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	46.5		23.4	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.59	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	7.1		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	ND	U	2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	ND	U	4.7	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	8.0	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-79

WO #: A5V61
LAB #: C5K170011-020
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:40
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	ND	U	1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Barium	46.3		23.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Cadmium	ND	U	0.58	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Chromium	13.1		1.2	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Copper	3.1		2.9	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Nickel	4.8		4.6	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Zinc	12.6	J	2.3	mg/kg	SW846 6010A	11/29-12/04/95	5333015
Mercury	ND	U	0.12	mg/kg	SW846 7471	11/28/95	5340019

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT

SDG: Little Creek Chromium IV/Cyanide
Method: Chromium IV/Cyanide

Project: IT - NAB Little Creek
Matrix/No. of Samples: SOIL/20

Validation Samples: SOM-NT-15, SOM-NT-86, SOM-NT-76, SOM-NT-26, SOM-NT-14, SOM-NT-4, SOM-NT-151, SOM-DL-92, SOM-DL-48, SOM-DL-104, SOM-DL-70, SOM-DL-22, SOM-DL-66, SOM-DL-221, SOM-IL-29, SOM-IL-50, SOM-IL-91, SOM-IL-61, SOM-IL-4, SOM-IL-79

Data Validation Report Summary

	Status Code	Comments
1. Sample Preservation, Handling, and Transport	A	
2. Chain of Custody	A	
3. Holding Times	X/R	See Qualifications
4. Calibrations	N/A	Not Reported
5. Blanks	A	
6. ICP Interference Check Sample	N/A	Not Reported
7. Blank Spike/LCS	A	
8. Duplicates	A	
9. Matrix Spike	X/R	See Qualifications
10. Furnace Atomic Absorption QC	N/A	Not Reported
11. ICP Serial Dilution	N/A	Not Reported
12. Sample Result Verification	N/A	Not Required for Level III Review
13. Field QC Samples	N/A	No Associated Field QC IDd
14. Overall Assessment	X	Acceptable as Qualified

Status Codes:
A = Acceptable
R = Data Rejected
X = Data acceptable but qualified due to problems

Qualifications:

All samples were qualified as rejected "R" for hexavalent chromium due to extremely low recovery in associated matrix spike QC sample and gross exceedence of holding times..

Significant Findings/Recommendations:

Cooler temperatures were not reported on COCs or any other associated documents. No qualifications were assigned based on this information.

The holding time for hexavalent chromium analysis according to 40 CFR 136.3 is 24 hours if cooled to 4°C.. The samples in this data package were analyzed 12 days after collection, and no temperature information was available. In addition matrix spike recoveries in MS/MSD QC samples were extremely low for hexavalent chromium. All hexavalent chromium samples were rejected based on this information.

The relative percent difference (RPD) for hexavalent chromium was high (85%). Both duplicate results were less than 5× the CRDL, and the MS/MSD sample results were within 2× the CRDL, therefore no qualifications were required based on this information.

Overall Data Quality: Cyanide data is acceptable as reviewed. Hexavalent chromium data was rejected due to associated laboratory QC results.

Date: December 18, 1995

Validator's Signature: Michael P. Naman

Peer Reviewer: Clarissa Overby 12-19-95

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-15

WO #: A5V5A
LAB #: C5K170011-001
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.59	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	85.0		%	MCAMW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-86

WO #: A5V5C
LAB #: C5K170011-002
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:10
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	~~U~~ R 0.62	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	80.7		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	U 3.1	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	U 3.1	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-MT-76

WO #: A5V5D
LAB #: C5K170011-003
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:20
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.61	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	82.3		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	3.0	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	3.0	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-26

WO #: A5V5E
LAB #: C5K170011-004
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:30
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND TXR	0.60	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	83.0		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND U	3.0	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND U	3.0	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-14

WO #: A5V5F
LAB #: C5K170011-005
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:45
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.60	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	83.2		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	3.0	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	3.0	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-4

WO #: A5V5G
LAB #: C5K170011-006
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	~~0.59~~ R	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	84.7		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	U 3.0	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	U 3.0	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-NT-151

WO #: A5V5H
LAB #: C5K170011-007
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 6:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.59	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	84.8		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-92

WO #: A5V5J
LAB #: C5K170011-008
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:15
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT		REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	U	0.57	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	87.5			%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	U	2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	U	2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-48

WO #: A5V5K
LAB #: C5K170011-009
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:25
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	KR 0.56	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	89.3		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	U 2.8	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	U 2.8	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-104

WO #: A5V5L
LAB #: C5K170011-010
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:35
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	~~EXR~~ 0.57	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	87.8		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	U 2.8	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	U 2.8	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-70

WO #: A5V5M
LAB #: C5K170011-011
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 7:45
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.57	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	87.2		%	MCAMW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-22

WO #: A5V5N
LAB #: C5K170011-012
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.56	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	89.0		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	2.8	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	2.8	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-66

WO #: A5V5P
LAB #: C5K170011-013
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:15
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	TR 0.58	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	86.8		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	U 2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	U 2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-DL-221

WO #: A5V5Q
LAB #: C5K170011-014
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.57	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	87.8		%	MCAMW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	2.8	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	2.8	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-29

WO #: A5V5R
LAB #: C5K170011-015
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:30
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND JKR	0.59	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	85.2		%	MCAMW 160.3 M	11/21/95	5325035
Cyanide, Total	ND U	2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND U	2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-50

WO #: A5V5T
LAB #: C5K170011-016
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:40
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	Ke 0.61	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	82.6		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	U 3.0	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	U 3.0	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-91

WO #: A5V5W
LAB #: C5K170011-017
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 8:55
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.60	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	83.9		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	3.0	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	3.0	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-61

WO #: A5V5X
LAB #: C5K170011-018
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:15
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.60	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	83.0		%	MCAWW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	3.0	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	3.0	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-4

WO #: A5V60
LAB #: C5K170011-019
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:25
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.59	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	85.4		%	MCAMW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

SOM-IL-79

WO #: A5V61
LAB #: C5K170011-020
MATRIX: SOLID

DATE SAMPLED: 11/16/95
TIME SAMPLED: 9:40
DATE RECEIVED: 11/17/95

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.58	mg/kg	SW846 7196A	11/27-11/28/95	5331022
Solids, Total (TS)	86.0		%	MCAMW 160.3 M	11/21/95	5325035
Cyanide, Total	ND	2.9	mg/kg	SW846 9012	11/20-11/21/95	5326005
Cyanide, amenable	ND	2.9	mg/kg	SW846 9012	11/21/95	5326011

NOTE: DRY WEIGHT
ND NOT DETECTED AT THE STATED REPORTING LIMIT

APPENDIX C

DECONTAMINATION WATER SAMPLING ANALYTICAL LABORATORY REPORT

Quanterra
Environmental Services

Quanterra Incorporated
450 William Pitt Way
Pittsburgh, Pennsylvania 15238

412 826-5477 Telephone
412 826-5571 Fax

ANALYTICAL REPORT

PROJECT NO. 305951

NAB LITTLE CREEK-IT

HARRY DRAVECKY

IT CORPORATION - MONROEVILLE ENGINEERING

QUANTERRA INCORPORATED

Adrinnia S. Washington

Adrinnia Washington
Project Manager

January 19, 1996

Quanterra
Environmental Services

NARRATIVE

The following report contains the analytical results for samples submitted to Quanterra Incorporated. The samples were received into the laboratory in accordance with documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods and instrumentation in all analytical work. The methods used for the analyses presented in this study can be found on the following pages.

A Quality Control Section, containing a summary of QA/QC data for these analyses, is included at the end of the report.

The following codes are utilized in various analyses of this report:

ND	(None Detected)
DIL	(Diluted Out)
MI	(Matrix Interference)
NEG	(Negative)
J	(Detected, but below quantitation limit; estimated value)
B	(Compounds detected in method blank associated with this sample)
W	(Post digestion spike recovery fell between 40 - 85 %)
S	(Sample result determined by the Method of Standard Additions)
+	(Sample result determined by the Method of Standard Additions and the correlation coefficient was less than 0.995)

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

Parameters	Methods
TCLP Extraction	SW846 1311
TCLP Pesticides	SW846 8080
TCLP HERBICIDES	SW846 8150A
TCLP Volatile Organics	SW846 8240A
TCLP Semivolatile Organics	SW846 8270A
Flash Point Closed Cup	SW846 1010
Silver	SW846 6010A
Arsenic	SW846 6010A
Barium	SW846 6010A
Cadmium	SW846 6010A
Chromium	SW846 6010A
Lead	SW846 6010A
Selenium	SW846 6010A
Mercury	SW846 7470
pH Non-Aqueous	SW846 9045
Reactive Cyanide	SW846 7.3.3.2
Sulfide Reactive	SW846 7.3.4.2

RCRA metals

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September, 1986 and subsequent revisions

Quanterra
Environmental Services

SAMPLE SUMMARY

The analytical results of the samples listed below are presented on the following pages.

WO #	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME SAMPLED
A60P3	C6A150001-001	PIPE BEDDING	1/13/96 12:00
A60P4	C6A150001-002	TRIP BLANK	1/13/96 12:00

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

PIPE BEDDING

WO #: A60P310C
LAB #: C6A150001-001
MATRIX: SOLID
DILUTION FACTOR: 1.00

DATE SAMPLED: 1/13/96
TIME SAMPLED: 12:00
DATE RECEIVED: 1/15/96
TCLP EXTRACTION DATE: 1/16/96

GC/MS Volatiles

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	**0.0012 J**	**0.0050**	**SW846 8240A**	**01/16/96**	**6016001**
Methyl ethyl ketone	ND	0.050	SW846 8240A	01/16/96	6016001
Carbon tetrachloride	ND	0.0050	SW846 8240A	01/16/96	6016001
Chlorobenzene	ND	0.0050	SW846 8240A	01/16/96	6016001
Chloroform	**0.0011 J**	**0.0050**	**SW846 8240A**	**01/16/96**	**6016001**
1,2-Dichloroethane	**0.0012 J**	**0.0050**	**SW846 8240A**	**01/16/96**	**6016001**
1,1-Dichloroethylene	ND	0.0050	SW846 8240A	01/16/96	6016001
Tetrachloroethylene	ND	0.0050	SW846 8240A	01/16/96	6016001
Trichloroethylene	**0.0017 J**	**0.0050**	**SW846 8240A**	**01/16/96**	**6016001**
Vinyl chloride	ND	0.010	SW846 8240A	01/16/96	6016001

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	112	(76 - 114)
Toluene-d8	103	(88 - 110)
4-Bromofluorobenzene	88	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

PIPE BEDDING

WO #: A60P310D
LAB #: C6A150001-001
MATRIX: SOLID
DILUTION FACTOR: 5.00

DATE SAMPLED: 1/13/96
TIME SAMPLED: 12:00
DATE RECEIVED: 1/15/96
TCLP EXTRACTION DATE: 1/15/96

GC/MS Semi-Volatiles

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,4-Dichlorobenzene	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
2,4-Dinitrotoluene	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
Hexachlorobenzene	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
Hexachlorobutadiene	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
Hexachloroethane	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
Nitrobenzene	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
Pentachlorophenol	ND	0.25	SW846 8270A	01/16-01/18/96	6017010
Pyridine	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
2,4,5-Trichlorophenol	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
2,4,6-Trichlorophenol	ND	0.050	SW846 8270A	01/16-01/18/96	6017010
Cresols, Total	ND	0.050	SW846 8270A	01/16-01/18/96	6017010

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	74	(35 - 114)
2-Fluorobiphenyl	74	(43 - 116)
Terphenyl-d14	81	(33 - 141)
2-Fluorophenol	48	(21 - 100)
Phenol-d5	34	(10 - 94)
2,4,6-Tribromophenol	97	(10 - 123)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

PIPE BEDDING

WO #: A60P310A
LAB #: C6A150001-001
MATRIX: SOLID
DILUTION FACTOR: 1.00

DATE SAMPLED: 1/13/96
TIME SAMPLED: 12:00
DATE RECEIVED: 1/15/96
TCLP EXTRACTION DATE: 1/15/96

- **GC Semi-Volatiles** -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
gamma-BHC (Lindane)	ND	0.00050	SW846 8080	01/16-01/18/96	6017007
Chlordane	ND	0.00050	SW846 8080	01/16-01/18/96	6017007
Endrin	ND	0.00050	SW846 8080	01/16-01/18/96	6017007
Heptachlor	ND	0.00050	SW846 8080	01/16-01/18/96	6017007
Heptachlor epoxide	ND	0.00050	SW846 8080	01/16-01/18/96	6017007
Methoxychlor	ND	0.0050	SW846 8080	01/16-01/18/96	6017007
Toxaphene	ND	0.010	SW846 8080	01/16-01/18/96	6017007

Rek.

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Decachlorobiphenyl	81	(57 - 155)
Tetrachlorometaxylene	90	(44 - 155)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

PIPE BEDDING

WO #: A60P3109
LAB #: C6A150001-001
MATRIX: SOLID
DILUTION FACTOR: 1.00

DATE SAMPLED: 1/13/96
TIME SAMPLED: 12:00
DATE RECEIVED: 1/15/96
TCLP EXTRACTION DATE: 1/15/96

- **GC Semi-Volatiles** -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
2,4-D	ND	0.0050	SW846 8150A	01/16-01/17/96	6017006
2,4,5-TP(Silvex)	ND	0.0050	SW846 8150A	01/16-01/17/96	6017006

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
DCAA	65	(17 - 140)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

PIPE BEDDING

DATE SAMPLED: 1/13/96
TIME SAMPLED: 12:00
DATE RECEIVED: 1/15/96
TCLP EXTRACTION DATE: 1/15/96

WO #: A60P3
LAB #: C6A150001-001
MATRIX: SOLID

- - - - - - - - - - - - - - - - - - **REQUESTED METALS** - - - - - - - - - - - - - - - - - -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT mg/L	REPORTING LIMIT	DILUTION FACTOR	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
- - TCLP METALS - -						
Silver	ND	0.010	1.00	SW846 6010A	1/16- 1/17/96	6016015
Arsenic	ND	0.30	1.00	SW846 6010A	1/16- 1/17/96	6016015
Barium	**0.54**	**0.20**	**1.00**	**SW846 6010A**	**1/16- 1/17/96**	**6016015**
Cadmium	ND	0.0050	1.00	SW846 6010A	1/16- 1/17/96	6016015
Chromium	ND	0.010	1.00	SW846 6010A	1/16- 1/17/96	6016015
Lead	ND	0.050	1.00	SW846 6010A	1/16- 1/17/96	6016015
Selenium	ND	0.30	1.00	SW846 6010A	1/16- 1/17/96	6016015
Mercury	ND	0.0010	1.00	SW846 7470	1/16/96	6017019

NOTE: AS RECEIVED
ND **NOT DETECTED AT THE STATED REPORTING LIMIT**

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

PIPE BEDDING

WO #: A60P3
LAB #: C6A150001-001
MATRIX: SOLID

DATE SAMPLED: 1/13/96
TIME SAMPLED: 12:00
DATE RECEIVED: 1/15/96

- - - - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Flash Point Closed Cup	**>200**		**deg F**	**SW846 1010**	**1/16/96**	**6016009**
pH Non-Aqueous	**8.2**		**su**	**SW846 9045**	**1/15/96**	**6015009**
Reactive Cyanide	ND	250	mg/kg	SW846 7.3.3.2	1/16- 1/17/96	6017012
Sulfide Reactive	ND	500	mg/kg	SW846 7.3.4.2	1/16/96	6016020

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TRIP BLANK

WO #: A60P4101
LAB #: C6A150001-002
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 1/13/96
TIME SAMPLED: 12:00
DATE RECEIVED: 1/15/96
TCLP EXTRACTION DATE: 1/16/96

GC/MS Volatiles

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	ND	0.0050	SW846 8240A	01/16/96	6016001
Methyl ethyl ketone	ND	0.050	SW846 8240A	01/16/96	6016001
Carbon tetrachloride	ND	0.0050	SW846 8240A	01/16/96	6016001
Chlorobenzene	ND	0.0050	SW846 8240A	01/16/96	6016001
Chloroform	ND	0.0050	SW846 8240A	01/16/96	6016001
1,2-Dichloroethane	ND	0.0050	SW846 8240A	01/16/96	6016001
1,1-Dichloroethylene	ND	0.0050	SW846 8240A	01/16/96	6016001
Tetrachloroethylene	ND	0.0050	SW846 8240A	01/16/96	6016001
Trichloroethylene	ND	0.0050	SW846 8240A	01/16/96	6016001
Vinyl chloride	ND	0.010	SW846 8240A	01/16/96	6016001

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	98	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	93	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental
Services

QUALITY CONTROL SECTION

Quanterra
Environmental Services

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM SUMMARY

Quanterra Incorporated considers continuous analytical performance evaluations to be an integral portion of the data package, and routinely includes the pertinent QA/QC data associated with various analytical reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method and matrix performance follow.

SURROGATE SPIKE RECOVERY EVALUATIONS

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compounds analogues, are added, as appropriate, to routine GC and GC/MS sample fractions prior to extraction and analysis. The percent recoveries calculated from the subsequent spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each applicable analytical result report sheet.

NOTE: Acceptable method performance for Base/Neutral Acid extractables is indicated by two (2) of three (3) surrogates for each fraction with a minimum recovery of ten percent (10%) each. For Pesticides, one (1) of two (2) surrogates meeting performance criteria is acceptable.

LABORATORY ANALYTICAL METHOD BLANK EVALUATIONS

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method. These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.) substituting laboratory reagent water or solid for actual sample. The method blank must not contain any analytes above the reported detection limit. The following common laboratory contaminants are exceptions to this rule, provided they are not present at a greater than five times the detection limit.

Volatiles	Semi-volatiles
Methylene chloride	Dimethyl phthalate
2-Butanone	Diethyl phthalate
Acetone	Di-n-butyl phthalate
	Butyl benzyl phthalate
	Bis (2-ethylhexyl) phthalate

A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM SUMMARY (CONT)

LABORATORY ANALYTICAL METHOD CHECK SAMPLE EVALUATIONS

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to a laboratory reagent blank prior to extraction and analysis. Percent recovery determinations demonstrate the performance of the analytical method. Failure of a check sample to meet established laboratory recovery criteria is cause to stop the analysis until the problem is resolved. All compounds must meet laboratory recovery criteria. A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method check samples.

MATRIX SPIKE(MS)/MATRIX SPIKE DUPLICATE(MSD) RECOVERY EVALUATION

Known concentration of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds from the matrix. Actual percent recovery data is displayed alongside the acceptable analytical method performance limits in the QA/QC section of the report. The MS/MSD are considered in control when the associated check sample has been found to be acceptable. A minimum of ten percent (10%) of all analyses are MS/MSD quality control samples.

EXAMPLE

COMPOUND	SAMPLE CONCENTRATION	MS % RECOVERY	MSD % RECOVERY	QC LIMITS[1] RECOVERY
4-4'-DDT	0	95	112	(66-119)
Benzene	10	86	93	(39-150)
compound name	sample result	1st % recovery	2nd % recovery	acceptable method limits

[1]QC limits are statistically derived from historical laboratory data. Where insufficient data exists to statistically derive these limits, they will be labelled "advisory". In this case, they are based on the best available technical information.

For metals analyses, the recoveries of the MS/MSD must be within the range of 80-120%. If they do not meet this criteria, but the RPD of the two results is <20% **OR** the absolute difference is less than 10% when the recoveries are below 50%, no corrective action is required. If these criteria are not met, the sample with its MS/MSD is reprepared and reanalyzed once more.

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6A160000-001

TCLP EXTRACTION DATE: 1/16/96

GC/MS Volatiles

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Benzene	ND	0.0050	1/16/96	6016001
Methyl ethyl ketone	ND	0.050	1/16/96	6016001
Carbon tetrachloride	ND	0.0050	1/16/96	6016001
Chlorobenzene	ND	0.0050	1/16/96	6016001
Chloroform	ND	0.0050	1/16/96	6016001
1,2-Dichloroethane	ND	0.0050	1/16/96	6016001
1,1-Dichloroethylene	ND	0.0050	1/16/96	6016001
Tetrachloroethylene	ND	0.0050	1/16/96	6016001
Trichloroethylene	ND	0.0050	1/16/96	6016001
Vinyl chloride	ND	0.010	1/16/96	6016001

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	99	(76 - 114)
Toluene-d8	106	(88 - 110)
4-Bromofluorobenzene	92	(86 - 115)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6A170000-010

TCLP EXTRACTION DATE: 1/15/96

GC/MS Semi-Volatiles

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
1,4-Dichlorobenzene	ND	0.010	1/16- 1/18/96	6017010
2,4-Dinitrotoluene	ND	0.010	1/16- 1/18/96	6017010
Hexachlorobenzene	ND	0.010	1/16- 1/18/96	6017010
Hexachlorobutadiene	ND	0.010	1/16- 1/18/96	6017010
Hexachloroethane	ND	0.010	1/16- 1/18/96	6017010
Nitrobenzene	ND	0.010	1/16- 1/18/96	6017010
Pentachlorophenol	ND	0.050	1/16- 1/18/96	6017010
Pyridine	ND	0.010	1/16- 1/18/96	6017010
2,4,5-Trichlorophenol	ND	0.010	1/16- 1/18/96	6017010
2,4,6-Trichlorophenol	ND	0.010	1/16- 1/18/96	6017010
Cresols, Total	ND	0.010	1/16- 1/18/96	6017010

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	78	(35 - 114)
2-Fluorobiphenyl	81	(43 - 116)
Terphenyl-d14	96	(33 - 141)
2-Fluorophenol	72	(21 - 100)
Phenol-d5	77	(10 - 94)
2,4,6-Tribromophenol	95	(10 - 123)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6A170000-007

TCLP EXTRACTION DATE: 1/15/96

- **GC Semi-Volatiles** -

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
gamma-BHC (Lindane)	ND	0.00050	1/16- 1/17/96	6017007
Chlordane	ND	0.00050	1/16- 1/17/96	6017007
Endrin	ND	0.00050	1/16- 1/17/96	6017007
Heptachlor	ND	0.00050	1/16- 1/17/96	6017007
Heptachlor epoxide	ND	0.00050	1/16- 1/17/96	6017007
Methoxychlor	ND	0.0050	1/16- 1/17/96	6017007
Toxaphene	ND	0.010	1/16- 1/17/96	6017007

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Decachlorobiphenyl	76	(57 - 155)
Tetrachlorometaxylene	90	(44 - 155)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6A170000-006

TCLP EXTRACTION DATE: 1/15/96

- **GC Semi-Volatiles** -

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
2,4-D	ND	0.0050	1/16- 1/17/96	6017006
2,4,5-TP(Silvex)	ND	0.0050	1/16- 1/17/96	6017006

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
DCAA	72	(17 - 140)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6A150001

*** TCLP ***

TCLP EXTRACTION DATE: 1/15/96

METALS

PARAMETER	RESULT mg/L	REPORTING LIMIT	DIL FACTOR	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:6016015			
Silver	ND	0.010	1.00	SW846 6010A	1/16- 1/17/96
Arsenic	ND	0.30	1.00	SW846 6010A	1/16- 1/17/96
Barium	ND	0.20	1.00	SW846 6010A	1/16- 1/17/96
Cadmium	ND	0.0050	1.00	SW846 6010A	1/16- 1/17/96
Chromium	ND	0.010	1.00	SW846 6010A	1/16- 1/17/96
Lead	ND	0.050	1.00	SW846 6010A	1/16- 1/17/96
Selenium	ND	0.30	1.00	SW846 6010A	1/16- 1/17/96
		BATCH:6017019			
Mercury	ND	0.0010	1.00	SW846 7470	1/16/96

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6A150000-009

- - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
pH Non-Aqueous	**5.0**		**su**	**1/15/96**	**6015009**
Reactive Cyanide	ND	250	mg/kg	1/16- 1/17/96	6017012
Sulfide Reactive	ND	500	mg/kg	1/16/96	6016020

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6016001
LAB #: C6A160000-001 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/16/96
TCLP EXTRACTION DATE: 1/16/96

GC/MS Volatiles

COMPOUND	SPIKE PERCENT RECOVERY
Vinyl chloride	93
1,1-Dichloroethene	102
Chloroform	119
1,2-Dichloroethane	117
2-Butanone	148
Carbon tetrachloride	104
Trichloroethene	107
Benzene	105
Tetrachloroethene	110
Chlorobenzene	104

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6017010
LAB #: C6A170000-010 C
DILUTION FACTOR: 5.00

PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/18/96
TCLP EXTRACTION DATE: 1/15/96

- - - - - - - - - - - - - - - - - - **GC/MS Semi-Volatiles** - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY
Pyridine	85
1,4-Dichlorobenzene	89
2-Methylphenol	84
3-Methylphenol & 4-Methylphenol	84
Hexachloroethane	88
Nitrobenzene	92
Hexachlorobutadiene	95
2,4,6-Trichlorophenol	102
2,4,5-Trichlorophenol	98
2,4-Dinitrotoluene	106
Hexachlorobenzene	98
Pentachlorophenol	100

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6017007
LAB #: C6A170000-007 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/17/96
TCLP EXTRACTION DATE: 1/15/96

- **GC Semi-Volatiles** - - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY
gamma-BHC (Lindane)	111
Heptachlor	92
Heptachlor epoxide	96
Chlordane(technical)	77
Endrin	100
Methoxychlor	100

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6017006
LAB #: C6A170000-006 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/17/96
TCLP EXTRACTION DATE: 1/15/96

- **GC Semi-Volatiles** - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY
2,4-D	72
2,4,5-TP(Silvex)	76
2,4,5-T	77

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: C6A150001

*** TCLP ***

TCLP EXTRACTION DATE: 1/15/96

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	PREPARATION - ANALYSIS DATE	DILUTION FACTOR
	BATCH:6016015		
Silver	89	1/16- 1/17/96	1.00
Arsenic	92	1/16- 1/17/96	1.00
Barium	97	1/16- 1/17/96	1.00
Cadmium	93	1/16- 1/17/96	1.00
Chromium	94	1/16- 1/17/96	1.00
Lead	96	1/16- 1/17/96	1.00
Selenium	96	1/16- 1/17/96	1.00
	BATCH:6017019		
Mercury	102	1/16/96	1.00

Quanterra Environmental Services

CHECK SAMPLE REPORT

LAB #: C6A150001

- - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	PREPARATION - ANALYSIS DATE	Q/C BATCH
Flash Point Closed Cup	100	1/16/96	6016009
pH Non-Aqueous	99	1/15/96	6015009
Sulfide Reactive	103	1/16/96	6016020

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6016001
LAB #: C6A150001-001 S
MATRIX: SOLID
DILUTION FACTOR: 1.00

WO #: A60P3
PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/16/96
TCLP EXTRACTION DATE: 1/16/96

GC/MS Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	RPD
Benzene	105	113	7.7
Methyl ethyl ketone	127	141	11
Carbon tetrachloride	102	118	15
Chlorobenzene	99	106	6.9
Chloroform	104	115	10
1,2-Dichloroethane	115	115	0.37
1,1-Dichloroethylene	87	107	21
Tetrachloroethylene	95	110	14
Trichloroethylene	104	114	9.0
Vinyl chloride	88	114	25

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6017010
LAB #: C6A150001-001 S
MATRIX: SOLID
DILUTION FACTOR: 5.00

WO #: A60P3
PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/18/96
TCLP EXTRACTION DATE: 1/15/96

GC/MS Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	RPD
Pyridine	46	42	9.2
1,4-Dichlorobenzene	73	72	0.16
2-Methylphenol	65	67	1.9
3-Methylphenol & 4-Methylphenol	60	62	2.6
Hexachloroethane	68	70	3.4
Nitrobenzene	78	77	2.1
Hexachlorobutadiene	80	80	0.62
2,4,6-Trichlorophenol	83	88	5.2
2,4,5-Trichlorophenol	82	83	1.4
2,4-Dinitrotoluene	83	85	1.8
Hexachlorobenzene	89	91	1.8
Pentachlorophenol	89	91	2.0

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6017007
LAB #: C6A150001-001 S
MATRIX: SOLID
DILUTION FACTOR: 1.00

WO #: A60P3
PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/18/96
TCLP EXTRACTION DATE: 1/15/96

GC Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	RPD
gamma-BHC (Lindane)	118	112	5.2
Heptachlor	98	94	3.8
Heptachlor epoxide	101	96	4.8
Chlordane(technical)	79	82	3.1
Endrin	104	109	4.5
Methoxychlor	102	109	6.1

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6017006
LAB #: C6A150001-001 S
MATRIX: SOLID
DILUTION FACTOR: 1.00

WO #: A60P3
PREPARATION DATE: 1/16/96
DATE ANALYZED: 1/17/96
TCLP EXTRACTION DATE: 1/15/96

GC Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	RPD
2,4-D	76	76	0.44
2,4,5-TP(Silvex)	79	78	0.84
2,4,5-T	82	83	0.60

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

LAB #: C6A150001-001

*** TCLP *** **TCLP EXTRACTION DATE:** 1/15/96

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	RPD	PREPARATION - ANALYSIS DATE	DILUTION FACTOR
		BATCH:6016015 MATRIX: SOLID			
Silver	82	87	6.2	1/16- 1/17/96	.00
Arsenic	100	99	1.2	1/16- 1/17/96	.00
Barium	94	94	0.80	1/16- 1/17/96	.00
Cadmium	98	101	3.6	1/16- 1/17/96	.00
Chromium	91	92	1.0	1/16- 1/17/96	.00
Lead	94	95	1.3	1/16- 1/17/96	.00
Selenium	103	103	0.50	1/16- 1/17/96	.00
		BATCH:6017019 MATRIX: SOLID			
Mercury	84	79	6.1	1/16/96	.00

NOTE:

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

SAMPLE - SAMPLE DUP

WO #: A60P3

LAB #: C6A150001-001
MATRIX: SOLID

- - - - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - - -

PARAMETER	RESULT SMP	RESULT DUP	RPD	EXTRACTION / ANALYSIS DATE	QC BATCH
Flash Point Closed Cup	>200	>200	0	1/16/96	6016009
Reactive Cyanide	ND	ND	0	1/16- 1/17/96	6017012
Sulfide Reactive	ND	ND	0	1/16/96	6016020

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Chain of Custody Record

QUA-4124-1

Quanterra Environmental Services

Client: IT CORP	Project Manager: H. DRAVECKY	Date: 1/14/96	Chain Of Custody Number: 45474
Address:	Telephone Number (Area Code)/Fax Number: 412 322 7701	Lab Number:	Page 1 of 1
City: MONROEVILLE; State: PA; Zip Code:	Site Contact: H DRAVECKY	Lab Contact: C. GAMBOR	
Project Name: LITTLECREEK	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No:			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	VOC TCL	Metal TCL	Flash PT	TCLP-BNA PEST	Corr. Conc.	Special Instructions/ Conditions of Receipt
PIPE BEDDING 4oz	1/13/96	12:17			X	X						X					
8oz	↓	↓			X	X							X				
16oz					X	X								X			
16oz					X	X									X		
8oz					X	X										X	
TRIP BLANK	↓	↓	X									X					

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [X] Disposal By Lab [ ] Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: [ ] 24 Hours [ ] 48 Hours [ ] 7 Days [ ] 14 Days [ ] 21 Days [X] Other 5 DAY

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	1-15-96	0730	1. Received By: [signature]		
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments:

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

APPENDIX D-1

PIPE BEDDING/BACKFILL SAMPLING ANALYTICAL LABORATORY REPORT

Quanterra Incorporated
450 William Pitt Way
Pittsburgh, Pennsylvania 15238

412 826-5477 Telephone
412 826-5571 Fax

Quanterra
Environmental Services

ANALYTICAL REPORT

PROJECT NO. 305951

NAB LITTLE CREEK-IT

HARRY DRAVECKY

IT CORPORATION - MONROEVILLE ENGINEERING

QUANTERRA INCORPORATED

Adrinnia S. Washington

Adrinnia Washington
Project Manager

December 1, 1995

Quanterra
Environmental Services

NARRATIVE

The following report contains the analytical results for samples submitted to Quanterra Incorporated. The samples were received into the laboratory in accordance with documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods and instrumentation in all analytical work. The methods used for the analyses presented in this study can be found on the following pages.

A Quality Control Section, containing a summary of QA/QC data for these analyses, is included at the end of the report.

The following codes are utilized in various analyses of this report:

ND	(None Detected)
DIL	(Diluted Out)
MI	(Matrix Interference)
NEG	(Negative)
J	(Detected, but below quantitation limit; estimated value)
B	(Compounds detected in method blank associated with this sample)
W	(Post digestion spike recovery fell between 40 - 85 %)
S	(Sample result determined by the Method of Standard Additions)
+	(Sample result determined by the Method of Standard Additions and the correlation coefficient was less than 0.995)

Quanterra
Environmental Services

CASE NARRATIVE
Lot C5K180003

The sample was pretreated to eliminate interferences prior to amenable cyanide analysis. Since the amenable cyanide result was higher than the total cyanide result, the sample was reanalyzed for total cyanide. The reanalysis result confirmed a matrix interference.

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

Parameters	Methods
Volatile Organics	SW846 8240A
Silver	SW846 6010A
Barium	SW846 6010A
Cadmium	SW846 6010A
Chromium	SW846 6010A
Copper	SW846 6010A
Nickel	SW846 6010A
Zinc	SW846 6010A
Hexavalent Chromium	SW846 7196A
Mercury	SW846 7470
Cyanide, Total	SW846 9012
Cyanide, amenable	SW846 9012

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September, 1986 and subsequent revisions

Quanterra
Environmental Services

SAMPLE SUMMARY

The analytical results of the samples listed below are presented on the following pages.

WO #	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME SAMPLED
A5V7P	C5K180003-001	DECON-01	11/17/95 15:00
A5V7Q	C5K180003-002	TRIP BLANK	11/17/95

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P108
LAB #: C5K180003-001
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acetone	**11 B J**	**50**	**SW846 8240A**	**11/22/95**	**5331013**
Benzene	ND	5.0	SW846 8240A	11/22/95	5331013
Bromodichloromethane	**2.7 J**	**5.0**	**SW846 8240A**	**11/22/95**	**5331013**
Bromoform	ND	5.0	SW846 8240A	11/22/95	5331013
Bromomethane	ND	10	SW846 8240A	11/22/95	5331013
2-Butanone	**2.7 J**	**50**	**SW846 8240A**	**11/22/95**	**5331013**
Carbon disulfide	ND	5.0	SW846 8240A	11/22/95	5331013
Carbon tetrachloride	ND	5.0	SW846 8240A	11/22/95	5331013
Chlorobenzene	ND	5.0	SW846 8240A	11/22/95	5331013
Dibromochloromethane	ND	5.0	SW846 8240A	11/22/95	5331013
Chloroethane	ND	10	SW846 8240A	11/22/95	5331013
Chloroform	**12**	**5.0**	**SW846 8240A**	**11/22/95**	**5331013**
Chloromethane	ND	10	SW846 8240A	11/22/95	5331013
1,1-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1-Dichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethene, Total	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloropropane	ND	5.0	SW846 8240A	11/22/95	5331013
cis-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
trans-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
Ethylbenzene	ND	5.0	SW846 8240A	11/22/95	5331013
2-Hexanone	ND	50	SW846 8240A	11/22/95	5331013
Methylene chloride	ND	10	SW846 8240A	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	110	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P108
LAB #: C5K180003-001
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Methyl-2-pentanone	ND	50	SW846 8240A	11/22/95	5331013
Styrene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2,2-Tetrachloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Tetrachloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Toluene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,1-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Trichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Vinyl chloride	ND	10	SW846 8240A	11/22/95	5331013
Xylenes, Total	ND	5.0	SW846 8240A	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	110	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P
LAB #: C5K180003-001
MATRIX: WATER

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	3,240	10.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Barium	2,930	200	ug/L	SW846 6010A	11/22-11/27/95	5326029
Cadmium	20.4	5.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Chromium	45,500	10.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Copper	17,500	25.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Nickel	5,010	40.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Zinc	16,600	20.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Mercury	16.5	2.0	ug/L	SW846 7470	11/22/95	5332017

NOTE: AS RECEIVED

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P
LAB #: C5K180003-001
MATRIX: WATER

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

- - - - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.010	mg/L	SW846 7196A	11/18/95	5324019
Cyanide, Total	**0.11**	**0.010**	**mg/L**	**SW846 9012**	**11/20-11/21/95**	**5326004**
Cyanide, amenable	ND	0.010	mg/L	SW846 9012	11/21/95	5326010

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TRIP BLANK

WO #: A5V7Q101
LAB #: C5K180003-002
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED:
DATE RECEIVED: 11/18/95

- **GC/MS Volatiles** -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acetone	**4.5 B J**	**50**	**SW846 8240A**	**11/22/95**	**5331013**
Benzene	ND	5.0	SW846 8240A	11/22/95	5331013
Bromodichloromethane	ND	5.0	SW846 8240A	11/22/95	5331013
Bromoform	ND	5.0	SW846 8240A	11/22/95	5331013
Bromomethane	ND	10	SW846 8240A	11/22/95	5331013
2-Butanone	ND	50	SW846 8240A	11/22/95	5331013
Carbon disulfide	ND	5.0	SW846 8240A	11/22/95	5331013
Carbon tetrachloride	ND	5.0	SW846 8240A	11/22/95	5331013
Chlorobenzene	ND	5.0	SW846 8240A	11/22/95	5331013
Dibromochloromethane	ND	5.0	SW846 8240A	11/22/95	5331013
Chloroethane	ND	10	SW846 8240A	11/22/95	5331013
Chloroform	ND	5.0	SW846 8240A	11/22/95	5331013
Chloromethane	ND	10	SW846 8240A	11/22/95	5331013
1,1-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1-Dichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethene, Total	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloropropane	ND	5.0	SW846 8240A	11/22/95	5331013
cis-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
trans-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
Ethylbenzene	ND	5.0	SW846 8240A	11/22/95	5331013
2-Hexanone	ND	50	SW846 8240A	11/22/95	5331013
Methylene chloride	**2.0 J**	**10**	**SW846 8240A**	**11/22/95**	**5331013**

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(76 - 114)
Toluene-d8	105	(88 - 110)
4-Bromofluorobenzene	102	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TRIP BLANK

WO #: A5V7Q101
LAB #: C5K180003-002
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED:
DATE RECEIVED: 11 18 95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Methyl-2-pentanone	ND	50	SW846 8240A	11/22/95	5331013
Styrene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2,2-Tetrachloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Tetrachloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Toluene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,1-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Trichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Vinyl chloride	ND	10	SW846 8240A	11/22/95	5331013
Xylenes, Total	ND	5.0	SW846 8240A	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(76 - 114)
Toluene-d8	105	(88 - 110)
4-Bromofluorobenzene	102	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

QUALITY CONTROL SECTION

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM SUMMARY

Quanterra Incorporated considers continuous analytical performance evaluations to be an integral portion of the data package, and routinely includes the pertinent QA/QC data associated with various analytical reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method and matrix performance follow.

SURROGATE SPIKE RECOVERY EVALUATIONS

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compounds analogues, are added, as appropriate, to routine GC and GC/MS sample fractions prior to extraction and analysis. The percent recoveries calculated from the subsequent spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each applicable analytical result report sheet.

NOTE: Acceptable method performance for Base/Neutral Acid extractables is indicated by two (2) of three (3) surrogates for each fraction with a minimum recovery of ten percent (10%) each. For Pesticides, one (1) of two (2) surrogates meeting performance criteria is acceptable.

LABORATORY ANALYTICAL METHOD BLANK EVALUATIONS

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method. These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.) substituting laboratory reagent water or solid for actual sample. The method blank must not contain any analytes above the reported detection limit. The following common laboratory contaminants are exceptions to this rule, provided they are not present at a greater than five times the detection limit.

Volatiles	Semi-volatiles
Methylene chloride	Dimethyl phthalate
2-Butanone	Diethyl phthalate
Acetone	Di-n-butyl phthalate
	Butyl benzyl phthalate
	Bis (2-ethylhexyl) phthalate

A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM SUMMARY (CONT)

LABORATORY ANALYTICAL METHOD CHECK SAMPLE EVALUATIONS

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to a laboratory reagent blank prior to extraction and analysis. Percent recovery determinations demonstrate the performance of the analytical method. Failure of a check sample to meet established laboratory recovery criteria is cause to stop the analysis until the problem is resolved. All compounds must meet laboratory recovery criteria. A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method check samples.

MATRIX SPIKE(MS)/MATRIX SPIKE DUPLICATE(MSD) RECOVERY EVALUATION

Known concentration of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds from the matrix. Actual percent recovery data is displayed alongside the acceptable analytical method performance limits in the QA/QC section of the report. The MS/MSD are considered in control when the associated check sample has been found to be acceptable. A minimum of ten percent (10%) of all analyses are MS/MSD quality control samples.

EXAMPLE

COMPOUND	SAMPLE CONCENTRATION	MS % RECOVERY	MSD % RECOVERY	QC LIMITS[1] RECOVERY
4-4'-DDT	0	95	112	(66-119)
Benzene	10	86	93	(39-150)
compound name	sample result	1st % recovery	2nd % recovery	acceptable method limits

[1]QC limits are statistically derived from historical laboratory data. Where insufficient data exists to statistically derive these limits, they will be labelled "advisory". In this case, they are based on the best available technical information.

For metals analyses, the recoveries of the MS/MSD must be within the range of 80-120%. If they do not meet this criteria, but the RPD of the two results is <20% **OR** the absolute difference is less than 10% when the recoveries are below 50%, no corrective action is required. If these criteria are not met, the sample with its MS/MSD is reprepared and reanalyzed once more.

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C5K270000-013

- - - - - - - - - - - - - - - - - - - GC/MS Volatiles -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acetone	2.7 J	**50**	**11/22/95**	**5331013**
Benzene	ND	5.0	11/22/95	5331013
Bromodichloromethane	ND	5.0	11/22/95	5331013
Bromoform	ND	5.0	11/22/95	5331013
Bromomethane	ND	10	11/22/95	5331013
2-Butanone	ND	50	11/22/95	5331013
Carbon disulfide	ND	5.0	11/22/95	5331013
Carbon tetrachloride	ND	5.0	11/22/95	5331013
Chlorobenzene	ND	5.0	11/22/95	5331013
Dibromochloromethane	ND	5.0	11/22/95	5331013
Chloroethane	ND	10	11/22/95	5331013
Chloroform	ND	5.0	11/22/95	5331013
Chloromethane	ND	10	11/22/95	5331013
1,1-Dichloroethane	ND	5.0	11/22/95	5331013
1,2-Dichloroethane	ND	5.0	11/22/95	5331013
1,1-Dichloroethene	ND	5.0	11/22/95	5331013
1,2-Dichloroethene, Total	ND	5.0	11/22/95	5331013
1,2-Dichloropropane	ND	5.0	11/22/95	5331013
cis-1,3-Dichloropropene	ND	5.0	11/22/95	5331013
trans-1,3-Dichloropropene	ND	5.0	11/22/95	5331013
Ethylbenzene	ND	5.0	11/22/95	5331013
2-Hexanone	ND	50	11/22/95	5331013
Methylene chloride	ND	10	11/22/95	5331013
4-Methyl-2-pentanone	ND	50	11/22/95	5331013
Styrene	ND	5.0	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	101	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	104	(86 - 115)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C5K270000-013

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
1,1,2,2-Tetrachloroethane	ND	5.0	11/22/95	5331013
Tetrachloroethene	ND	5.0	11/22/95	5331013
Toluene	ND	5.0	11/22/95	5331013
1,1,1-Trichloroethane	ND	5.0	11/22/95	5331013
1,1,2-Trichloroethane	ND	5.0	11/22/95	5331013
Trichloroethene	ND	5.0	11/22/95	5331013
Vinyl chloride	ND	10	11/22/95	5331013
Xylenes, Total	ND	5.0	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	101	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	104	(86 - 115)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C5K180003

METALS

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:5326029			
Silver	ND	10.0	ug/L	SW846 6010A	11/22-11/27/95
Barium	ND	200	ug/L	SW846 6010A	11/22-11/27/95
Cadmium	ND	5.0	ug/L	SW846 6010A	11/22-11/27/95
Chromium	ND	10.0	ug/L	SW846 6010A	11/22-11/27/95
Copper	ND	25.0	ug/L	SW846 6010A	11/22-11/27/95
Nickel	ND	40.0	ug/L	SW846 6010A	11/22-11/27/95
Zinc	ND	20.0	ug/L	SW846 6010A	11/22-11/27/95
		BATCH:5332017			
Mercury	ND	2.0	ug/L	SW846 7470	11/22/95

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C5K200000-019

- - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.010	mg/L	11/18/95	5324019
Cyanide, Total	ND	0.010	mg/L	11/20-11/21/95	5326004
Cyanide	ND	0.010	mg/L	11/21/95	5326010

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

LABORATORY CONTROL SAMPLE REPORT

LAB #: C5K180003
QC BATCH: 5331013
WORK ORDER: A5VJ5

PREPARATION DATE: 11/22/95
DATE ANALYZED: 11/22/95

- - - - - - - - - - - - - - - - - - Mass Spec. Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	TRUE SPIKE	MEASURED SPIKE	PERCENT RECOVERY	RECOVERY LIMITS
1,1-Dichloroethene	50	50	99	(65-126
Trichloroethene	50	49	98	(72-118
Benzene	50	49	98	(79-114)
Toluene	50	54	108	(77-117)
Chlorobenzene	50	53	106	(80-114)

NOTE:
Calculations are performed before rounding to avoid round-off errors in calculated results.

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: C5K180003

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS	PREPARATION - ANALYSIS DATE
	BATCH:5326029		
Silver	95	(80-120)	11/22-11/27/95
Barium	97	(80-120)	11/22-11/27/95
Cadmium	96	(80-120)	11/22-11/27/95
Chromium	96	(80-120)	11/22-11/27/95
Copper	96	(80-120)	11/22-11/27/95
Nickel	96	(80-120)	11/22-11/27/95
Zinc	92	(80-120)	11/22-11/27/95
	BATCH:5332017		
Mercury	96	(80-120)	11/22/95

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: C5K180003

- - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Hexavalent Chromium	99	(85-115)	11/18/95	5324019
Cyanide, Total	91	(85-115)	11/20-11/21/95	5326004
Cyanide	87	(85-115)	11/21/95	5326010

Quanterra
Environmental Services

MATRIX SPIKE SAMPLE REPORT

LAB #: C5K180003
SAMPLE NO.: 001
QC BATCH: 5331013
MS W.O.# : A5V7P
MSD W.O.# : A5V7P

PREPARATION DATE: 11/22/95
DATE ANALYZED: 11/22/95

- - - - - - - - - - - - - - - - - - Mass Spec. Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	TRUE SPIKE	SPIKE AMOUNT	SPIKE %REC	DUPLICATE AMOUNT	DUPLICATE %REC	RECOVERY LIMITS	RELATIVE PERCENT DIFFERENCE	RPD LIMITS
1,1-Dichloroethene	50	49	99	53	107	(65-122)	7.6	(0-13)
Trichloroethene	50	49	99	52	104	(64-130)	5.5	(0-16)
Benzene	50	47	94	53	106	(78-113)	12	(0-16)
Toluene	50	53	106	58	115 a	(80-110)	8.7	(0-12)
Chlorobenzene	50	55	110	58	115 a	(84-110)	4.4	(0-10)

NOTE:

Calculations are performed before rounding to avoid round-off errors in calculated results.

a Spiked analyte recovery outside control limits.

Quanterra
Environmental Services

MATRIX SPIKE REPORT

LAB #: C5K180003-001

- METALS -

COMPOUND		SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE
			BATCH:5326029 MATRIX:		WATER		
Silver	MI	0	0	(80-120)	0	(0-20)	11/22-11/27/95
Barium		91	91	(80-120)	0.68	(0-20)	11/22-11/27/95
Cadmium		88	89	(80-120)	2.1	(0-20)	11/22-11/27/95
Chromium	MI	0	0	(80-120)	0	(0-20)	11/22-11/27/95
Copper	MI	0	0	(80-120)	0	(0-20)	11/22-11/27/95
Nickel	MI	65	58	(80-120)	12	(0-20)	11/22-11/27/95
Zinc	MI	24	0	(80-120)	0	(0-20)	11/22-11/27/95
			BATCH:5332017 MATRIX:		WATER		
Mercury	MI	442	471	(80-120)	6.4	(0-20)	11/22/95

NOTE:

MI Matrix Interference

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

Lot #: C5K180003

- - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

COMPOUND	RECOVERY PERCENT MS	MSD	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Lab# C5K180003- 1 Matrix: WATER							
Hexavalent Chromium	101	101	(75-125)	0	20	11/18/95	532401-
Cyanide	81	72	(75-125)	11	20	11/21/95	5326011

Chain of Custody Record

QUA-4124-1

Quanterra Environmental Services

Client: N.A.B.-LITTLE CREEK	Project Manager: HARRY DRAVECKY C/O I.T. CORP.	Date: 11-17-95	Chain Of Custody Number: 43558
Address: 1450 GATOR BLVD	Telephone Number (Area Code)/Fax Number: 412/372-7701 / 412/373-7135	Lab Number:	Page 1 of 1
City: NORFOLK; State: VA; Zip Code: 23521	Site Contact: WALTER WEICK	Lab Contact: VERONICA BERGER	
Project Name: NAB-LITTLE CREEK	Carrier/Waybill Number: FED. EXP.#		
Contract/Purchase Order/Quote No.: 7071			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): PCB-8082	TCLP: TCL-HERB-TCLP; METALS-TCLP; VOC-TCLP	VOC 8240-CORE	SEMI-VOC-TCL SVOC; CN; CL; CL-AMB;	TPH: CL-6								Special Instructions/ Conditions of Receipt
DECON-01	11-17-95 C	1500	✓				13			6	4			✓	✓	✓	✓	✓								

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☑ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Walter Weick - I.T. Corp.	11-17-95	1600	1. Received By: [signature]	11/18/95	10:30A
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

APPENDIX D-2

PIPE BEDDING/BACKFILL SAMPLING LABORATORY QUALITY CONTROL REPORT

Quanterra Environmental Services

Quanterra Incorporated
450 William Pitt Way
Pittsburgh, Pennsylvania 15238

412 826-5477 Telephone
412 826-5571 Fax

ANALYTICAL REPORT

PROJECT NO. 305951

NAB LITTLE CREEK-IT

HARRY DRAVECKY

IT CORPORATION - MONROEVILLE ENGINEERING

QUANTERRA INCORPORATED

Adrinnia S. Washington

Adrinnia Washington
Project Manager

December 1, 1995

Quanterra
Environmental Services

NARRATIVE

The following report contains the analytical results for samples submitted to Quanterra Incorporated. The samples were received into the laboratory in accordance with documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods and instrumentation in all analytical work. The methods used for the analyses presented in this study can be found on the following pages.

A Quality Control Section, containing a summary of QA/QC data for these analyses, is included at the end of the report.

The following codes are utilized in various analyses of this report:

ND	(None Detected)
DIL	(Diluted Out)
MI	(Matrix Interference)
NEG	(Negative)
J	(Detected, but below quantitation limit; estimated value)
B	(Compounds detected in method blank associated with this sample)
W	(Post digestion spike recovery fell between 40 - 85 %)
S	(Sample result determined by the Method of Standard Additions)
+	(Sample result determined by the Method of Standard Additions and the correlation coefficient was less than 0.995)

Quanterra
Environmental Services

CASE NARRATIVE
Lot C5K180003

The sample was pretreated to eliminate interferences prior to amenable cyanide analysis. Since the amenable cyanide result was higher than the total cyanide result, the sample was reanalyzed for total cyanide. The reanalysis result confirmed a matrix interference.

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

Parameters	Methods
Volatile Organics	SW846 8240A
Silver	SW846 6010A
Barium	SW846 6010A
Cadmium	SW846 6010A
Chromium	SW846 6010A
Copper	SW846 6010A
Nickel	SW846 6010A
Zinc	SW846 6010A
Hexavalent Chromium	SW846 7196A
Mercury	SW846 7470
Cyanide, Total	SW846 9012
Cyanide, amenable	SW846 9012

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September, 1986 and subsequent revisions

Quanterra
Environmental Services

SAMPLE SUMMARY

The analytical results of the samples listed below are presented on the following pages.

WO #	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME SAMPLED
A5V7P	C5K180003-001	DECON-01	11/17/95 15:00
A5V7Q	C5K180003-002	TRIP BLANK	11/17/95

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P108
LAB #: C5K180003-001
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acetone	**11 B J**	**50**	**SW846 8240A**	**11/22/95**	**5331013**
Benzene	ND	5.0	SW846 8240A	11/22/95	5331013
Bromodichloromethane	**2.7 J**	**5.0**	**SW846 8240A**	**11/22/95**	**5331013**
Bromoform	ND	5.0	SW846 8240A	11/22/95	5331013
Bromomethane	ND	10	SW846 8240A	11/22/95	5331013
2-Butanone	**2.7 J**	**50**	**SW846 8240A**	**11/22/95**	**5331013**
Carbon disulfide	ND	5.0	SW846 8240A	11/22/95	5331013
Carbon tetrachloride	ND	5.0	SW846 8240A	11/22/95	5331013
Chlorobenzene	ND	5.0	SW846 8240A	11/22/95	5331013
Dibromochloromethane	ND	5.0	SW846 8240A	11/22/95	5331013
Chloroethane	ND	10	SW846 8240A	11/22/95	5331013
Chloroform	**12**	**5.0**	**SW846 8240A**	**11/22/95**	**5331013**
Chloromethane	ND	10	SW846 8240A	11/22/95	5331013
1,1-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1-Dichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethene, Total	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloropropane	ND	5.0	SW846 8240A	11/22/95	5331013
cis-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
trans-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
Ethylbenzene	ND	5.0	SW846 8240A	11/22/95	5331013
2-Hexanone	ND	50	SW846 8240A	11/22/95	5331013
Methylene chloride	ND	10	SW846 8240A	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	110	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P108
LAB #: C5K180003-001
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Methyl-2-pentanone	ND	50	SW846 8240A	11/22/95	5331013
Styrene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2,2-Tetrachloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Tetrachloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Toluene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,1-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Trichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Vinyl chloride	ND	10	SW846 8240A	11/22/95	5331013
Xylenes, Total	ND	5.0	SW846 8240A	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	106	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	110	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

IT CORPORATION - MONROEVILLE ENGINEERING

TRIP BLANK

WO #: A5V7Q101
LAB #: C5K180003-002
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED:
DATE RECEIVED: 11/18/95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acetone	**4.5 B J**	**50**	**SW846 8240A**	**11/22/95**	**5331013**
Benzene	ND	5.0	SW846 8240A	11/22/95	5331013
Bromodichloromethane	ND	5.0	SW846 8240A	11/22/95	5331013
Bromoform	ND	5.0	SW846 8240A	11/22/95	5331013
Bromomethane	ND	10	SW846 8240A	11/22/95	5331013
2-Butanone	ND	50	SW846 8240A	11/22/95	5331013
Carbon disulfide	ND	5.0	SW846 8240A	11/22/95	5331013
Carbon tetrachloride	ND	5.0	SW846 8240A	11/22/95	5331013
Chlorobenzene	ND	5.0	SW846 8240A	11/22/95	5331013
Dibromochloromethane	ND	5.0	SW846 8240A	11/22/95	5331013
Chloroethane	ND	10	SW846 8240A	11/22/95	5331013
Chloroform	ND	5.0	SW846 8240A	11/22/95	5331013
Chloromethane	ND	10	SW846 8240A	11/22/95	5331013
1,1-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1-Dichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloroethene, Total	ND	5.0	SW846 8240A	11/22/95	5331013
1,2-Dichloropropane	ND	5.0	SW846 8240A	11/22/95	5331013
cis-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
trans-1,3-Dichloropropene	ND	5.0	SW846 8240A	11/22/95	5331013
Ethylbenzene	ND	5.0	SW846 8240A	11/22/95	5331013
2-Hexanone	ND	50	SW846 8240A	11/22/95	5331013
Methylene chloride	**2.0 J**	**10**	**SW846 8240A**	**11/22/95**	**5331013**

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(76 - 114)
Toluene-d8	105	(88 - 110)
4-Bromofluorobenzene	102	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.
B (COMPOUND DETECTED IN METHOD BLANK ASSOCIATED WITH THIS SAMPLE)

IT CORPORATION - MONROEVILLE ENGINEERING

TRIP BLANK

WO #: A5V7Q101
LAB #: C5K180003-002
MATRIX: WATER
DILUTION FACTOR: 1.00

DATE SAMPLED: 11/17/95
TIME SAMPLED:
DATE RECEIVED: 11/18/95

GC/MS Volatiles

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Methyl-2-pentanone	ND	50	SW846 8240A	11/22/95	5331013
Styrene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2,2-Tetrachloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Tetrachloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Toluene	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,1-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
1,1,2-Trichloroethane	ND	5.0	SW846 8240A	11/22/95	5331013
Trichloroethene	ND	5.0	SW846 8240A	11/22/95	5331013
Vinyl chloride	ND	10	SW846 8240A	11/22/95	5331013
Xylenes, Total	ND	5.0	SW846 8240A	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(76 - 114)
Toluene-d8	105	(88 - 110)
4-Bromofluorobenzene	102	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

INTRA-LAB BLANK REPORT

LAB #: C5K270000-013

- - - - - - - - - - - - - - - - - - - GC/MS Volatiles - - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Acetone	2.7 J	50	11/22/95	5331013
Benzene	ND	5.0	11/22/95	5331013
Bromodichloromethane	ND	5.0	11/22/95	5331013
Bromoform	ND	5.0	11/22/95	5331013
Bromomethane	ND	10	11/22/95	5331013
2-Butanone	ND	50	11/22/95	5331013
Carbon disulfide	ND	5.0	11/22/95	5331013
Carbon tetrachloride	ND	5.0	11/22/95	5331013
Chlorobenzene	ND	5.0	11/22/95	5331013
Dibromochloromethane	ND	5.0	11/22/95	5331013
Chloroethane	ND	10	11/22/95	5331013
Chloroform	ND	5.0	11/22/95	5331013
Chloromethane	ND	10	11/22/95	5331013
1,1-Dichloroethane	ND	5.0	11/22/95	5331013
1,2-Dichloroethane	ND	5.0	11/22/95	5331013
1,1-Dichloroethene	ND	5.0	11/22/95	5331013
1,2-Dichloroethene, Total	ND	5.0	11/22/95	5331013
1,2-Dichloropropane	ND	5.0	11/22/95	5331013
cis-1,3-Dichloropropene	ND	5.0	11/22/95	5331013
trans-1,3-Dichloropropene	ND	5.0	11/22/95	5331013
Ethylbenzene	ND	5.0	11/22/95	5331013
2-Hexanone	ND	50	11/22/95	5331013
Methylene chloride	ND	10	11/22/95	5331013
4-Methyl-2-pentanone	ND	50	11/22/95	5331013
Styrene	ND	5.0	11/22/95	5331013
SURROGATE RECOVERY	%	ACCEPTABLE LIMITS		
1,2-Dichloroethane-d4	101	(76 - 114)		
Toluene-d8	104	(88 - 110)		
4-Bromofluorobenzene	104	(86 - 115)		

NOTE:

ND (NONE DETECTED)

INTRA-LAB BLANK REPORT

LAB #: C5K270000-013

- **GC/MS Volatiles** -

PARAMETER	RESULT (ug/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
1,1,2,2-Tetrachloroethane	ND	5.0	11/22/95	5331013
Tetrachloroethene	ND	5.0	11/22/95	5331013
Toluene	ND	5.0	11/22/95	5331013
1,1,1-Trichloroethane	ND	5.0	11/22/95	5331013
1,1,2-Trichloroethane	ND	5.0	11/22/95	5331013
Trichloroethene	ND	5.0	11/22/95	5331013
Vinyl chloride	ND	10	11/22/95	5331013
Xylenes, Total	ND	5.0	11/22/95	5331013

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	101	(76 - 114)
Toluene-d8	104	(88 - 110)
4-Bromofluorobenzene	104	(86 - 115)

NOTE:

ND (NONE DETECTED)

LABORATORY CONTROL SAMPLE REPORT

LAB #: C5K180003
QC BATCH: 5331013
WORK ORDER: A5VJ5

PREPARATION DATE: 11/22/95
DATE ANALYZED: 11/22/95

- - - - - - - - - - - - - - - - - - Mass Spec. Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	TRUE SPIKE	MEASURED SPIKE	PERCENT RECOVERY	RECOVERY LIMITS
1,1-Dichloroethene	50	50	99	(65-126)
Trichloroethene	50	49	98	(72-118)
Benzene	50	49	98	(79-114)
Toluene	50	54	108	(77-117)
Chlorobenzene	50	53	106	(80-114)

NOTE:

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE REPORT

LAB #: C5K180003
SAMPLE NO.: 001
QC BATCH: 5331013
MS W.O.# : A5V7P
MSD W.O.# : A5V7P

PREPARATION DATE: 11/22/95
DATE ANALYZED: 11/22/95

- - - - - - - - - - - - - - - - - - - Mass Spec. Volatiles - - - - - - - - - - - - - - - - - - -

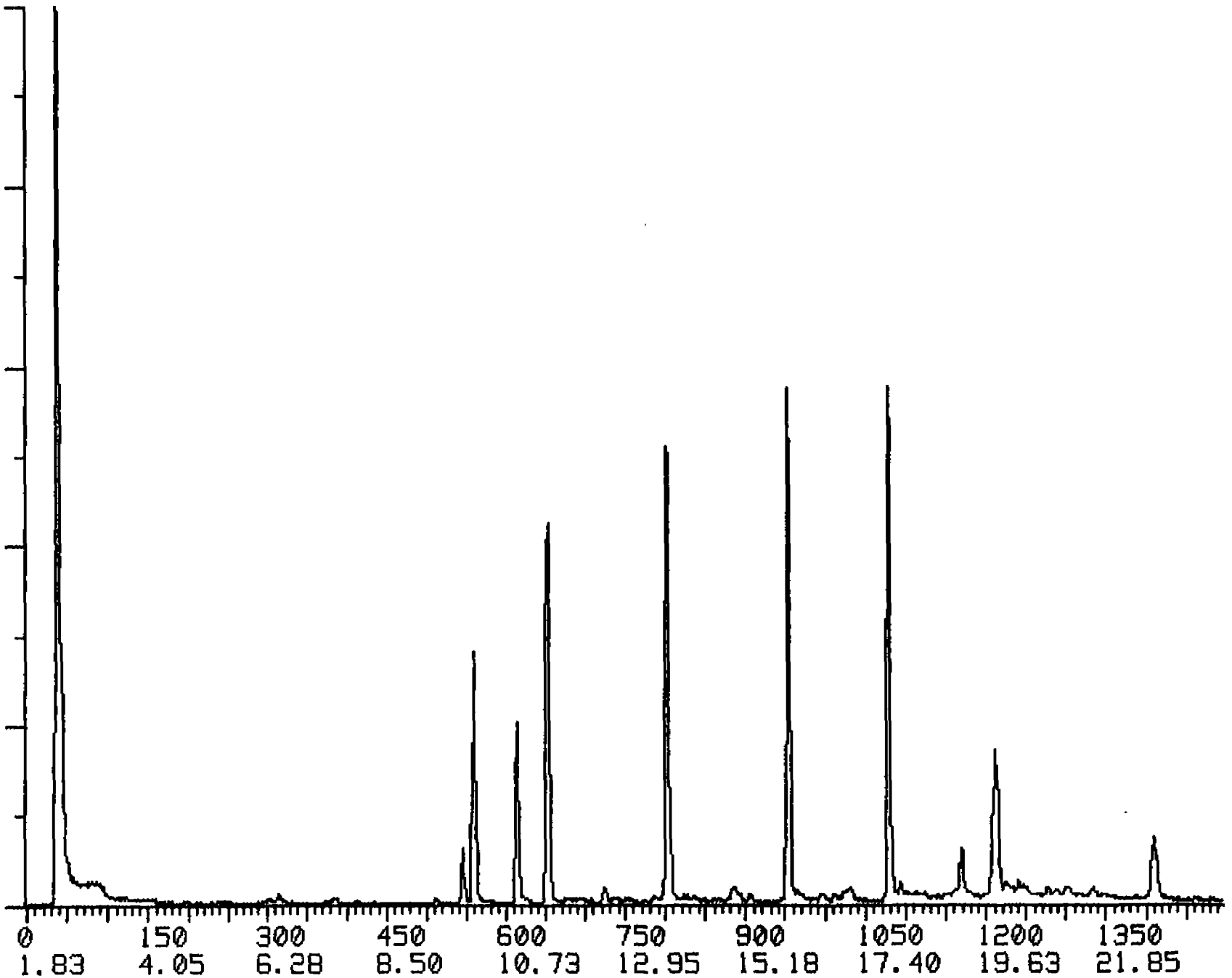
PARAMETER	TRUE SPIKE	SPIKE AMOUNT	SPIKE %REC	DUPLICATE AMOUNT	DUPLICATE %REC	RECOVERY LIMITS	RELATIVE PERCENT DIFFERENCE	RPD LIMITS
1,1-Dichloroethene	50	49	99	53	107	(65-122)	7.6	(0-13)
Trichloroethene	50	49	99	52	104	(64-130)	5.5	(0-16)
Benzene	50	47	94	53	106	(78-113)	12	(0-16)
Toluene	50	53	106	58	115 a	(80-110)	8.7	(0-12)
Chlorobenzene	50	55	110	58	115 a	(84-110)	4.4	(0-10)

NOTE:

Calculations are performed before rounding to avoid round-off errors in calculated results.

a Spiked analyte recovery outside control limits.

SY0: 22338 EXTRD 22338, C5K180003-001 5mL 100%
22-NOV-95 11:25:55 556990
Total Ion Current
Quad 1 scanning mode



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22338
Run date: 22-NOV-95 11:25:55
Rpt date: 22-NOV-95 11:58:00 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

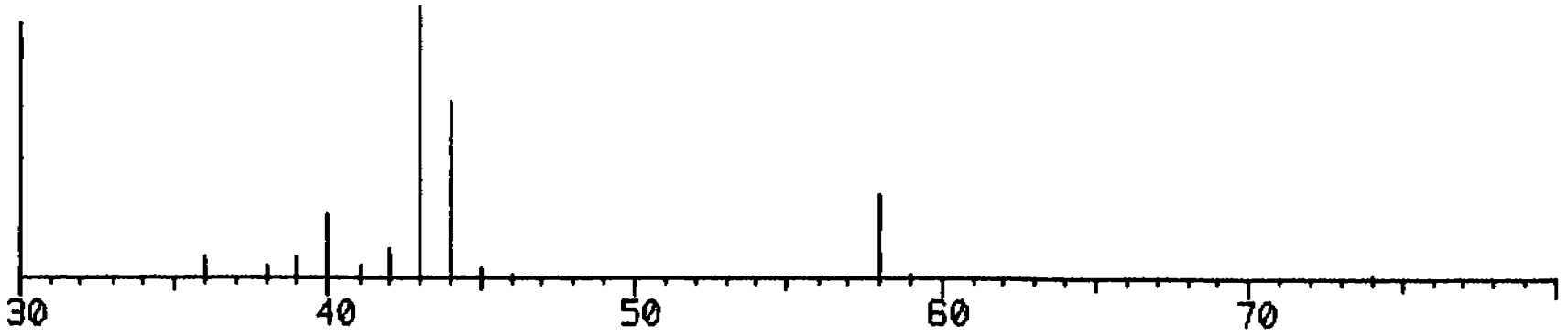
omments:
EXTRD 22338, C5K180003-001 5ML

No.	QC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128.	559	10.12	BB	0.84	85113.	50.0
2S		1,4-Difluorobenzene	114.	653	11.52	BB	0.73	449204.	50.0
3S		Chlorobenzene-d5	117.	954	15.98	BB	1.00	403236.	50.0
1T	S	Chloromethane	50.	108	3.43		0.00	NOT FOUND	
2T		Bromomethane	94.	194	4.72		0.00	NOT FOUND	
3T	C	Vinyl Chloride	62.	127	3.72		0.00	NOT FOUND	
4T		Chloroethane	64.	210	4.95		0.00	NOT FOUND	
5T		Methylene Chloride	84.	386	7.55		0.75	NOT FOUND	
6T		Acetone	43.	316	6.52	VB	0.82	15317.	11.0
7T		Carbon Disulfide	76.	381	7.48		0.51	NOT FOUND	
8T	C	1,1-Dichloroethene	96.	327	6.68		0.00	NOT FOUND	
9T	S	1,1-Dichloroethane	63.	466	8.75		0.00	NOT FOUND	
10T		1,2-Dichloroethene (to	96.	420	8.07		0.00	NOT FOUND	
11T	C	Chloroform	83.	545	9.92	BB	1.00	68012.	12.2
12T		1,2-Dichloroethane	62.	653	11.52		0.32	NOT FOUND	
13T		2-Butanone	43.	512	9.42	VV	0.72	6291.	2.7
14T		1,1,1-Trichloroethane	97.	585	10.52		0.00	NOT FOUND	
15T		Carbon Tetrachloride	117.	611	10.90		0.00	NOT FOUND	
16T		Vinyl Acetate	43.	471	8.82		0.00	NOT FOUND	
17T		Bromodichloromethane	83.	723	12.55	VV	0.96	13588.	2.7
8T	C	1,2-Dichloropropane	63.	702	12.25		0.00	NOT FOUND	

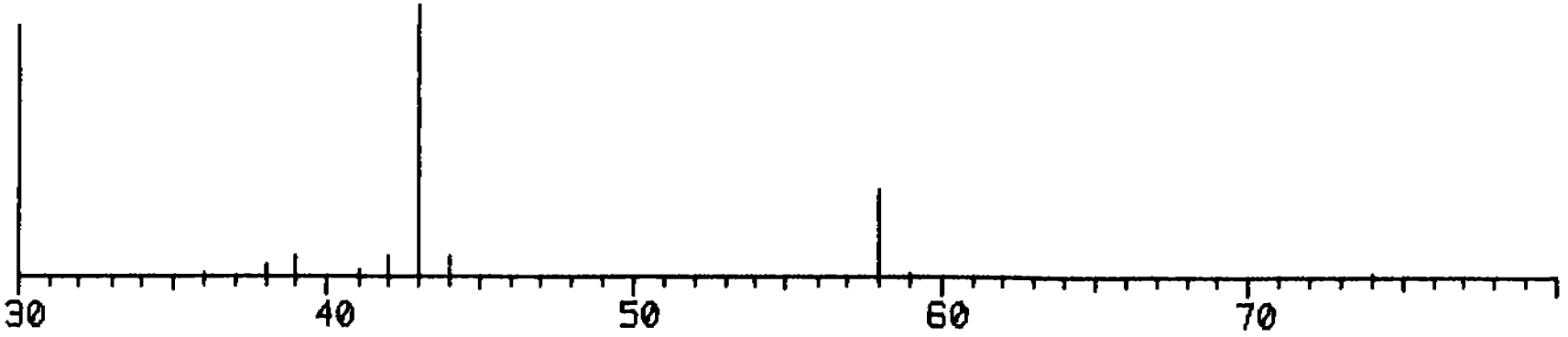
Run name: SYO:D22338
Run date: 22-NOV-95 11:25:55
Rpt date: 22-NOV-95 11:58:00 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

19T		cis-1,3-Dichloropropen	75.	776	13.35		0.00	NOT FOUND	
20T		Trichloroethene	130.	687	12.02		0.54	NOT FOUND	
21T		Dibromochloromethane	129.	893	15.07		0.80	NOT FOUND	
22T		1,1,2-Trichloroethane	97.	840	14.23		0.23	NOT FOUND	
23T		Benzene	78.	625	11.10		0.53	NOT FOUND	
24T		trans-1,3-Dichloroprop	75.	825	14.07		0.00	NOT FOUND	
25T	S	Bromoform	173.	1055	17.48		0.00	NOT FOUND	
26T		4-Methyl-2-Pentanone	43.	756	12.98		0.33	NOT FOUND	
27T		2-Hexanone	43.	840	14.22		0.26	NOT FOUND	
28T		Tetrachloroethene	164.	875	14.82		0.00	NOT FOUND	
29T	S	1,1,2,2-Tetrachloroeth	83.	1077	17.82		0.04	NOT FOUND	
30T	C	Toluene	91.	810	13.85		0.60	NOT FOUND	
31T	S	Chlorobenzene	112.	958	16.03		0.79	NOT FOUND	
32T	C	Ethylbenzene	106.	972	16.25		0.63	NOT FOUND	
33T		Styrene	104.	1018	16.93		0.00	NOT FOUND	
34T		Total Xylenes	106.	1015	16.90		0.00	NOT FOUND	
35T	R	Toluene-d8	98.	802	13.72	BV	0.95	462012.	52.0
36T	R	Bromofluorobenzene	95.	1079	17.83	BB	0.85	283660.	54.9
37T	R	1,2-Dichloroethane-d4	65.	614	10.93	BB	0.83	161284.	53.0
38T		Trichlorofluromethane	101.	249	5.53		0.00	NOT FOUND	
39T		cis-1,2-Dichloroethene	96.	559	10.13		0.09	NOT FOUND	
40T		2-Chloroethylvinyl eth	63.	768	13.23		0.08	NOT FOUND	
41T		m-Xylene/p-Xylene	106.	972	16.25		1.00	NOT FOUND	
42T		1,3-Dichlorobenzene	146.	1212	19.82		0.04	NOT FOUND	
43T		1,4-Dichlorobenzene	146.	1209	19.82		0.04	NOT FOUND	
44T		1,2-Dichlorobenzene	146.	1249	20.37		0.31	NOT FOUND	
45T		Acrolein	56.	306	6.37		0.00	NOT FOUND	
46T		Acrylonitrile	53.	400	7.77		0.00	NOT FOUND	
64T		Tert-butylmethylether	73.	411	7.92		0.50	NOT FOUND	

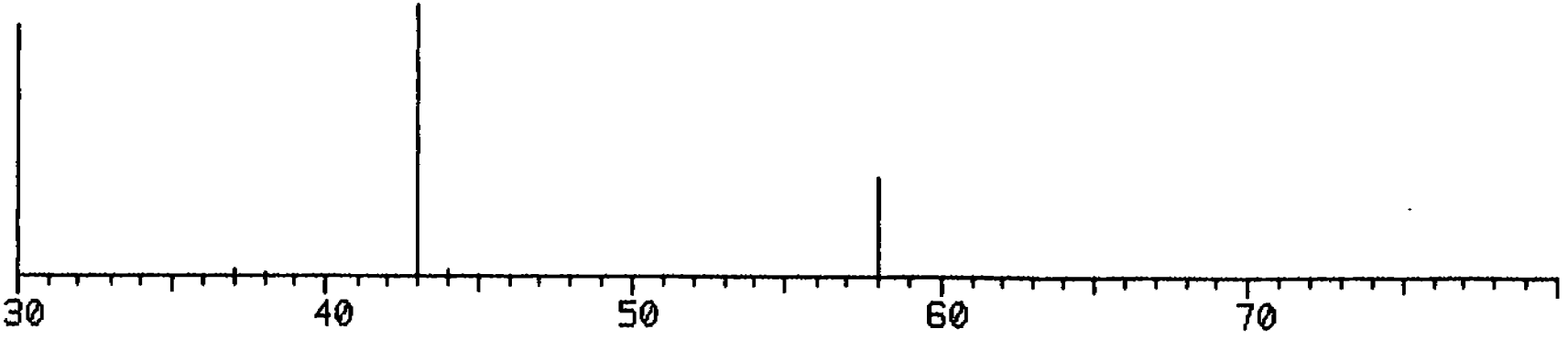
SY0: 2338 EXTRD 22338, C5K180003-001 SML 100 % Total
22-NOV-95 11:25:55 Scan 316 R.T. 6.52 min. 2352 6116



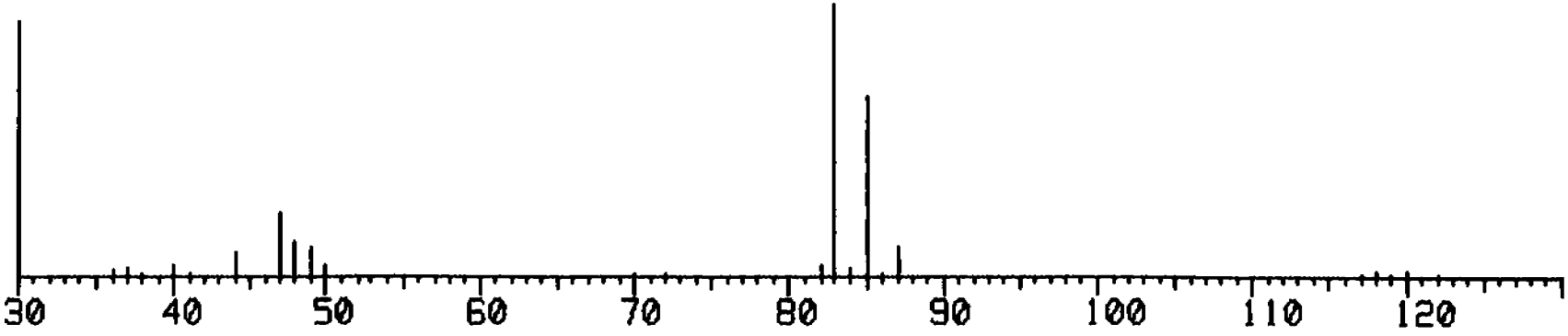
SY0: D22338 EXTRD 22338, C5K180003-001 SML 100 % Total
22-NOV-95 11:25:55 Bkg 309 Scan 316 R.T. 6.52 min. 2274 3742



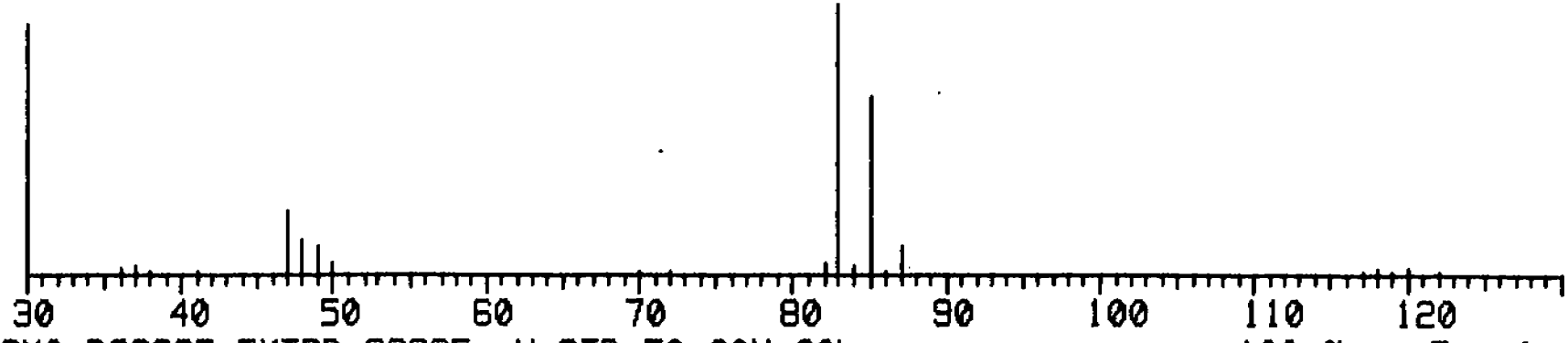
SY0: D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 11:25:55 Bkg 311 Scan 318 R.T. 6.55 min. 9789 14129
Acetone



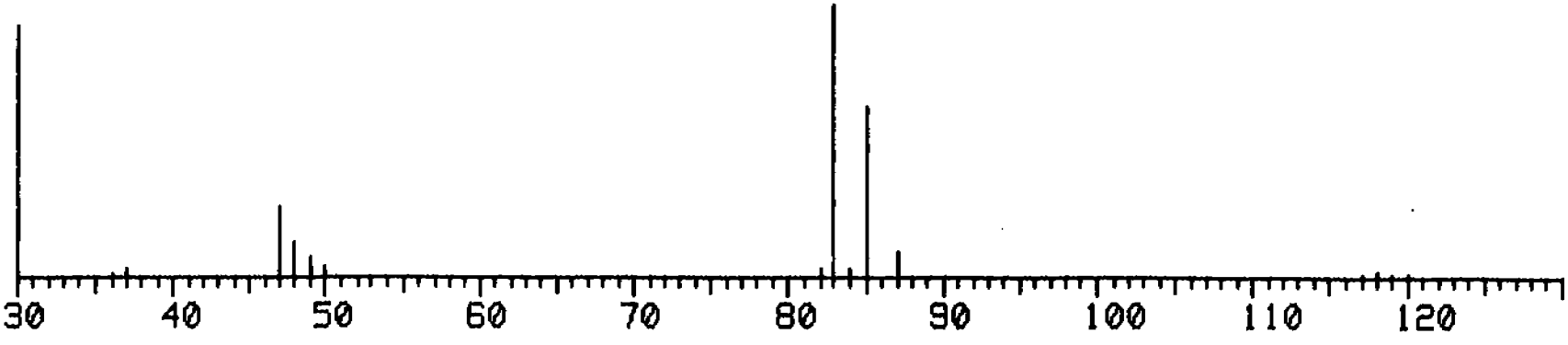
SY0: _2338 EXTRD 22338, C5K180003-001 5..._ 100 % Total
22-NOV-95 11:25:55 Scan 545 R.T. 9.92 min. 13104 34846



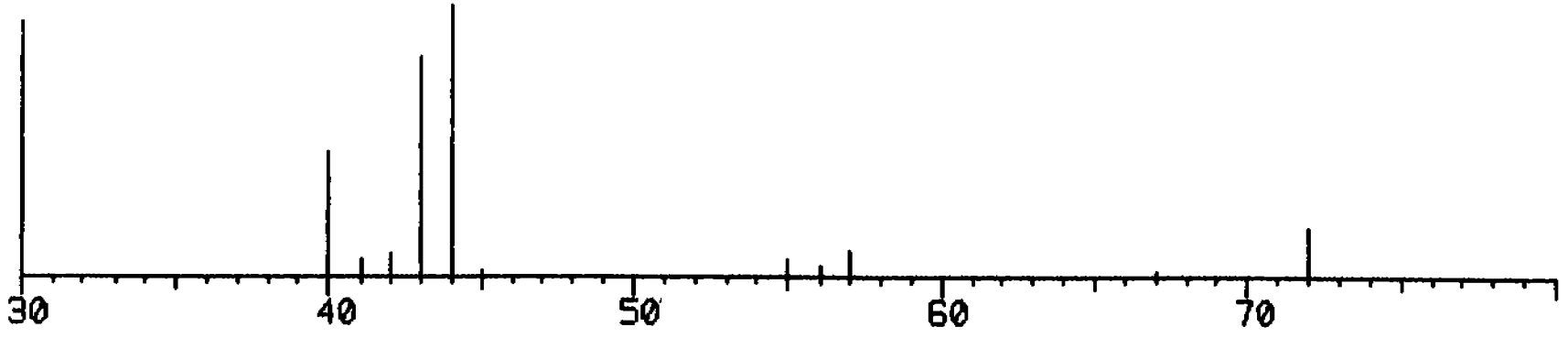
SY0:D22338 EXTRD 22338, C5K180003-001 5ML 100 % Total
22-NOV-95 11:25:55 Bkg 537 Scan 545 R.T. 9.92 min. 13104 33216



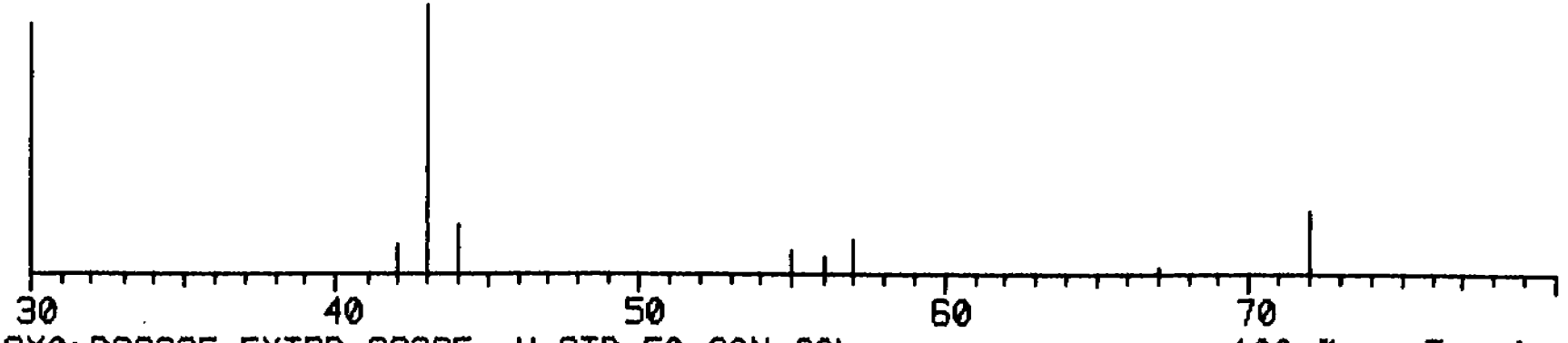
SY0:D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 11:25:55 Bkg 537 Scan 545 R.T. 9.92 min. 50688 123925
Chloroform



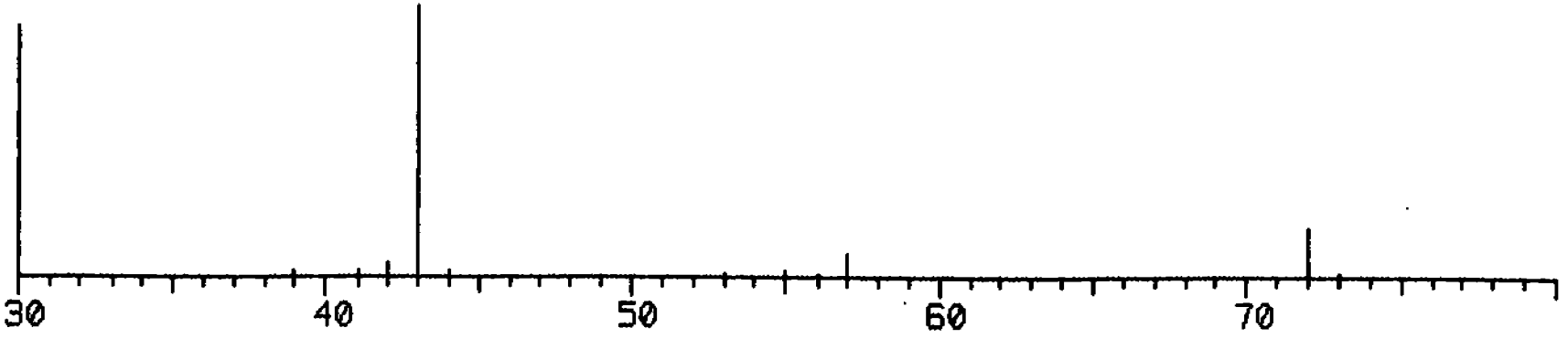
SY0: 22338 EXTRD 22338, C5K180003-001 5ML 100 % Total
22-NOV-95 11:25:55 Scan 512 R.T. 9.42 min. 1200 3397



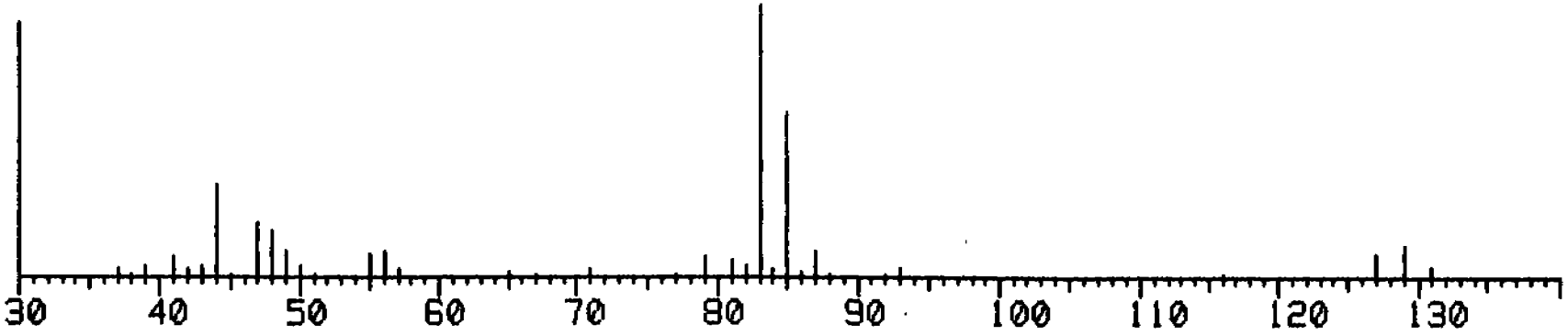
SY0:D22338 EXTRD 22338, C5K180003-001 5ML 100 % Total
22-NOV-95 11:25:55 Bkg 501 Scan 512 R.T. 9.42 min. 894 1629



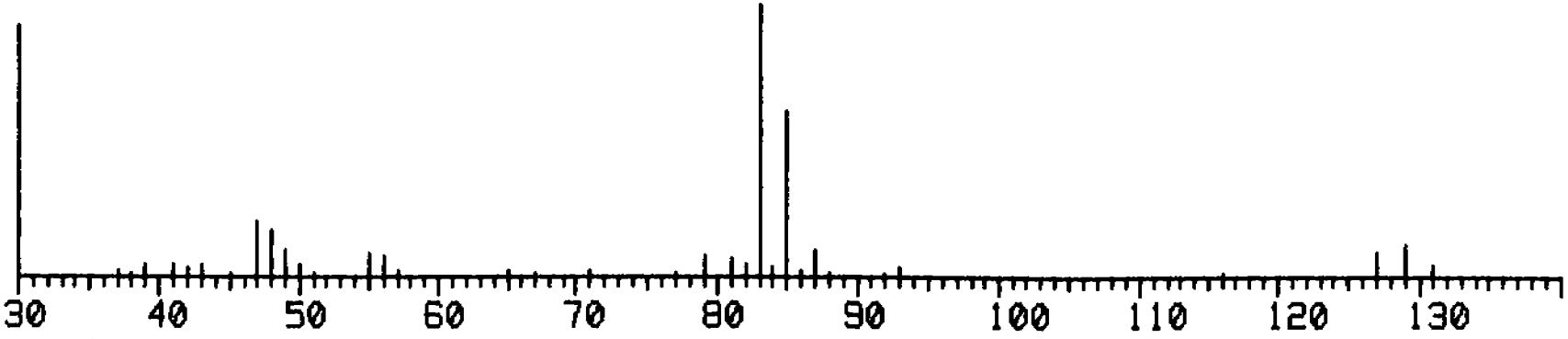
SY0:D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 11:25:55 Bkg 505 Scan 511 R.T. 9.40 min. 22399 34032
2-Butanone



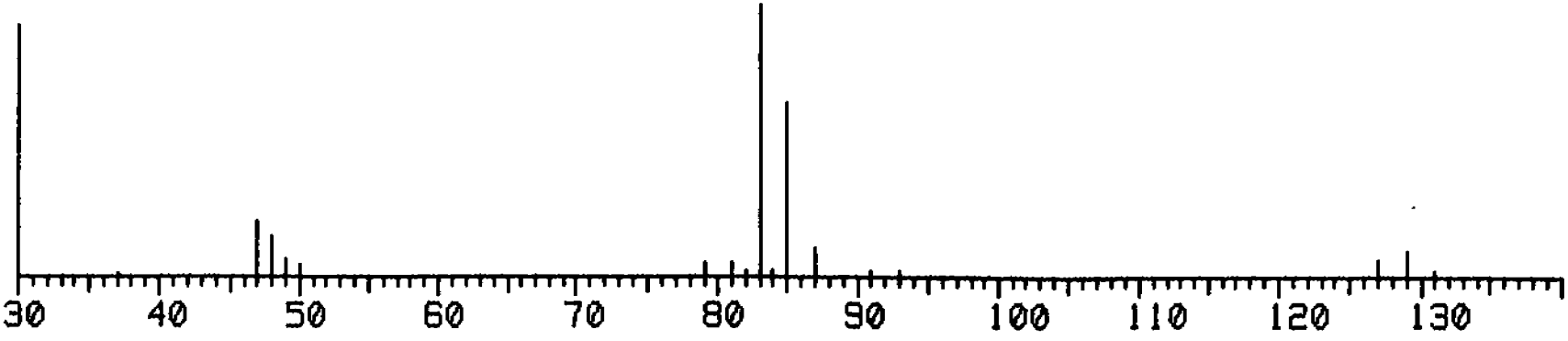
SY0: 22338 EXTRD 22338, C5K180003-001 5ML 100 % Total
22-NOV-95 11:25:55 Scan 723 R.T. 12.55 min. 3024 10999



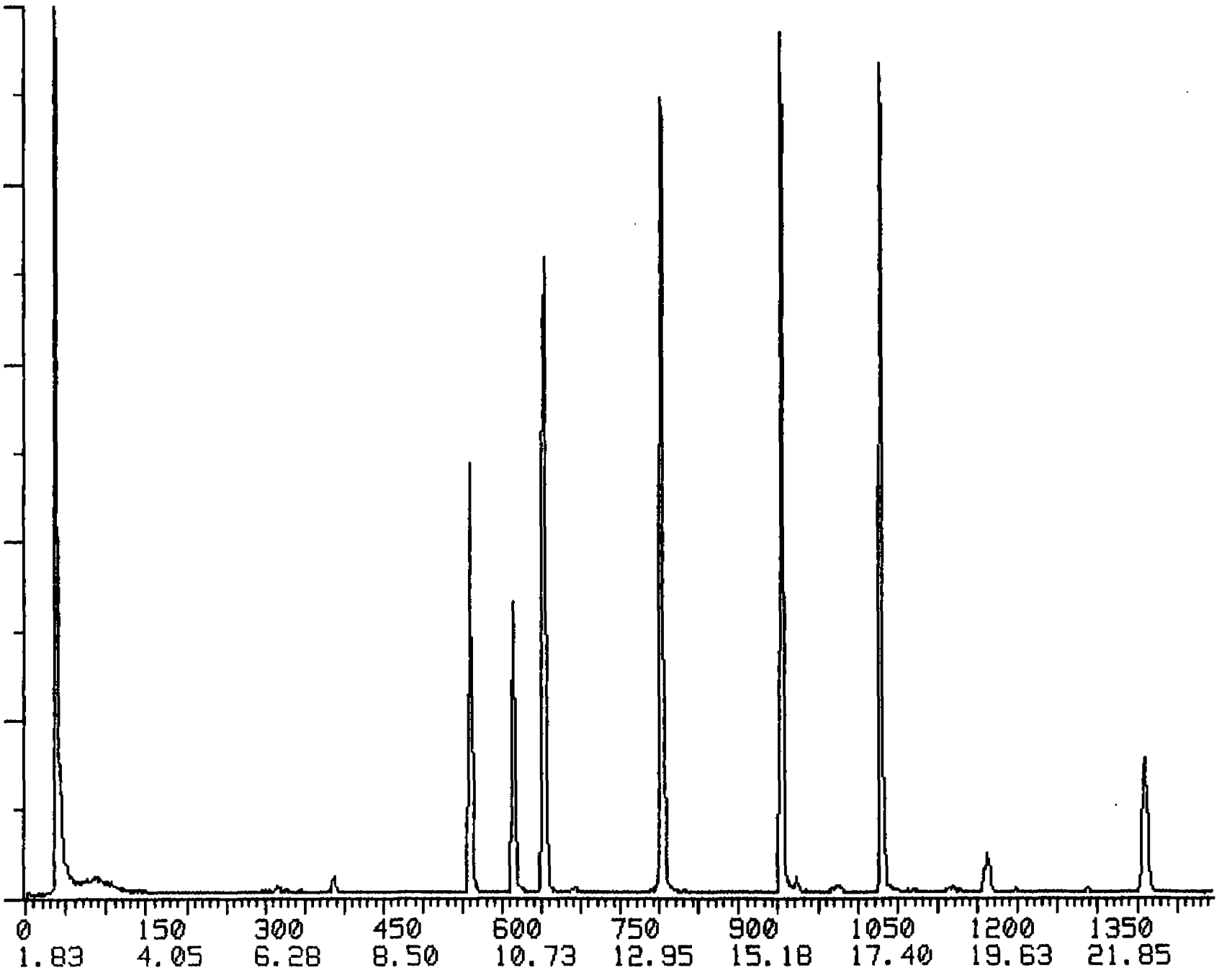
SY0:D22338 EXTRD 22338, C5K180003-001 5ML 100 % Total
22-NOV-95 11:25:55 Bkg 718 Scan 723 R.T. 12.55 min. 3024 9768



SY0:D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 11:25:55 Bkg 717 Scan 723 R.T. 12.55 min. 51375 139190
Bromodichloromethane



SY0: 22341 EXTRD 22341, C5K180003-002 5nL 100%
22-NOV-95 13:11:39 304776
Total Ion Current
Quad 1 scanning mode



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22341
Run date: 22-NOV-95 13:11:39
Rpt date: 22-NOV-95 14:12:41 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

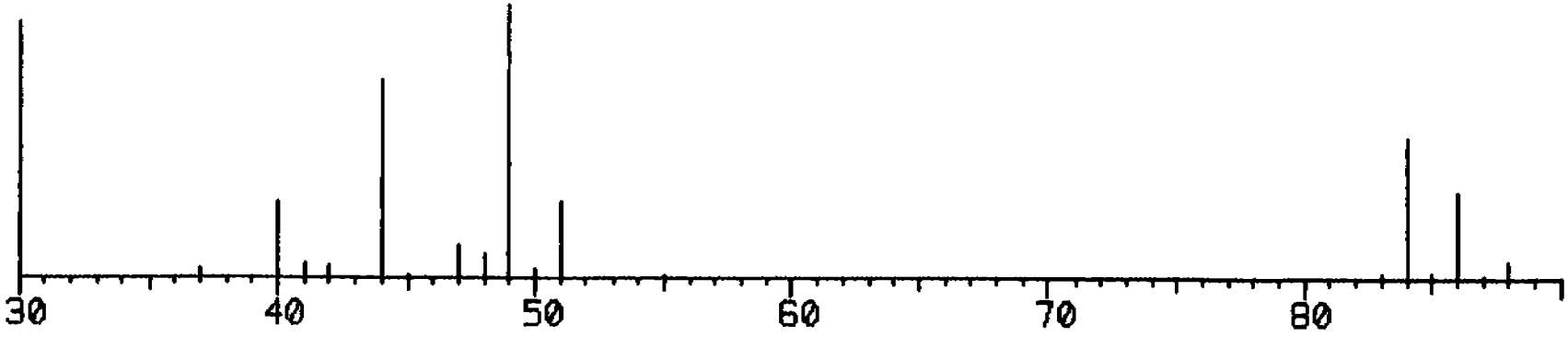
omments:
EXTRD 22341, C5K180003-002 5ML

No.	QC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128.	559	10.12	BB	0.88	79656.	50.0
2S		1,4-Difluorobenzene	114.	653	11.52	BV	0.78	433676.	50.0
3S		Chlorobenzene-d5	117.	954	15.98	BB	1.00	388764.	50.0
1T	S	Chloromethane	50.	108	3.43		0.00	NOT FOUND	
2T		Bromomethane	94.	194	4.72		0.00	NOT FOUND	
3T	C	Vinyl Chloride	62.	127	3.72		0.00	NOT FOUND	
4T		Chloroethane	64.	210	4.95		0.00	NOT FOUND	
5T		Methylene Chloride	84.	387	7.57	BB	0.82	5307.	2.0
6T		Acetone	43.	316	6.52	VB	0.82	5895.	4.5
7T		Carbon Disulfide	76.	381	7.48		0.00	NOT FOUND	
8T	C	1,1-Dichloroethene	96.	327	6.70		0.26	NOT FOUND	
9T	S	1,1-Dichloroethane	63.	466	8.75		0.00	NOT FOUND	
10T		1,2-Dichloroethene (to	96.	420	8.07		0.00	NOT FOUND	
11T	C	Chloroform	83.	545	9.92		0.00	NOT FOUND	
12T		1,2-Dichloroethane	62.	653	11.52		0.32	NOT FOUND	
13T		2-Butanone	43.	510	9.42		0.37	NOT FOUND	
14T		1,1,1-Trichloroethane	97.	585	10.52		0.00	NOT FOUND	
15T		Carbon Tetrachloride	117.	611	10.90		0.00	NOT FOUND	
16T		Vinyl Acetate	43.	471	8.82		0.00	NOT FOUND	
17T		Bromodichloromethane	83.	691	12.08		0.11	NOT FOUND	
8T	C	1,2-Dichloropropane	63.	702	12.25		0.20	NOT FOUND	

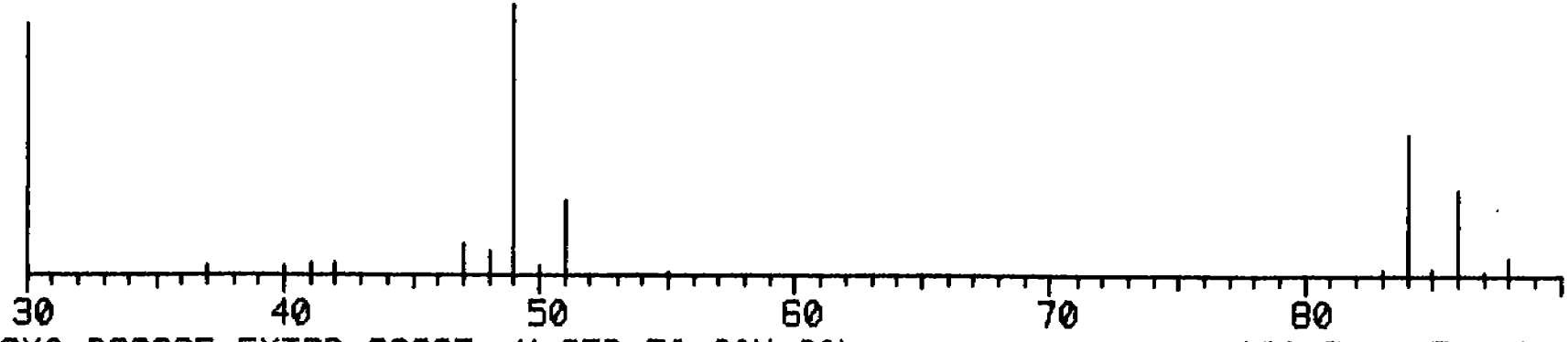
Run name: SYO:D22341
Run date: 22-NOV-95 13:11:39
Rpt date: 22-NOV-95 14:12:41 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

19T		cis-1,3-Dichloropropen	75.	776	13.35		0.00	NOT FOUND	
20T		Trichloroethene	130.	686	12.02		0.00	NOT FOUND	
21T		Dibromochloromethane	129.	893	15.08		0.00	NOT FOUND	
22T		1,1,2-Trichloroethane	97.	802	13.73		0.10	NOT FOUND	
23T		Benzene	78.	626	11.10		0.34	NOT FOUND	
24T		trans-1,3-Dichloroprop	75.	825	14.07		0.00	NOT FOUND	
25T	S	Bromoform	173.	1079	17.85		0.18	NOT FOUND	
26T		4-Methyl-2-Pentanone	43.	756	13.05		0.00	NOT FOUND	
27T		2-Hexanone	43.	817	13.95		0.26	NOT FOUND	
28T		Tetrachloroethene	164.	875	14.82		0.00	NOT FOUND	
29T	S	1,1,2,2-Tetrachloroeth	83.	1068	17.68		0.00	NOT FOUND	
30T	C	Toluene	91.	811	13.85		0.50	NOT FOUND	
31T	S	Chlorobenzene	112.	958	16.03		0.67	NOT FOUND	
32T	C	Ethylbenzene	106.	963	16.12		0.66	NOT FOUND	
33T		Styrene	104.	1018	16.93		0.00	NOT FOUND	
34T		Total Xylenes	106.	1017	16.92		0.80	NOT FOUND	
35T	R	Toluene-d8	98.	802	13.72	BB	0.95	451012.	52.7
36T	R	Bromofluorobenzene	95.	1079	17.83	BV	0.92	253374.	50.9
37T	R	1,2-Dichloroethane-d4	65.	614	10.93	BV	0.83	145335.	51.1
38T		Trichlorofluromethane	101.	249	5.53		0.00	NOT FOUND	
39T		cis-1,2-Dichloroethene	96.	561	10.15		0.09	NOT FOUND	
40T		2-Chloroethylvinyl eth	63.	753	13.00		0.00	NOT FOUND	
41T		m-Xylene/p-Xylene	106.	972	16.25		0.54	NOT FOUND	
42T		1,3-Dichlorobenzene	146.	1199	19.62		0.00	NOT FOUND	
43T		1,4-Dichlorobenzene	146.	1209	19.77		0.00	NOT FOUND	
44T		1,2-Dichlorobenzene	146.	1249	20.37		0.00	NOT FOUND	
45T		Acrolein	56.	306	6.37		0.00	NOT FOUND	
46T		Acrylonitrile	53.	400	7.77		0.00	NOT FOUND	
64T		Tert-butylmethylether	73.	412	7.95		0.00	NOT FOUND	

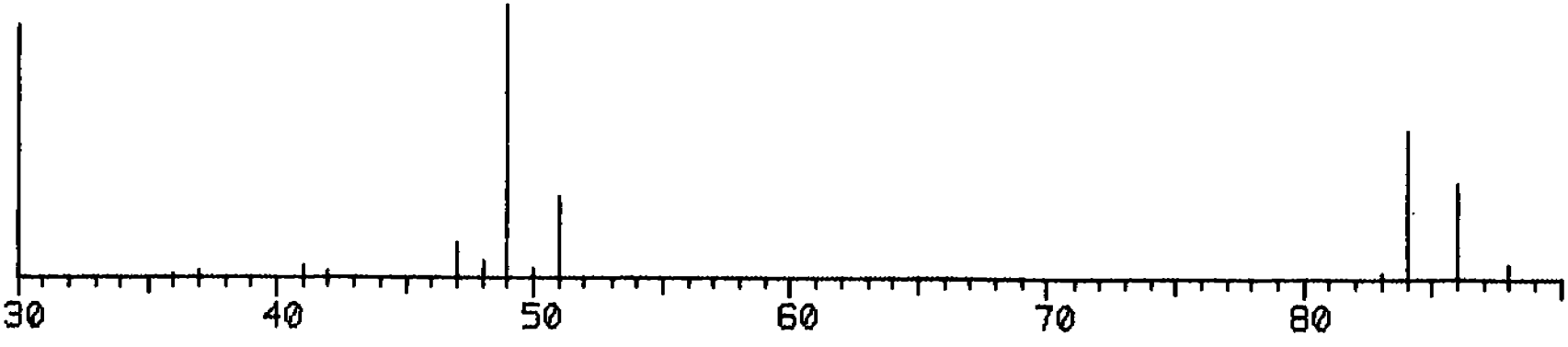
SY0: 2341 EXTRD 22341, C5K180003-002 5.. 100 % Total
22-NOV-95 13:11:39 Scan 387 R.T. 7.57 min. 1952 7091



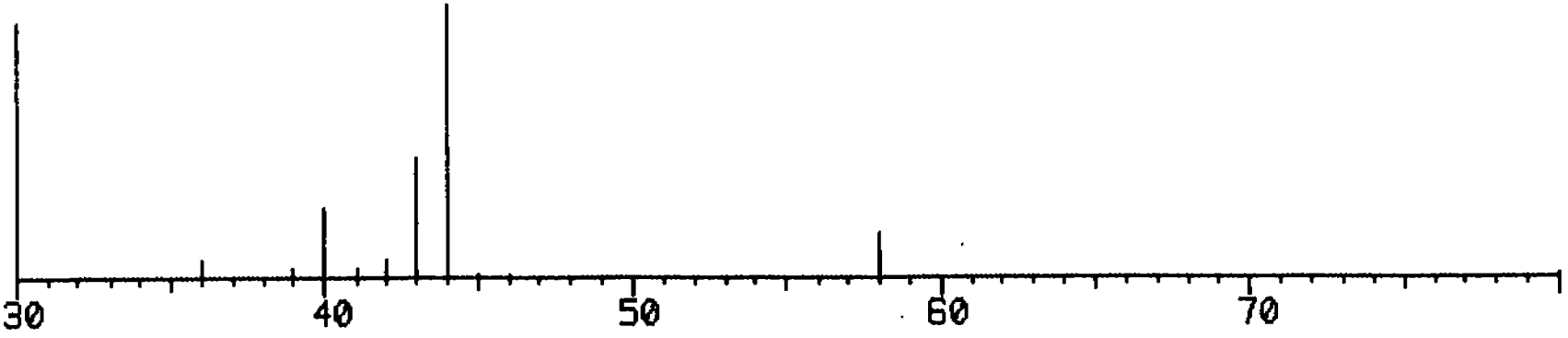
SY0:D22341 EXTRD 22341, C5K180003-002 5ML 100 % Total
22-NOV-95 13:11:39 Bkg 380 Scan 387 R.T. 7.57 min. 1952 5151



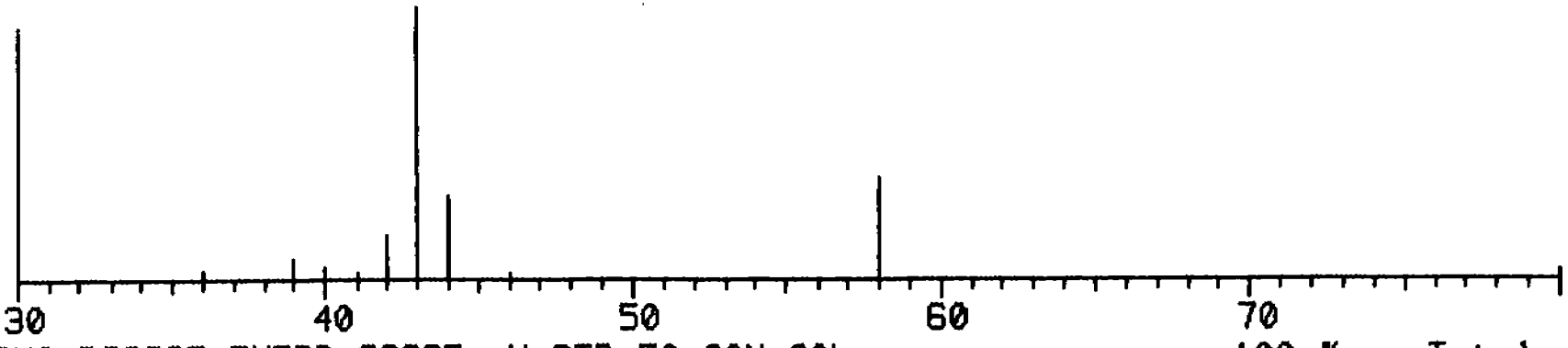
SY0:D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 13:11:39 Bkg 378 Scan 386 R.T. 7.55 min. 48128 126114
Methylene Chloride



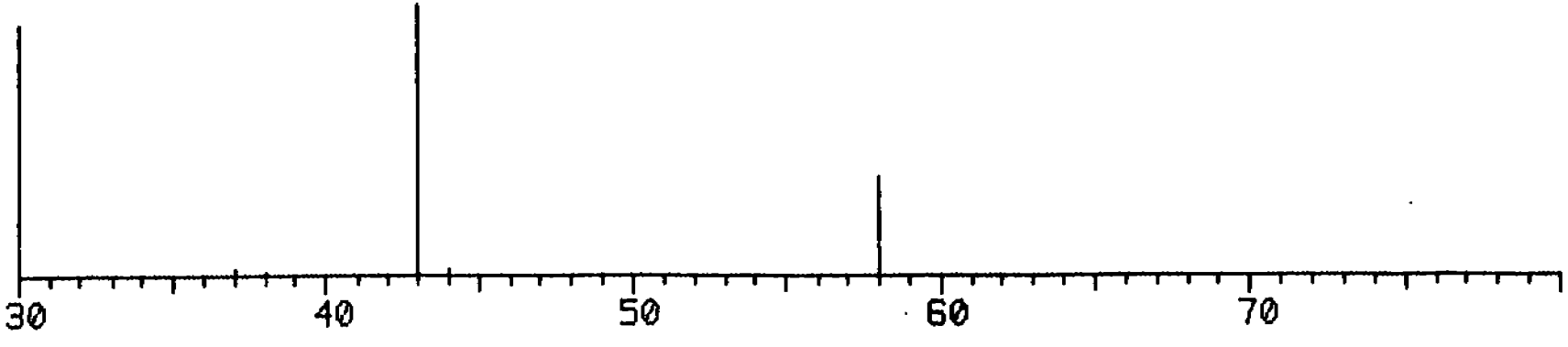
SY0 22341 EXTRD 22341, CSK180003-002 [illegible] 100 % Total
22-NOV-95 13:11:39 Scan 316 R.T. 6.52 min. 2000 4176



SY0:D22341 EXTRD 22341, CSK180003-002 5ML 100 % Total
22-NOV-95 13:11:39 Bkg 309 Scan 316 R.T. 6.52 min. 867 1815

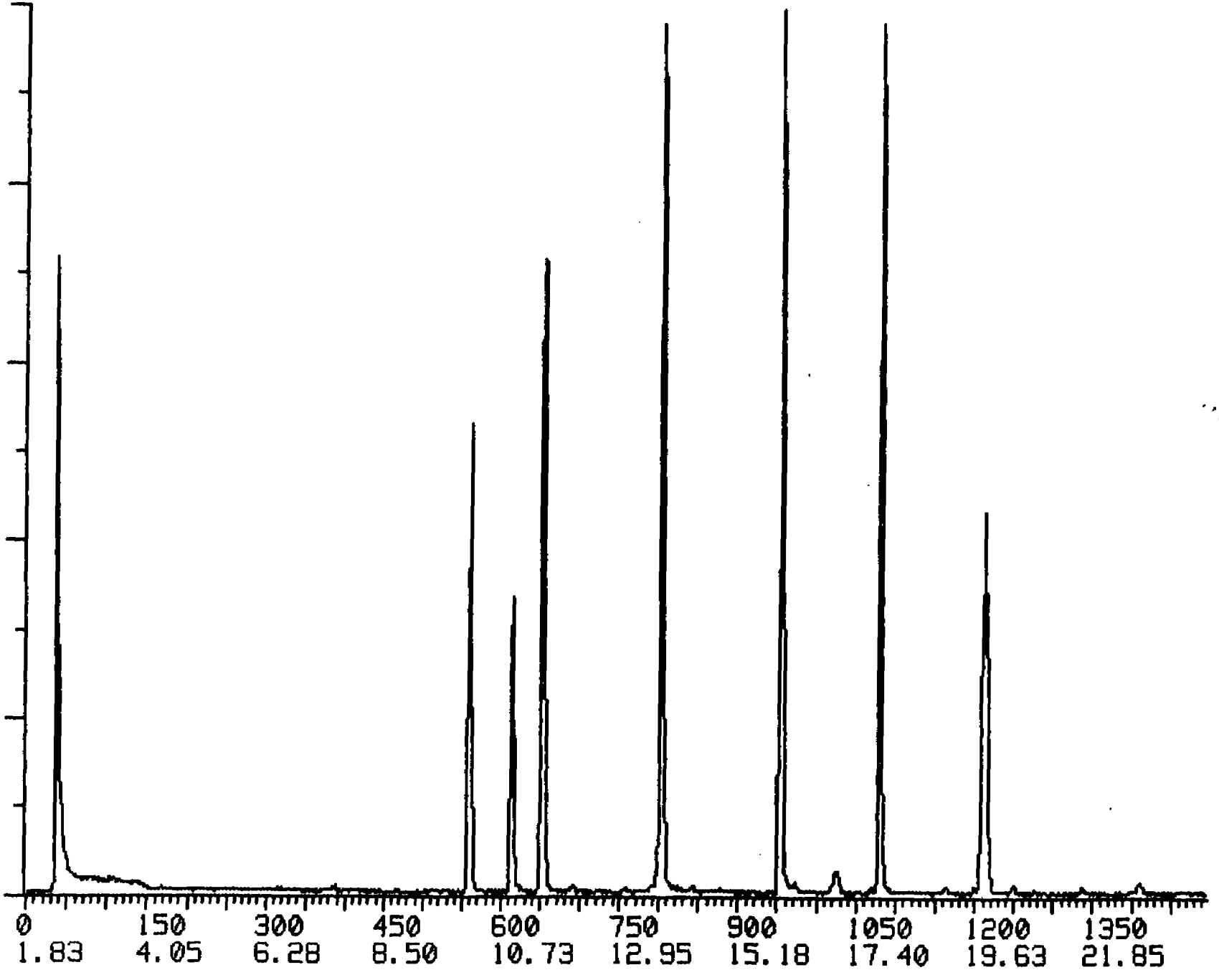


SY0:D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 13:11:39 Bkg 311 Scan 318 R.T. 6.55 min. 9789 14129
Acetone



SY0:D22336 EXTRD 22336, V BLANK
22-NOV-95 10:18:33
Total Ion Current
Quad 1 scanning mode

100%
293510



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22336
Run date: 22-NOV-95 10:18:33
Rpt date: 22-NOV-95 11:01:23 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

omments:
EXTRD 22336, V BLANK

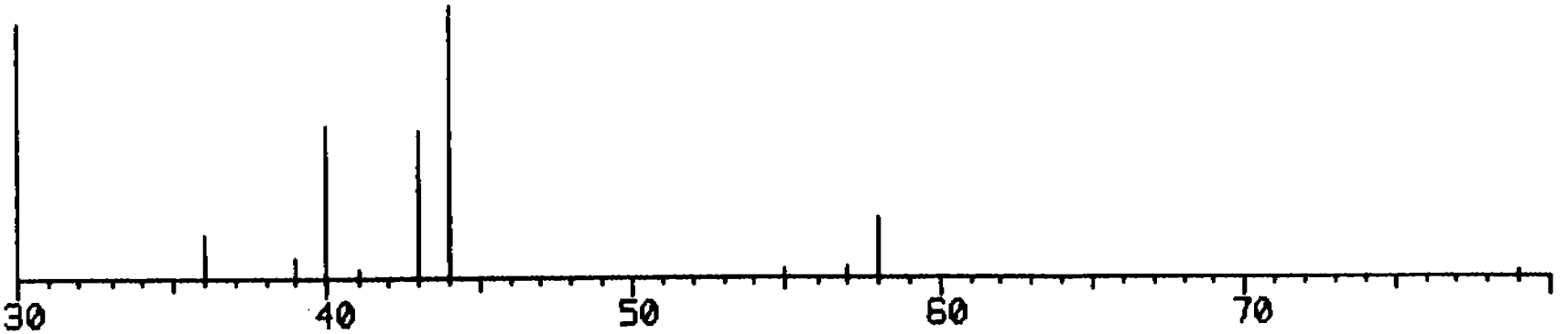
No.	QC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128.	559	10.12	BB	0.92	82392.	50.0
2S		1,4-Difluorobenzene	114.	653	11.52	BB	0.89	422444.	50.0
3S		Chlorobenzene-d5	117.	953	15.97	BV	1.00	394168.	50.0
1T	S	Chloromethane	50.	108	3.43		0.00	NOT FOUND	
2T		Bromomethane	94.	194	4.72		0.00	NOT FOUND	
3T	C	Vinyl Chloride	62.	127	3.72		0.00	NOT FOUND	
4T		Chloroethane	64.	210	4.95		0.00	NOT FOUND	
5T		Methylene Chloride	84.	387	7.57		0.59	NOT FOUND	
6T		Acetone	43.	317	6.53	BB	0.64	3688.	2.7
7T		Carbon Disulfide	76.	381	7.50		0.43	NOT FOUND	
8T	C	1,1-Dichloroethene	96.	327	6.68		0.00	NOT FOUND	
9T	S	1,1-Dichloroethane	63.	466	8.75		0.40	NOT FOUND	
10T		1,2-Dichloroethene (to	96.	420	8.07		0.00	NOT FOUND	
11T	C	Chloroform	83.	545	9.92		0.00	NOT FOUND	
12T		1,2-Dichloroethane	62.	653	11.52		0.32	NOT FOUND	
13T		2-Butanone	43.	511	9.40	VV	0.54	3810.	~~1.7~~
14T		1,1,1-Trichloroethane	97.	585	10.52		0.00	NOT FOUND	
15T		Carbon Tetrachloride	117.	611	10.90		0.00	NOT FOUND	
16T		Vinyl Acetate	43.	437	8.32		0.15	NOT FOUND	
17T		Bromodichloromethane	83.	723	12.57		0.21	NOT FOUND	
18T	C	1,2-Dichloropropane	63.	702	12.23		0.49	NOT FOUND	

KLG 11/27/95

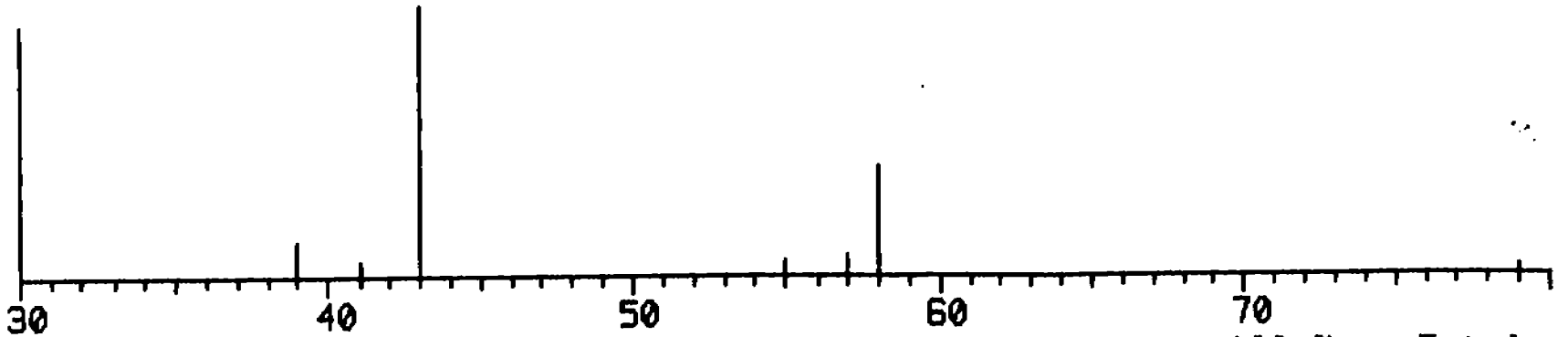
Run name: SYO:D22336
Run date: 22-NOV-95 10:18:33
Rpt date: 22-NOV-95 11:01:23 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

19T		cis-1,3-Dichloropropen	75.	776	13.35		0.00	NOT FOUND	
20T		Trichloroethene	130.	686	12.00		0.68	NOT FOUND	
21T		Dibromochloromethane	129.	893	15.08		0.00	NOT FOUND	
22T		1,1,2-Trichloroethane	97.	840	14.30		0.00	NOT FOUND	
23T		Benzene	78.	626	11.12		0.47	NOT FOUND	
24T		trans-1,3-Dichloroprop	75.	824	14.05		0.62	NOT FOUND	
25T	S	Bromoform	173.	1078	17.83		0.18	NOT FOUND	
26T		4-Methyl-2-Pentanone	43.	757	13.05		0.67	NOT FOUND	
27T		2-Hexanone	43.	841	14.30		0.51	NOT FOUND	
28T		Tetrachloroethene	164.	874	14.80		0.00	NOT FOUND	
29T	S	1,1,2,2-Tetrachloroeth	83.	1067	17.67		0.37	NOT FOUND	
30T	C	Toluene	91.	810	13.83		0.52	NOT FOUND	
31T	S	Chlorobenzene	112.	958	16.03		0.74	NOT FOUND	
32T	C	Ethylbenzene	106.	962	16.10		0.63	NOT FOUND	
33T		Styrene	104.	1019	16.95		0.64	NOT FOUND	
34T		Total Xylenes	106.	1014	16.88		0.00	NOT FOUND	
35T	R	Toluene-d8	98.	802	13.72	BV	1.00	453116.	52.2
36T	R	Bromofluorobenzene	95.	1079	17.83	BB	0.96	262312.	51.9
37T	R	1,2-Dichloroethane-d4	65.	613	10.92	BV	0.83	149014.	50.6
38T		Trichlorofluromethane	101.	249	5.53		0.00	NOT FOUND	
39T		cis-1,2-Dichloroethene	96.	528	9.67		0.00	NOT FOUND	
40T		2-Chloroethylvinyl eth	63.	751	12.98		0.00	NOT FOUND	
41T		m-Xylene/p-Xylene	106.	972	16.25		0.83	NOT FOUND	
42T		1,3-Dichlorobenzene	146.	1199	19.62		0.64	NOT FOUND	
43T		1,4-Dichlorobenzene	146.	1208	19.78		0.04	NOT FOUND	
44T		1,2-Dichlorobenzene	146.	1250	20.37		0.79	NOT FOUND	
45T		Acrolein	56.	306	6.37		0.00	NOT FOUND	
46T		Acrylonitrile	53.	400	7.77	BV	0.71	2307.	1.9
64T		Tert-butylmethylether	73.	412	7.90		0.28	NOT FOUND	

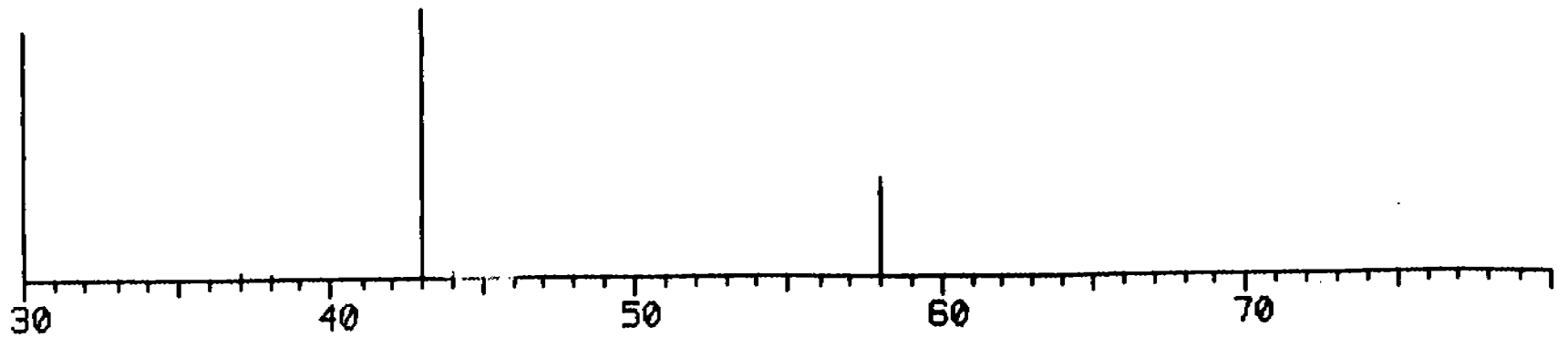
SY0: _22336 EXTRD 22336, V BLANK 100 % Total
22-NOV-95 10:18:33 Scan 317 R.T. 6.53 min. 954 2560



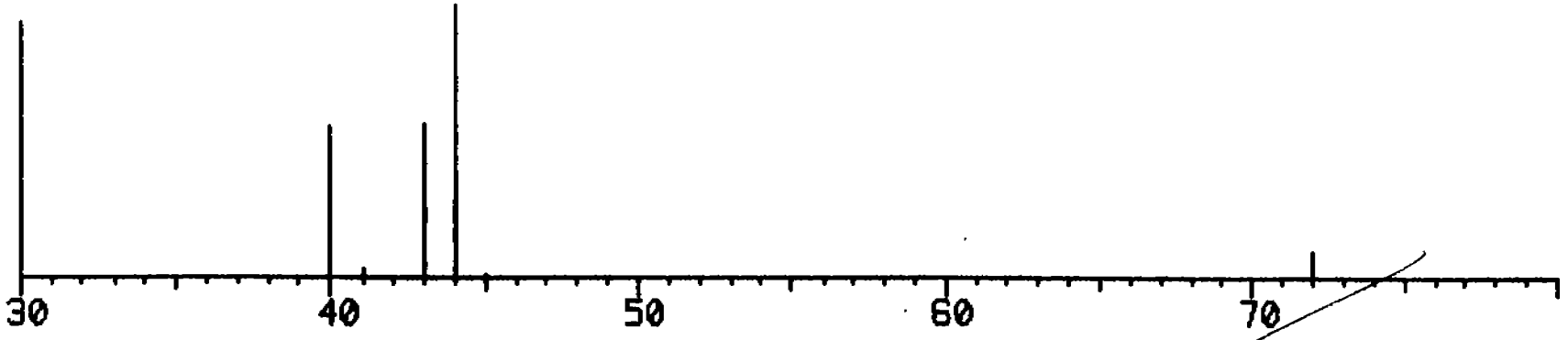
SY0: D22336 EXTRD 22336, V BLANK 100 % Total
22-NOV-95 10:18:33 Bkg 312 Scan 317 R.T. 6.53 min. 523 921



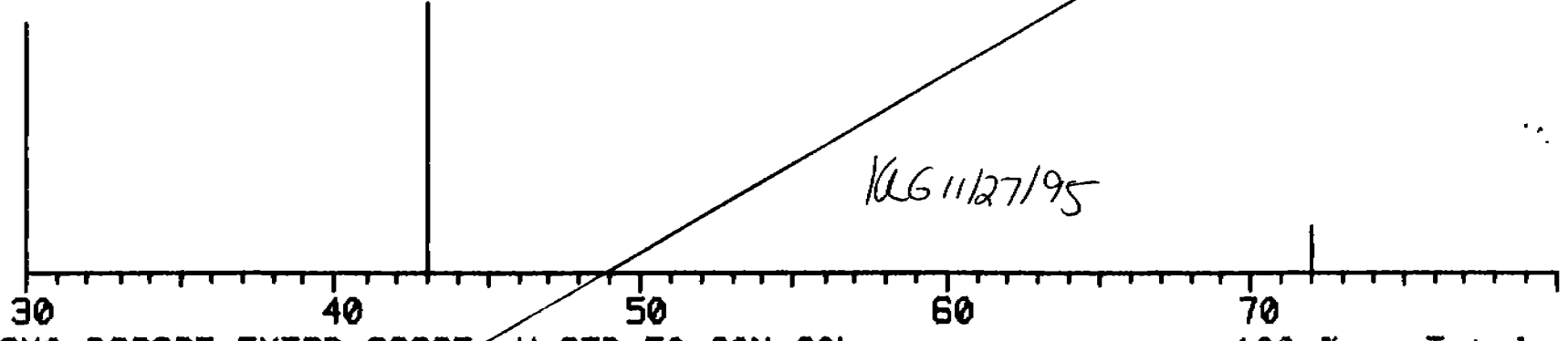
SY0: D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 10:18:33 Bkg 311 Scan 318 R.T. 6.55 min. 9789 14129
Acetone



SY0: D22336 EXTRD 22336, V BLANK 100 % Total
22-NOV-95 10:18:33 Scan 511 R.T. 9.40 min. 807 1815

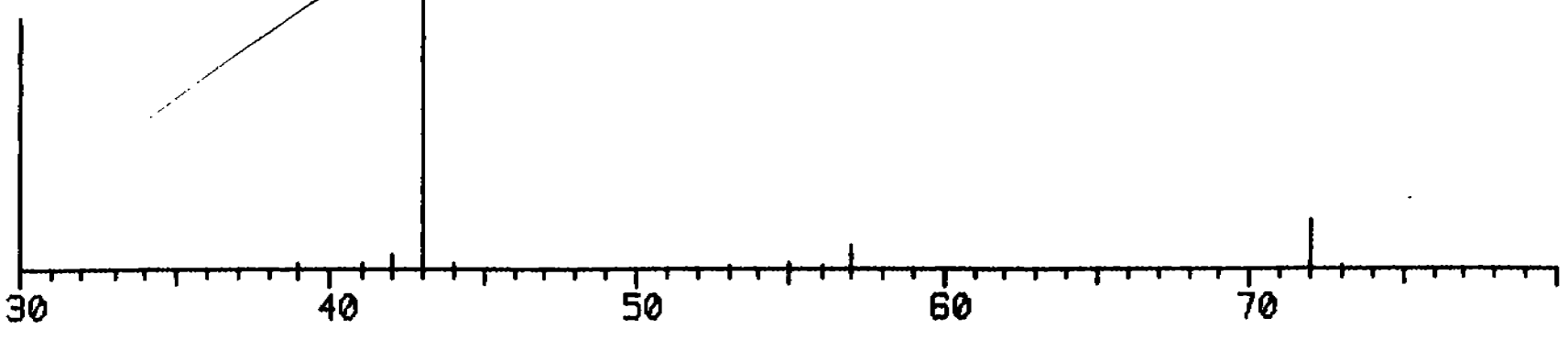


SY0: D22336 EXTRD 22336, V BLANK 100 % Total
22-NOV-95 10:18:33 Bkg 505 Scan 511 R.T. 9.40 min. 455 532

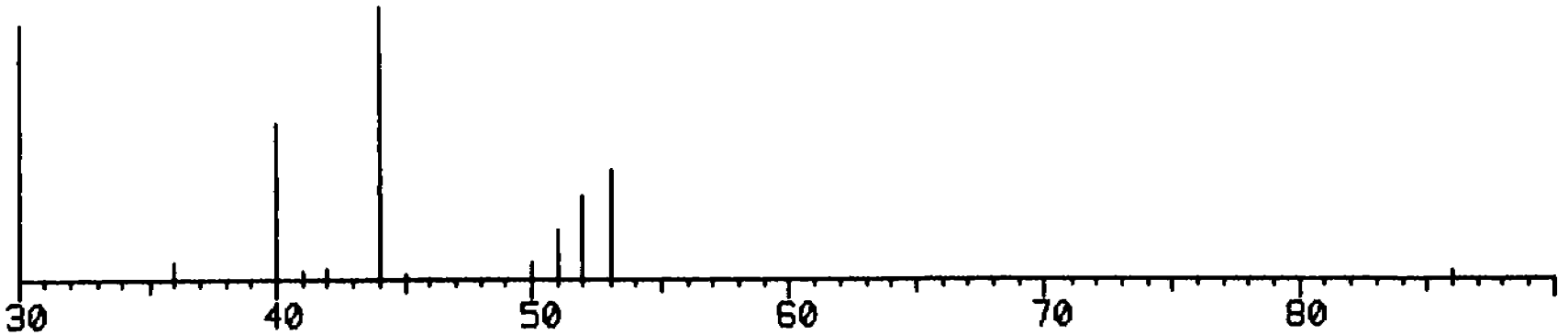


KLG 11/27/95

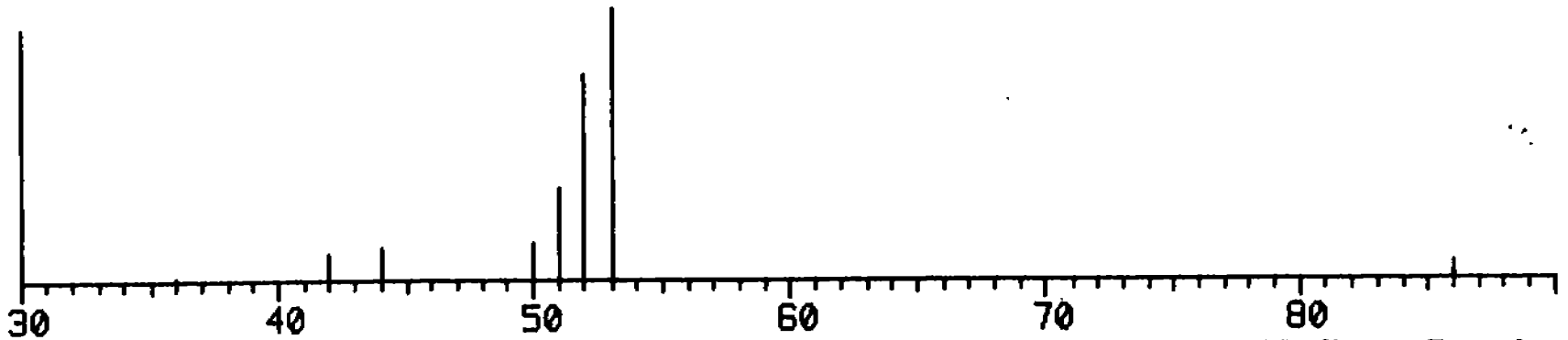
SY0: D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 10:18:33 Bkg 505 Scan 511 R.T. 9.40 min. 22399 34032
2-Butanone



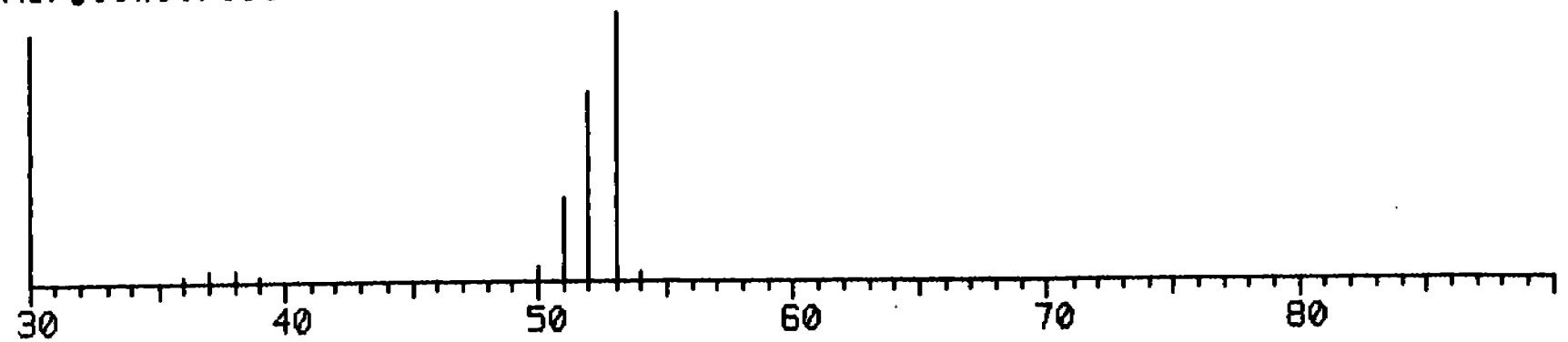
SY0: 22336 EXTRD 22336, V BLANK 100 % Total
22-NOV-95 10:18:33 Scan 400 R.T. 7.77 min. 859 2321



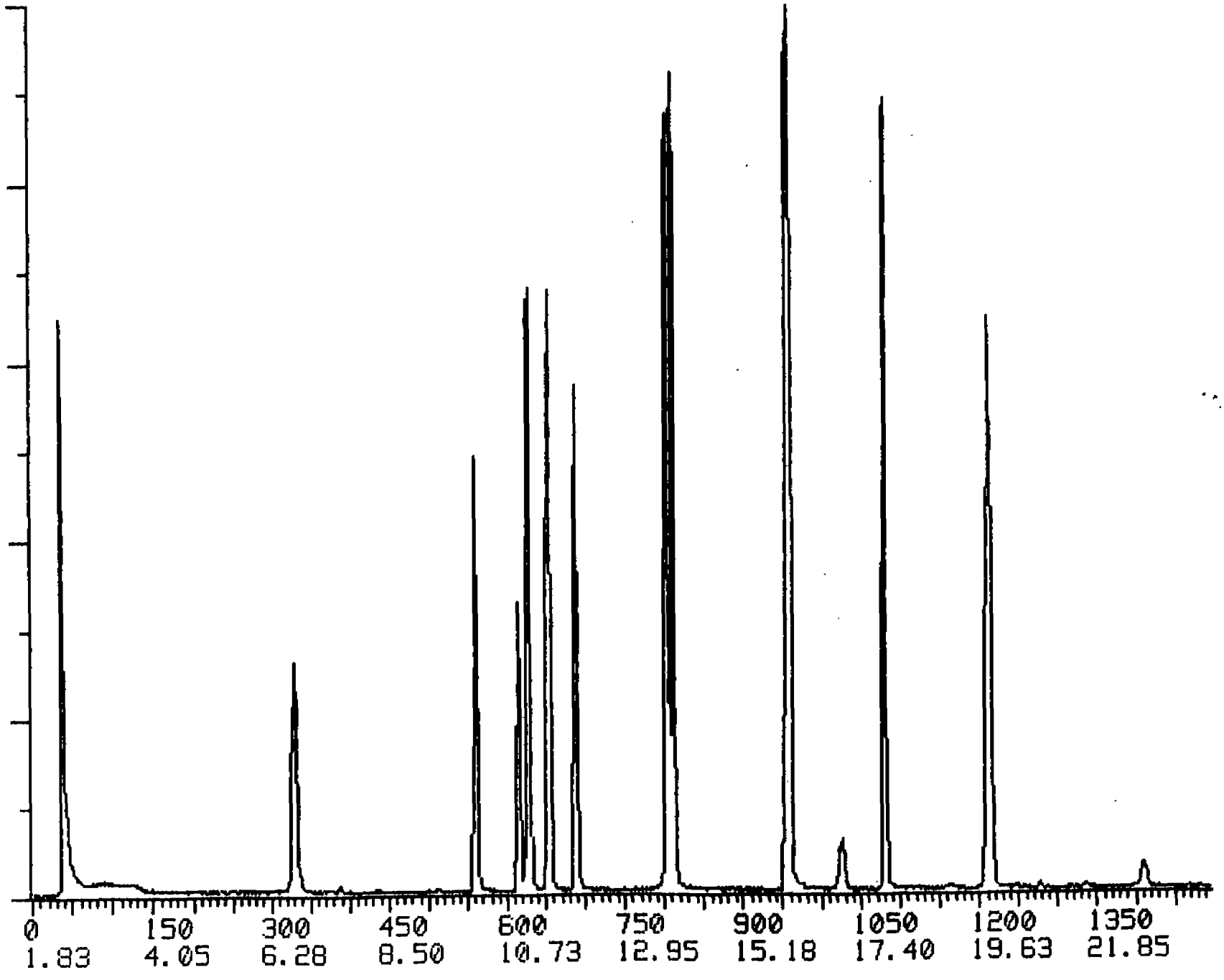
SY0: D22336 EXTRD 22336, V BLANK 100 % Total
22-NOV-95 10:18:33 Bkg 396 Scan 400 R.T. 7.77 min. 352 891



SY0: D22335 EXTRD 22335, V STD 50 CON CAL 100 % Total
22-NOV-95 10:18:33 Bkg 395 Scan 401 R.T. 7.77 min. 50432 113380
Acrylonitrile



SY0:D22337 EXTRD 22337, QC CHECK (LCS AI 50UG/L) 100%
22-NOV-95 10:52:45 320550
Total Ion Current
Quad 1 scanning mode



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

GC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22337
Run date: 22-NOV-95 10:52:45
Rpt date: 22-NOV-95 11:48:19 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.GRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

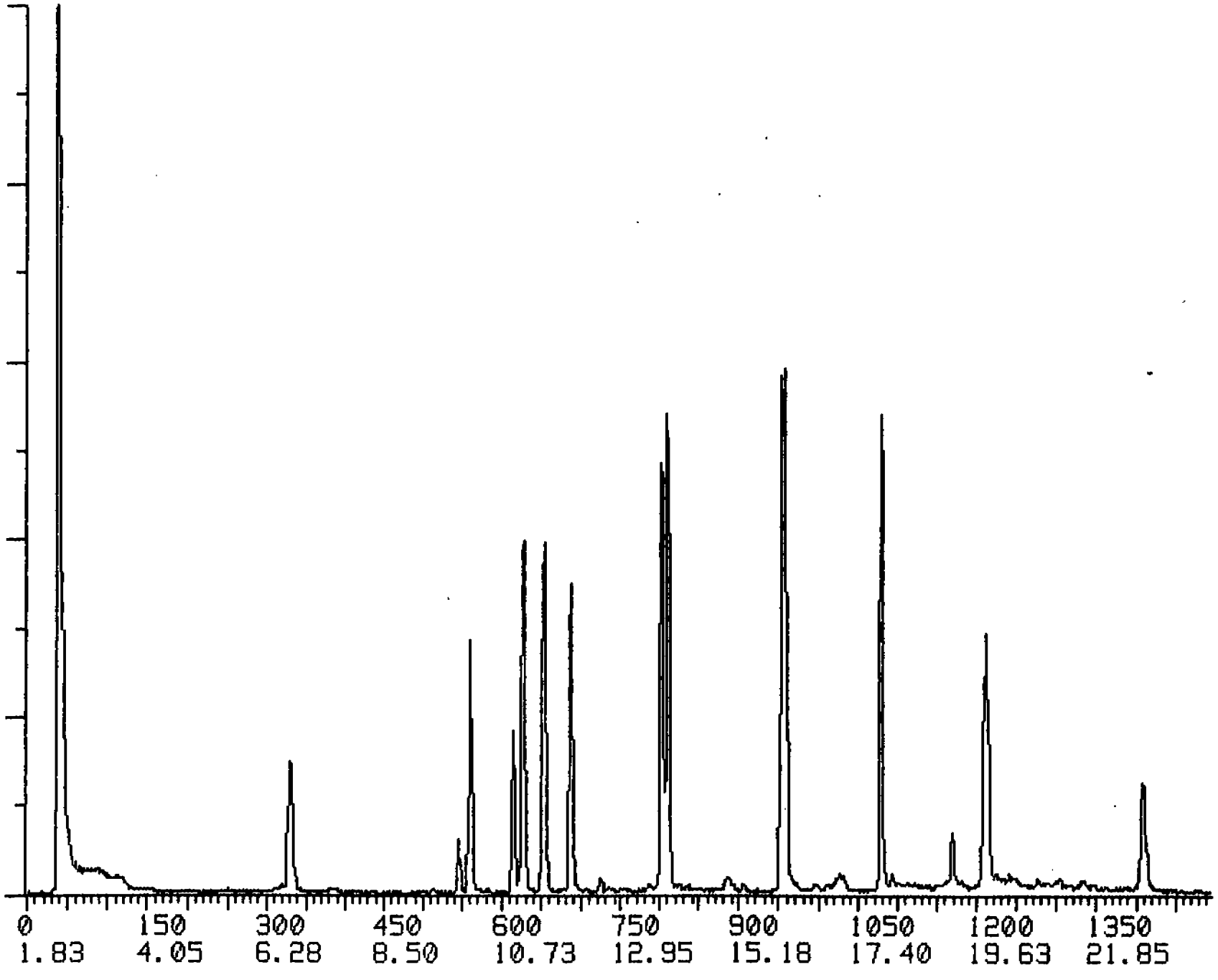
omments:
EXTRD 22337, QC CHECK (LCS AT 50UG/L)

No.	GC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128.	560	10.13	BB	0.77	81846.	50.0
2S		1,4-Difluorobenzene	114.	653	11.52	BB	0.89	428424.	50.0
3S		Chlorobenzene-d5	117.	954	15.98	BB	1.00	382260.	50.0
1T	S	Chloromethane	50.	108	3.43		0.00	NOT FOUND	
2T		Bromomethane	94.	194	4.72		0.00	NOT FOUND	
3T	C	Vinyl Chloride	62.	127	3.72		0.00	NOT FOUND	
4T		Chloroethane	64.	210	4.95		0.00	NOT FOUND	
5T		Methylene Chloride	84.	386	7.57		0.00	NOT FOUND	
6T		Acetone	43.	319	6.55	VV	0.82	2544.	1.9
7T		Carbon Disulfide	76.	382	7.50		0.00	NOT FOUND	
8T	C	1,1-Dichloroethene	96.	329	6.70	BB	0.85	112545.	49.7
9T	S	1,1-Dichloroethane	63.	467	8.77		0.00	NOT FOUND	
10T		1,2-Dichloroethene (to	96.	421	8.08		0.00	NOT FOUND	
11T	C	Chloroform	83.	546	9.93		0.00	NOT FOUND	
12T		1,2-Dichloroethane	62.	653	11.52		0.32	NOT FOUND	
13T		2-Butanone	43.	511	9.42		0.32	NOT FOUND	
14T		1,1,1-Trichloroethane	97.	585	10.52		0.00	NOT FOUND	
15T		Carbon Tetrachloride	117.	611	10.90		0.00	NOT FOUND	
16T		Vinyl Acetate	43.	471	8.82		0.00	NOT FOUND	
17T		Bromodichloromethane	83.	723	12.57		0.00	NOT FOUND	
18T	C	1,2-Dichloropropane	63.	702	12.25		0.00	NOT FOUND	

Run name: SYO:D22337
Run date: 22-NOV-95 10:52:45
pt date: 22-NOV-95 11:48:19 Last edit date:
il factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

19T		cis-1,3-Dichloropropen	75.	810	13.85		0.20	NOT FOUND	
20T		Trichloroethene	130.	687	12.02	BB	0.87	157902.	48.8
21T		Dibromochloromethane	129.	893	15.08		0.00	NOT FOUND	
22T		1,1,2-Trichloroethane	97.	820	14.00		0.23	NOT FOUND	
23T		Benzene	78.	627	11.13	BV	0.83	522876.	49.2
24T		trans-1,3-Dichloroprop	75.	825	14.13		0.18	NOT FOUND	
25T	S	Bromoform	173.	1055	17.48		0.00	NOT FOUND	
26T		4-Methyl-2-Pentanone	43.	756	13.05		0.00	NOT FOUND	
27T		2-Hexanone	43.	865	14.67		0.35	NOT FOUND	
28T		Tetrachloroethene	164.	875	14.82		0.00	NOT FOUND	
29T	S	1,1,2,2-Tetrachloroeth	83.	1068	17.68		0.00	NOT FOUND	
30T	C	Toluene	91.	811	13.85	BV	0.94	523940.	54.1
31T	S	Chlorobenzene	112.	958	16.03	BV	1.00	383636.	52.9
32T	C	Ethylbenzene	106.	971	16.23		0.71	NOT FOUND	
33T		Styrene	104.	1018	16.93		0.00	NOT FOUND	
34T		Total Xylenes	106.	1015	16.90		0.00	NOT FOUND	
35T	R	Toluene-d8	98.	802	13.72	BB	0.95	452496.	53.7
36T	R	Bromofluorobenzene	95.	1080	17.85	BV	0.81	269616.	55.0
37T	R	1,2-Dichloroethane-d4	65.	614	10.93	BV	0.83	150562.	51.5
38T		Trichlorofluromethane	101.	250	5.55		0.00	NOT FOUND	
39T		cis-1,2-Dichloroethene	96.	559	10.13		0.12	NOT FOUND	
40T		2-Chloroethylvinyl eth	63.	753	13.00		0.00	NOT FOUND	
41T		m-Xylene/p-Xylene	106.	971	16.23		0.83	NOT FOUND	
42T		1,3-Dichlorobenzene	146.	1210	19.78		0.04	NOT FOUND	
43T		1,4-Dichlorobenzene	146.	1209	19.78		0.04	NOT FOUND	
44T		1,2-Dichlorobenzene	146.	1249	20.37		0.12	NOT FOUND	
45T		Acrolein	56.	307	6.38		0.00	NOT FOUND	
46T		Acrylonitrile	53.	401	7.78		0.00	NOT FOUND	
64T		Tert-butylmethylether	73.	413	7.97		0.00	NOT FOUND	

SY0:D22339 EXTRD 22339, C5K180003-001MS 5ML 100%
22-NOV-95 11:57:38 554486
Total Ion Current
Quad 1 scanning mode



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22339
Run date: 22-NOV-95 11:57:38
Rpt date: 22-NOV-95 12:33:38 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH2O
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

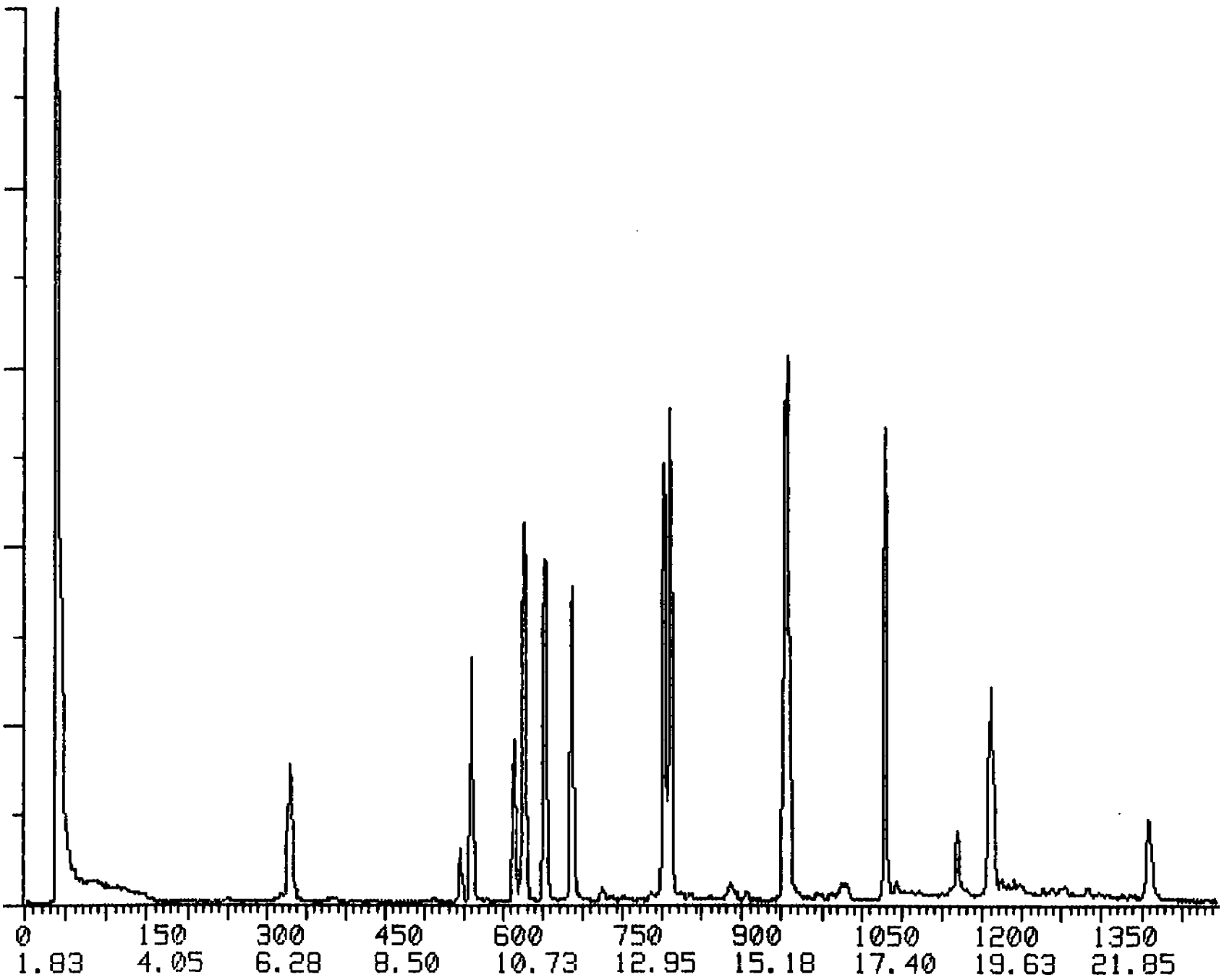
Comments:
EXTRD 22339, C5K180003-001MS 5ML

No.	QC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128.	560	10.13	BB	0.88	83789.	50.0
2S		1,4-Difluorobenzene	114.	653	11.52	BB	0.89	449984.	50.0
3S		Chlorobenzene-d5	117.	954	15.98	BB	0.88	392524.	50.0
1T	S	Chloromethane	50.	108	3.43		0.00	NOT FOUND	
2T		Bromomethane	94.	194	4.72		0.00	NOT FOUND	
3T	C	Vinyl Chloride	62.	127	3.72		0.00	NOT FOUND	
4T		Chloroethane	64.	210	4.95		0.00	NOT FOUND	
5T		Methylene Chloride	84.	387	7.57		0.75	NOT FOUND	
6T		Acetone	43.	320	6.57	VV	1.00	14112.	10.3
7T		Carbon Disulfide	76.	383	7.50		0.79	NOT FOUND	
8T	C	1,1-Dichloroethene	96.	329	6.70	BB	0.85	114568.	49.4
9T	S	1,1-Dichloroethane	63.	467	8.77		0.00	NOT FOUND	
10T		1,2-Dichloroethene (to	96.	421	8.08		0.00	NOT FOUND	
11T	C	Chloroform	83.	546	9.93	BB	1.00	68573.	12.5
12T		1,2-Dichloroethane	62.	623	11.13		0.44	NOT FOUND	
13T		2-Butanone	43.	512	9.42	BV	0.63	5714.	2.5
14T		1,1,1-Trichloroethane	97.	585	10.52		0.00	NOT FOUND	
15T		Carbon Tetrachloride	117.	611	10.90		0.00	NOT FOUND	
16T		Vinyl Acetate	43.	471	8.82		0.00	NOT FOUND	
17T		Bromodichloromethane	83.	724	12.57	VB	0.96	13041.	2.6
18T	C	1,2-Dichloropropane	63.	684	11.98		0.20	NOT FOUND	

Run name: SYO:D22339
Run date: 22-NOV-95 11:57:38
Rpt date: 22-NOV-95 12:33:38 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

19T		cis-1,3-Dichloropropen	75.	810	13.85		0.20	NOT FOUND	
20T		Trichloroethene	130.	686	12.00	BB	0.87	167258.	49.3
21T		Dibromochloromethane	129.	893	15.07		0.53	NOT FOUND	
22T		1,1,2-Trichloroethane	97.	840	14.25		0.30	NOT FOUND	
23T		Benzene	78.	627	11.13	BV	0.83	523936.	46.9
24T		trans-1,3-Dichloroprop	75.	810	13.85		0.21	NOT FOUND	
25T	S	Bromoform	173.	1055	17.48		0.00	NOT FOUND	
26T		4-Methyl-2-Pentanone	43.	756	12.97		0.37	NOT FOUND	
27T		2-Hexanone	43.	840	14.20		0.42	NOT FOUND	
28T		Tetrachloroethene	164.	875	14.82		0.00	NOT FOUND	
29T	S	1,1,2,2-Tetrachloroeth	83.	1068	17.80		0.04	NOT FOUND	
30T	C	Toluene	91.	810	13.85	BV	0.88	526180.	52.9
31T	S	Chlorobenzene	112.	958	16.03	BB	1.00	410772.	55.1
32T	C	Ethylbenzene	106.	963	16.10		0.49	NOT FOUND	
33T		Styrene	104.	1018	16.93		0.00	NOT FOUND	
34T		Total Xylenes	106.	1015	16.90		0.00	NOT FOUND	
35T	R	Toluene-d8	98.	802	13.72	BB	1.00	422248.	48.8
36T	R	Bromofluorobenzene	95.	1079	17.83	BV	0.92	276896.	55.0
37T	R	1,2-Dichloroethane-d4	65.	614	10.93	BB	0.83	152021.	50.8
38T		Trichlorofluromethane	101.	250	5.55		0.00	NOT FOUND	
39T		cis-1,2-Dichloroethene	96.	558	10.12		0.12	NOT FOUND	
40T		2-Chloroethylvinyl eth	63.	753	13.00		0.00	NOT FOUND	
41T		m-Xylene/p-Xylene	106.	971	16.25		0.43	NOT FOUND	
42T		1,3-Dichlorobenzene	146.	1199	19.62		0.28	NOT FOUND	
43T		1,4-Dichlorobenzene	146.	1199	19.62		0.28	NOT FOUND	
44T		1,2-Dichlorobenzene	146.	1249	20.37		0.00	NOT FOUND	
45T		Acrolein	56.	307	6.38		0.00	NOT FOUND	
46T		Acrylonitrile	53.	401	7.78		0.00	NOT FOUND	
64T		Tert-butylmethylether	73.	413	7.93		0.47	NOT FOUND	

SY0:D22340 EXTRD 22340, C5K180003-001MSD 5ML 100%
22-NOV-95 12:33:11 558260
Total Ion Current
Quad 1 scanning mode



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22340
Run date: 22-NOV-95 12:33:11
Rpt date: 22-NOV-95 13:12:04 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

omments:
EXTRD 22340, C5K180003-001MSD 5ML

No.	QC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128.	559	10.12	BB	0.77	80492.	50.0
2S		1,4-Difluorobenzene	114.	652	11.50	BB	0.84	424304.	50.0
3S		Chlorobenzene-d5	117.	953	15.97	BB	0.83	378968.	50.0
1T	S	Chloromethane	50.	108	3.43		0.00	NOT FOUND	
2T		Bromomethane	94.	194	4.72		0.00	NOT FOUND	
3T	C	Vinyl Chloride	62.	127	3.72		0.00	NOT FOUND	
4T		Chloroethane	64.	210	4.95		0.00	NOT FOUND	
5T		Methylene Chloride	84.	387	7.57		0.66	NOT FOUND	
6T		Acetone	43.	320	6.57	VV	0.82	16393.	12.5
7T		Carbon Disulfide	76.	382	7.50		0.68	NOT FOUND	
8T	C	1,1-Dichloroethene	96.	329	6.70	BB	0.85	118537.	53.3
9T	S	1,1-Dichloroethane	63.	466	8.75		0.00	NOT FOUND	
10T		1,2-Dichloroethene (to	96.	420	8.07		0.00	NOT FOUND	
11T	C	Chloroform	83.	545	9.92	BB	0.94	68595.	13.0
12T		1,2-Dichloroethane	62.	622	11.12		0.44	NOT FOUND	
13T		2-Butanone	43.	512	9.42	VV	0.72	6425.	2.9
14T		1,1,1-Trichloroethane	97.	584	10.50		0.00	NOT FOUND	
15T		Carbon Tetrachloride	117.	610	10.88		0.00	NOT FOUND	
16T		Vinyl Acetate	43.	501	9.27		0.15	NOT FOUND	
17T		Bromodichloromethane	83.	724	12.57	VB	0.91	12933.	2.7
18T	C	1,2-Dichloropropane	63.	685	12.00		0.16	NOT FOUND	

Run name: SYO:D22340
Run date: 22-NOV-95 12:33:11
pt date: 22-NOV-95 13:12:04 Last edit date:
il factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

19T		cis-1,3-Dichloropropen	75.	775	13.33		0.00	NOT FOUND	
20T		Trichloroethene	130.	686	12.00	BB	0.87	166704.	52.1
21T		Dibromochloromethane	129.	893	15.07		0.64	NOT FOUND	
22T		1,1,2-Trichloroethane	97.	839	14.23		0.36	NOT FOUND	
23T		Benzene	78.	626	11.12	BB	0.94	557508.	53.0
24T		trans-1,3-Dichloroprop	75.	810	13.85		0.21	NOT FOUND	
25T	S	Bromoform	173.	1053	17.45		0.00	NOT FOUND	
26T		4-Methyl-2-Pentanone	43.	732	12.70		0.37	NOT FOUND	
27T		2-Hexanone	43.	839	14.20		0.42	NOT FOUND	
28T		Tetrachloroethene	164.	874	14.80		0.00	NOT FOUND	
29T	S	1,1,2,2-Tetrachloroeth	83.	1076	17.80		0.04	NOT FOUND	
30T	C	Toluene	91.	810	13.85	BV	0.88	553848.	57.7
31T	S	Chlorobenzene	112.	957	16.02	BV	1.00	414096.	57.6
32T	C	Ethylbenzene	106.	963	16.12		0.78	NOT FOUND	
33T		Styrene	104.	1017	16.92		0.00	NOT FOUND	
34T		Total Xylenes	106.	1014	16.88		0.00	NOT FOUND	
35T	R	Toluene-d8	98.	802	13.72	BV	1.00	442372.	53.0
36T	R	Bromofluorobenzene	95.	1079	17.83	BB	1.00	258096.	53.1
37T	R	1,2-Dichloroethane-d4	65.	613	10.92	BV	0.83	149446.	52.0
38T		Trichlorofluromethane	101.	249	5.53		0.00	NOT FOUND	
39T		cis-1,2-Dichloroethene	96.	528	9.67		0.00	NOT FOUND	
40T		2-Chloroethylvinyl eth	63.	727	12.62		0.01	NOT FOUND	
41T		m-Xylene/p-Xylene	106.	971	16.23		0.71	NOT FOUND	
42T		1,3-Dichlorobenzene	146.	1197	19.62		0.21	NOT FOUND	
43T		1,4-Dichlorobenzene	146.	1199	19.62		0.21	NOT FOUND	
44T		1,2-Dichlorobenzene	146.	1248	20.35		0.00	NOT FOUND	
45T		Acrolein	56.	306	6.37		0.00	NOT FOUND	
46T		Acrylonitrile	53.	400	7.77		0.00	NOT FOUND	
64T		Tert-butylmethylether	73.	412	7.93		0.40	NOT FOUND	

QCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:13:55

1. Run name: SYO:D22336.QRF
Run date: 22-NOV-95 10:18:33

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	52.18	104.37
Bromofluorobenzene	50.00	51.93	103.86
1,2-Dichloroethane-d4	50.00	50.61	101.22

QCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:13:58

2. Run name: SYO:D22337.QRF
Run date: 22-NOV-95 10:52:45

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	53.74	107.47
Bromofluorobenzene	50.00	55.04	110.08
1,2-Dichloroethane-d4	50.00	51.48	102.96

QCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:01

3. Run name: SYO:D22338.QRF
Run date: 22-NOV-95 11:25:55

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	52.01	104.03
Bromofluorobenzene	50.00	54.89	109.79
1,2-Dichloroethane-d4	50.00	53.03	106.05

QCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:05

4. Run name: SYO:D22339.QRF

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	48.83	97.67
Bromofluorobenzene	50.00	55.05	110.09
1,2-Dichloroethane-d4	50.00	50.77	101.54

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:08

==========

5. Run name: SYO:D22340.GRF
Run date: 22-NOV-95 12:33:11

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	52.99	105.98
Bromofluorobenzene	50.00	53.14	106.29
1,2-Dichloroethane-d4	50.00	51.96	103.91

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:12

==========

6. Run name: SYO:D22341.GRF
Run date: 22-NOV-95 13:11:39

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	52.66	105.33
Bromofluorobenzene	50.00	50.86	101.71
1,2-Dichloroethane-d4	50.00	51.06	102.11

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:15

==========

7. Run name: SYO:D22342.GRF
Run date: 22-NOV-95 14:20:56

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	49.89	99.78
Bromofluorobenzene	50.00	49.10	98.19
1,2-Dichloroethane-d4	50.00	51.21	102.41

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20

Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:18

==========

8. Run name: SYO:D22343.GRF
Run date: 22-NOV-95 15:01:16

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	51.47	102.94
Bromofluorobenzene	50.00	52.83	105.66
1,2-Dichloroethane-d4	50.00	51.85	103.69

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:21

==========

9. Run name: SYO:D22344.GRF
Run date: 22-NOV-95 15:34:34

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	51.16	102.32
Bromofluorobenzene	50.00	53.80	107.60
1,2-Dichloroethane-d4	50.00	47.74	95.49

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:25

==========

10. Run name: SYO:D22345.GRF
Run date: 22-NOV-95 16:08:41

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	53.09	106.17
Bromofluorobenzene	50.00	54.55	109.09
1,2-Dichloroethane-d4	50.00	50.77	101.55

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH20
Limits file: SYO:DBH20.NRM
Report date: 27-NOV-95 08:14:28

==========

. Run name: SYO:D22346.GRF
Run date: 22-NOV-95 16:42:37

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery

Toluene-d8	50.00	51.17	102.34
Bromofluorobenzene	50.00	53.89	107.78
1,2-Dichloroethane-d4	50.00	51.16	102.31

GCC Surrogate Recoveries Report, Version 1.4

Quant library: SYO:DBH2O
Limits file: SYO:DBH2O.NRM
Report date: 27-NOV-95 08:14:32

==========

12. Run name: SYO:D22347.QRF
Run date: 22-NOV-95 17:16:37

Analysis	True Spike Amount	Measured Spike Amount	Percent Recovery
Toluene-d8	50.00	50.29	100.59
Bromofluorobenzene	50.00	53.64	107.27
1,2-Dichloroethane-d4	50.00	51.09	102.17

GCC - Internal Standard Area Checks, Version 1.4

Cont. cal. file name: SYO:D22335.GRF
Cont. cal. file date: 22-NOV-95 09:40:22
Report date: 27-NOV-95 08:12:01

Upper limit set at 2.0 * standard area
Lower limit set at 0.5 * standard area

	1S	2S	3S	4S	5S	6S
Upper limit:	159012.	827032.	791792.	0.	0.	0.
Std. area:	79506.	413516.	395896.	0.	0.	0.
Retn. time:	10.12	11.50	15.98	0.00	0.00	0.00
Lower limit:	39753.	206758.	197948.	0.	0.	0.

1. Run name: SYO:D22336.GRF
Run date: 22-NOV-95 10:18:33

Std. area:	82392.	422444.	394168.	0.	0.	0.
Retn. time:	10.12	11.52	15.97	0.00	0.00	0.00

2. Run name: SYO:D22337.GRF
Run date: 22-NOV-95 10:52:45

Std. area:	81846.	428424.	382260.	0.	0.	0.
Retn. time:	10.13	11.52	15.98	0.00	0.00	0.00

3. Run name: SYO:D22338.GRF
Run date: 22-NOV-95 11:25:55

Std. area:	85113.	449204.	403236.	0.	0.	0.
Retn. time:	10.12	11.52	15.98	0.00	0.00	0.00

4. Run name: SYO:D22339.GRF
Run date: 22-NOV-95 11:57:38

Std. area:	83789.	449984.	392524.	0.	0.	0.
Retn. time:	10.13	11.52	15.98	0.00	0.00	0.00

5. Run name: SYO:D22340.GRF
Run date: 22-NOV-95 12:33:11

Std. area:	80492.	424304.	378968.	0.	0.	0.
Retn. time:	10.12	11.50	15.97	0.00	0.00	0.00

6. Run name: SYO:D22341.GRF
Run date: 22-NOV-95 13:11:39

Std. area:	79656.	433676.	388764.	0.	0.	0.
Retn. time:	10.12	11.52	15.98	0.00	0.00	0.00

7. Run name: SYO:D22342.GRF
Run date: 22-NOV-95 14:20:56

Std. area:	76962.	425404.	407400.	0.	0.	0.
Retn. time:	10.13	11.53	15.98	0.00	0.00	0.00

8. Run name: SYO:D22343.GRF
Run date: 22-NOV-95 15:01:16

Std. area:	84755.	459400.	409736.	0.	0.	0.
Retn. time:	10.12	11.50	15.98	0.00	0.00	0.00

9. Run name: SYO:D22344.GRF
Run date: 22-NOV-95 15:34:34

Std. area:	84610.	438584.	392628.	0.	0.	0.
Retn. time:	10.10	11.48	15.95	0.00	0.00	0.00

0. Run name: SYO:D22345.GRF
Run date: 22-NOV-95 16:08:41

Std. area:	79764.	456424.	397940.	0.	0.	0.
Retn. time:	10.12	11.50	15.97	0.00	0.00	0.00

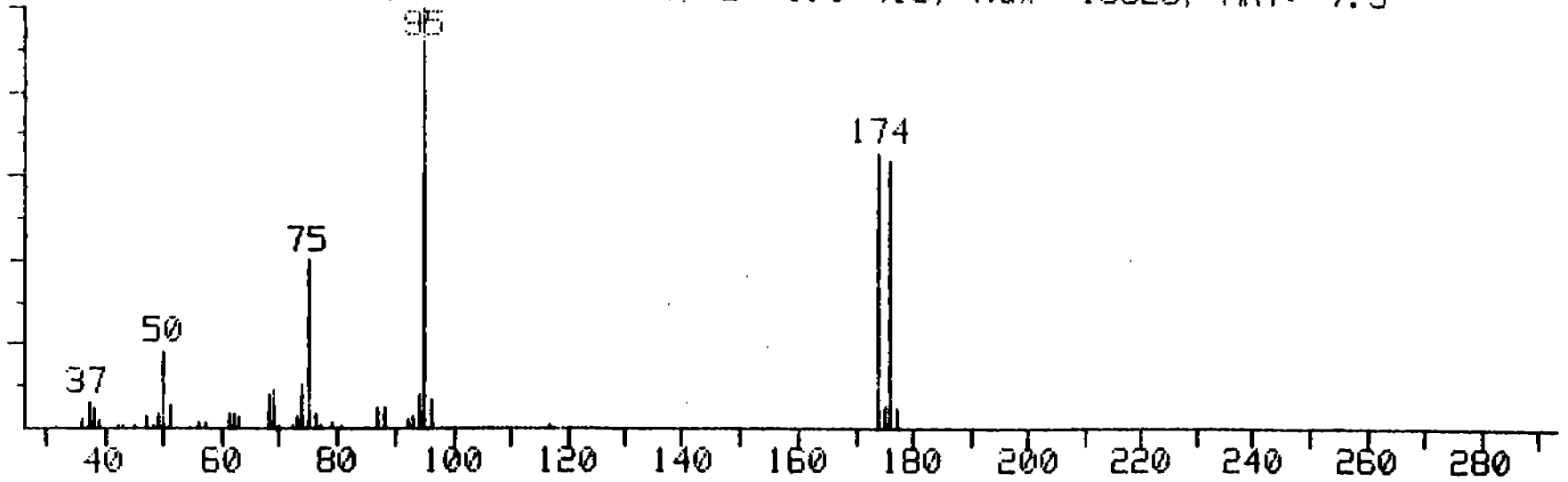
11. Run name: SYO:D22346.GRF
Run date: 22-NOV-95 16:42:37

Std. area:	74947.	425596.	381004.	0.	0.	0.
Retn. time:	10.12	11.50	15.97	0.00	0.00	0.00

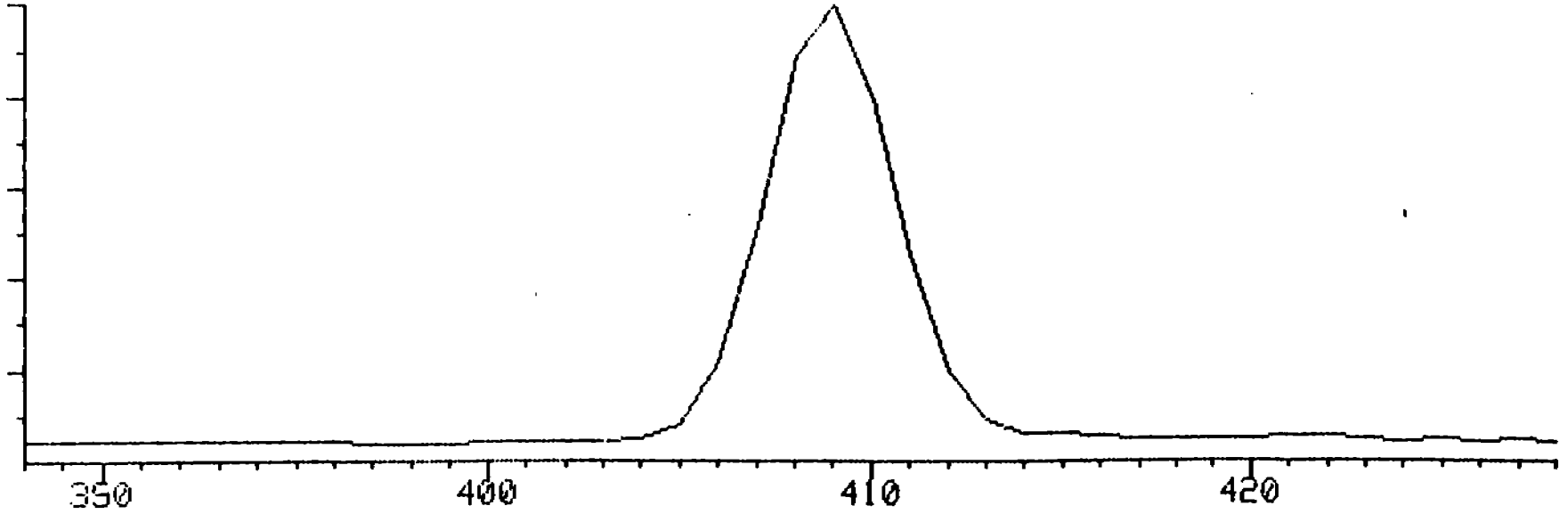
12. Run name: SYO:D22347.GRF
Run date: 22-NOV-95 17:16:37

Std. area:	88035.	468232.	403252.	0.	0.	0.
Retn. time:	10.10	11.48	15.95	0.00	0.00	0.00

DUO:[301,1]D21426 EXTRD 21426 50NG BFB, 18-SEP-95, 10:09:09
Q1 Mss: 26.0-293.0, Sns: 408-410, B: 1.0 403, Max: 19626, ART: 7.9



Q1 TIC, Sns: 388-428, Max: 94766, C Max: 94766, RT: 7.6, 8.2



Box number 2 Scans available 1-498

DUO:[301,1]D21426
EXTRD 21426 50NG BFB
18-SEP-95 10:09:09
Scans: 408 - 410
Background: 1.00 403
Base Peak: 95.0

Average Time: 7.88 min
Intensity: 19626.67

Mass	Intensity	%Base
36.0	375.00	1.9
37.0	1188.67	6.1
38.0	941.33	4.8
39.0	355.33	1.8
41.0	28.67	0.1
42.0	113.67	0.6
43.0	91.67	0.5
45.0	153.00	0.8
47.0	495.67	2.5
48.0	147.33	0.8
49.0	695.33	3.5
50.0	3518.67	17.9
51.0	1075.00	5.5
52.0	52.33	0.3
55.0	40.33	0.2
56.0	199.33	1.0
57.0	318.67	1.6
58.0	7.00	0.0
59.0	37.00	0.2
60.0	123.67	0.6
61.0	629.67	3.2
62.0	726.00	3.7
63.0	492.33	2.5
64.0	47.00	0.2
65.0	13.33	0.1
66.0	11.67	0.1
68.0	1632.00	8.3
69.0	1770.67	9.0
70.0	154.67	0.8
72.0	86.67	0.4
73.0	579.33	3.0
74.0	2260.67	11.5
75.0	7776.00	39.6
76.0	731.00	3.7
77.0	123.33	0.6
79.0	270.00	1.4
80.0	37.00	0.2
81.0	135.33	0.7
82.0	55.33	0.3
83.0	15.00	0.1
86.0	10.00	0.1
87.0	905.00	4.6
88.0	852.33	4.3
89.0	11.67	0.1
91.0	55.00	0.3
92.0	357.33	1.8
93.0	548.00	2.8
94.0	1658.67	8.5
95.0	19626.67	100.0
96.0	1290.67	6.6
97.0	78.67	0.4
104.0	49.00	0.2
105.0	31.33	0.2
112.0	13.67	0.1
115.0	12.33	0.1
117.0	87.67	0.4
118.0	36.00	0.2
119.0	35.00	0.2
128.0	27.00	0.1
129.0	33.33	0.2
130.0	42.00	0.2
131.0	24.00	0.1
135.0	13.67	0.1
141.0	56.67	0.3
143.0	65.00	0.3
146.0	36.33	0.2
147.0	13.33	0.1
148.0	63.00	0.3
153.0	9.00	0.0
155.0	33.67	0.2
157.0	29.00	0.1
165.0	7.00	0.0
173.0	37.33	0.2
174.0	13049.33	66.5
175.0	1023.67	5.2
176.0	12622.00	64.3
177.0	873.00	4.4
178.0	27.67	0.1
191.0	44.67	0.2
221.0	6.00	0.0
266.0	8.33	0.0
281.0	8.00	0.0
282.0	22.33	0.1
283.0	17.67	0.1

Tuning Report for BFB

File - DUO:[301,1]D21426
Date - 18-SEP-95
Time: 10:09:09
Scans averaged: 408 - 410
Background scans * 1.00 403

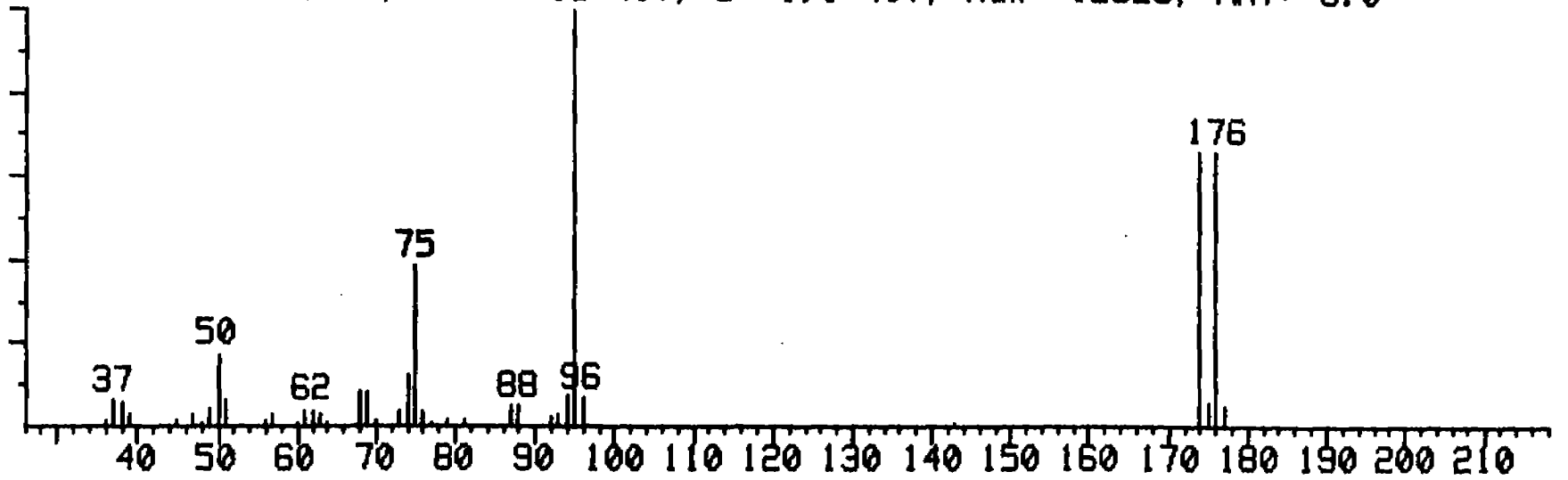
Mass	Requirement	Ref. Ion	Found	Pass/Fail
50	15-40%	95	17.9	P
75	30-60%	95	39.6	P
95	100%		100.0	P
96	5-9%	95	6.6	P
173	<2%	174	0.3	P
174	>50%	95	66.5	P
175	5-9%	174	7.8	P
176	95-101%	174	96.7	P
177	5-9%	176	6.9	P

SPECTRUM: D21426 09/18/95 RIC: 81344.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRD 21426 50NG BFB
CONDITIONS:
408 TO # 410 AVERAGED - # 403

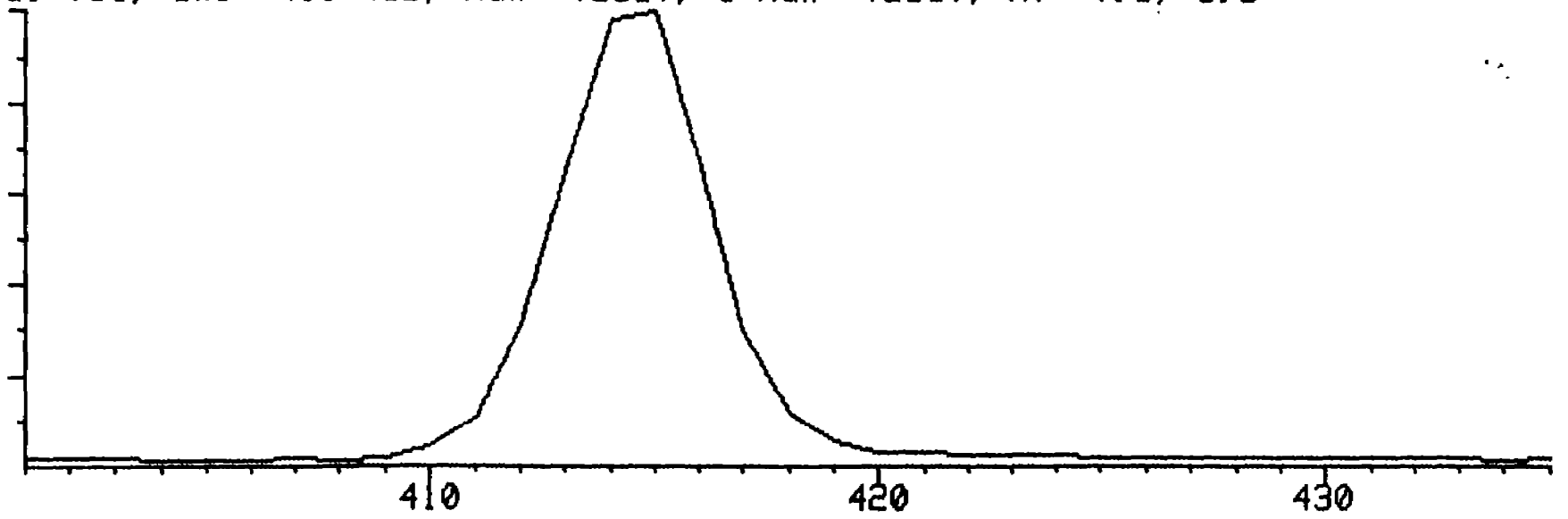
SPECTRUM FIT TO BFB CRITERIA

M/Z	INTEN	LIMITS	FOUND RA	
50	3519.	15-40% OF 95	17.93	OK
75	7776.	30-60% OF 95	39.62	OK
95	19627.	100% (BASE PK)	100.00	OK
96	1291.	5-9% OF 95	6.58	OK
173	37.	<2% OF 174	0.29	OK
174	13049.	> 50% OF 95	66.49	OK
175	1024.	5-9% OF 174	7.84	OK
176	12622.	95-101% OF 174	96.73	OK
177	873.	5-9% OF 176	6.92	OK

DU0:[301,1]D22334, EXTRD 22334, 50NG BFB, 22-NOV-95, 09:23:29
Q1 Mss: 26.0-218.0, Sns: 413-417, B: 1.0 407, Max: 12828, ART: 8.0



Q1 TIC, Sns: 401-435, Max: 75397, C Max: 75397, RT: 7.8, 8.3



Box number 2 Scans available 1-487

DUO:[301,1]D22334
EXTRD 22334, 50NG BFB
22-NOV-95 09:23:29
Scans: 413 - 417 Average Time: 7.98 min
Background: 1.00 407
Base Peak: 95.0 Intensity: 12828.80

Mass	Intensity	%Base	Mass	Intensity	%Base
36.0	133.40	1.0	103.0	3.80	0.0
37.0	801.60	6.2	104.0	18.00	0.1
38.0	693.00	5.4	105.0	5.60	0.0
39.0	300.20	2.3	106.0	23.80	0.2
41.0	6.60	0.1	110.0	9.40	0.1
42.0	10.80	0.1	111.0	23.00	0.2
44.0	38.20	0.3	117.0	28.80	0.2
45.0	130.80	1.0	118.0	14.40	0.1
47.0	329.20	2.6	119.0	14.80	0.1
48.0	56.60	0.4	130.0	13.00	0.1
49.0	495.40	3.9	141.0	14.60	0.1
50.0	2195.20	17.1	143.0	54.40	0.4
51.0	786.20	6.1	156.0	15.60	0.1
52.0	23.80	0.2	158.0	7.00	0.1
55.0	14.40	0.1	173.0	37.60	0.3
56.0	178.20	1.4	174.0	8483.20	66.1
57.0	327.80	2.6	175.0	676.80	5.3
60.0	70.60	0.6	176.0	8499.20	66.3
61.0	459.60	3.6	177.0	577.80	4.5
62.0	479.40	3.7	178.0	16.40	0.1
63.0	370.00	2.9	208.0	7.40	0.1
64.0	68.20	0.5			
67.0	8.00	0.1			
68.0	995.40	7.8			
69.0	1062.60	8.3			
70.0	124.40	1.0			
72.0	37.60	0.3			
73.0	386.80	3.0			
74.0	1536.40	12.0			
75.0	4982.40	38.8			
76.0	486.20	3.8			
77.0	104.20	0.8			
78.0	41.60	0.3			
79.0	146.60	1.1			
80.0	46.20	0.4			
81.0	214.00	1.7			
82.0	52.80	0.4			
83.0	32.40	0.3			
87.0	570.60	4.4			
88.0	611.40	4.8			
89.0	2.40	0.0			
91.0	27.40	0.2			
92.0	242.60	1.9			
93.0	348.80	2.7			
94.0	970.60	7.6			
95.0	12828.80	100.0			
96.0	839.80	6.5			
97.0	15.40	0.1			

SPECTRUM: D22334 11/22/95 RIC: 53216.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRD 22334, 50NG BFB
ONDITIONS:
413 TO # 417 AVERAGED - # 407

SPECTRUM FIT TO BFB CRITERIA

M/Z	INTEN	LIMITS	FOUND RA	
50	2195.	15-40% OF 95	17.11	OK
75	4982.	30-60% OF 95	38.84	OK
95	12829.	100% (BASE PK)	100.00	OK
96	840.	5-9% OF 95	6.55	OK
173	38.	<2% OF 174	0.44	OK
174	8483.	> 50% OF 95	66.13	OK
175	677.	5-9% OF 174	7.98	OK
176	8499.	95-101% OF 174	100.19	OK
177	578.	5-9% OF 176	6.80	OK

Tuning Report for BFB

File - DUO:[301,1]D22334
)ate - 22-NOV-95
Time: 09:23:29
Scans averaged: 413 - 417
Background scans * 1.00 407

Mass	Requirement	Ref. Ion	Found	Pass/Fail
50	15-40%	95	17.1	P
75	30-60%	95	38.8	P
95	100%		100.0	P
96	5-9%	95	6.5	P
173	<2%	174	0.4	P
174	>50%	95	66.1	P
175	5-9%	174	8.0	P
176	95-101%	174	100.2	P
177	5-9%	176	6.8	P

Current library files: SYO:DBH20
Last calibration date: 18-SEP-95 16:03:39
Data file names used:

Lvl	Name	Date	Time
1	SYO:D21427.QRF	18-SEP-95	10:21:34
2	SYO:D21428.QRF	18-SEP-95	11:00:46
3	SYO:D21429.QRF	18-SEP-95	11:33:04
4	SYO:D21430.QRF	18-SEP-95	12:06:49
5	SYO:D21431.QRF	18-SEP-95	12:38:49

SPCC compounds marked with a "*" CCC compounds marked with a "+"

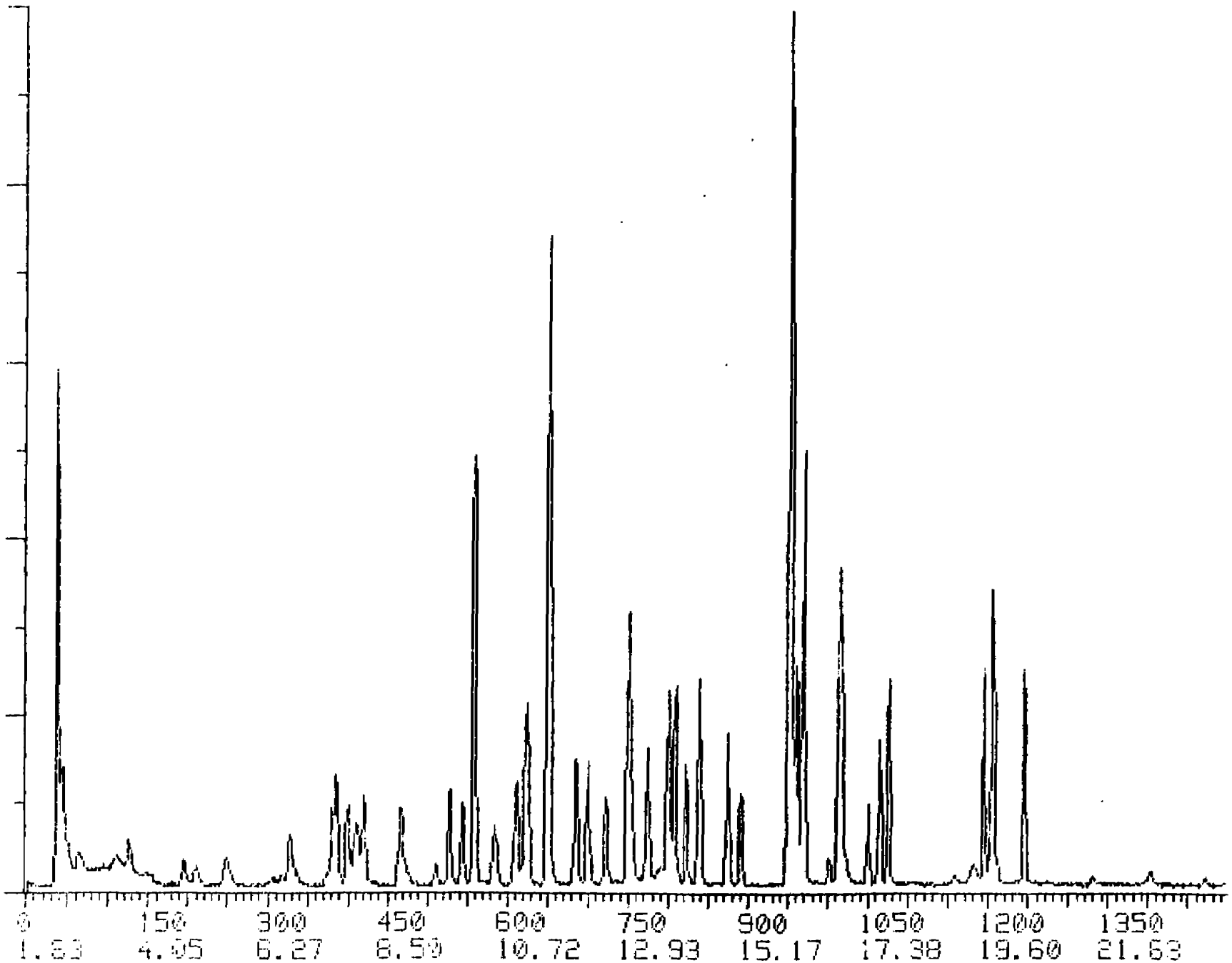
Target name	Lvl 1	Lvl 2	Lvl 3	Lvl 4	Lvl 5	Avg	%RSD
Chloromethane	2.176	1.960	2.005	1.907	1.908	1.991	5.6
Bromomethane	1.292	1.078	0.680	0.702	0.720	0.894	30.9
Vinyl Chloride	2.128	2.036	2.079	2.087	1.956	2.057	3.2
Chloroethane	1.193	0.992	0.886	0.565	0.568	0.841	32.6
Methylene Chloride	2.169	1.739	1.634	1.579	1.461	1.716	15.8
Acetone	1.080	0.738	0.788	0.485	0.496	0.717	34.2
Carbon Disulfide	5.871	5.206	5.323	4.957	4.625	5.196	8.9
1,1-Dichloroethene	1.504	1.288	1.298	1.318	1.143	1.310	9.8
1,1-Dichloroethane	4.020	3.691	3.613	3.529	3.558	3.682	5.4
trans-1,2-Dichloroethen	1.871	1.628	1.608	1.592	1.443	1.628	9.5
Chloroform	3.507	3.039	3.019	3.029	2.888	3.096	7.7
1,2-Dichloroethane	2.377	2.182	2.110	2.077	1.945	2.138	7.4
2-Butanone	1.587	1.379	1.405	1.220	1.268	1.372	10.4
1,1,1-Trichloroethane	0.470	0.427	0.431	0.405	0.390	0.425	7.2
Carbon Tetrachloride	0.361	0.346	0.358	0.319	0.314	0.340	6.5
Vinyl Acetate	0.620	0.610	0.611	0.582	0.605	0.606	2.3
Bromodichloromethane	0.559	0.557	0.561	0.524	0.509	0.542	4.4
1,2-Dichloropropane	0.550	0.551	0.535	0.495	0.478	0.522	6.4
cis-1,3-Dichloropropene	0.644	0.616	0.637	0.590	0.603	0.618	3.7
Trichloroethene	0.422	0.381	0.372	0.350	0.328	0.371	9.5
Dibromochloromethane	0.442	0.427	0.447	0.408	0.401	0.425	4.7
1,1,2-Trichloroethane	0.410	0.381	0.364	0.349	0.328	0.367	8.5
Benzene	1.329	1.220	1.229	1.083	0.976	1.168	11.8
trans-1,3-Dichloropropene	0.510	0.517	0.508	0.488	0.497	0.504	2.3
Bromoform	0.345	0.342	0.369	0.358	0.335	0.350	3.9
4-Methyl-2-Pentanone	1.668	1.648	1.621	1.559	1.583	1.616	2.8
2-Hexanone	0.563	0.469	0.481	0.437	0.461	0.482	9.9
Tetrachloroethene	0.384	0.362	0.366	0.318	0.331	0.352	7.7
1,1,2,2-Tetrachloroethane	0.873	0.834	0.796	0.785	0.767	0.811	5.2
Toluene	1.413	1.350	1.336	1.213	1.169	1.296	7.8
Chlorobenzene	1.081	0.976	0.977	0.909	0.870	0.962	8.4
Ethylbenzene	0.542	0.532	0.535	0.515	0.463	0.518	6.2
Styrene	1.033	1.008	0.978	0.914	0.865	0.960	7.2
o-Xylene	0.699	0.704	0.649	0.604	0.556	0.642	9.8
Toluene-d8	1.233	1.171	1.174	1.086	1.062	1.145	6.1
Bromofluorobenzene	0.750	0.693	0.694	0.649	0.622	0.682	7.2
1,2-Dichloroethane-d4	2.190	1.831	1.750	1.620	1.739	1.826	11.9
Trichlorofluoromethane	2.203	2.007	1.950	1.796	1.047	1.800	24.8
cis-1,2-Dichloroethane	2.080	1.815	1.875	1.803	1.719	1.858	7.3
2-Chloroethylvinyl ether	0.282	0.270	0.249	0.240	0.257	0.260	6.5
m-Xylene/p-Xylene	0.684	0.690	0.646	0.542	0.550	0.622	11.5

SPCC compounds marked with a "*" CCC compounds marked with a "+"

Target name	Lvl 1	Lvl 2	Lvl 3	Lvl 4	Lvl 5	Avg	%RSD
1,3-Dichlorobenzene	0.896	0.899	0.831	0.748	0.781	0.831	8.1
1,4-Dichlorobenzene	0.904	0.861	0.857	0.812	0.766	0.840	6.2
1,2-Dichlorobenzene	0.924	0.849	0.809	0.750	0.748	0.816	9.1
Acrolein	0.037	0.034	0.055	0.019	0.015	0.032	49.8
Acrylonitrile	0.845	0.772	0.748	0.761	0.736	0.772	5.6
Tert-butylmethylether	4.506	4.221	4.153	4.129	3.844	4.171	5.7

STO:D21427 EXTRD 21427 VSTD10 8240W
18-SEP-95 10:21:34
Total Ion Current
Quad 1 scanning mode

100%
393737



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D21427
Run date: 18-SEP-95 10:21:34
Rpt date: 18-SEP-95 16:04.48 Last edit date: 18-SEP-95 11:39:35
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21427.QRF 18-SEP-95 10:21:34
Cal date: 18-SEP-95 16:03:39

Comments:
EXTRD 21427 VSTD10 8240W

Library was checked for the following compounds:

Standards

1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets

1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T trans-1,2-Dichloroethen
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane

Run name: SYO:D21427
Run date: 18-SEP-95 10:21:34
Rpt date: 18-SEP-95 16:04:48 Last edit date: 18-SEP-95 11:39:35
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21427.QRF 18-SEP-95 10:21:34
Cal date: 18-SEP-95 16:03:39

15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T o-Xylene
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4
38T Trichlorofluromethane
39T cis-1,2-Dichloroethene
40T 2-Chloroethylvinyl ether
41T m-Xylene/p-Xylene
42T 1,3-Dichlorobenzene
43T 1,4-Dichlorobenzene
44T 1,2-Dichlorobenzene
45T Acrolein
46T Acrylonitrile
47T Tert-butylmethylether

No.		Time	Scan	Mass	Area	Typ	Pk	Ref	Fit	Conc	Units
1S		10.10	558	128.	109845.	IS	BB		0.92	50.0	NG/UL
2S		11.47	651	114.	575152.	IS	BB		0.84	50.0	NG/UL
3S		15.92	951	117.	547364.	IS	BB		0.94	50.0	NG/UL
1T	S	3.48	112	50.	47808.	IA	VV	1	0.90	10.0	NG/UL
2T		4.70	194	94.	28379.	IA	BV	1	0.82	10.0	NG/UL
3T	C	3.70	126	62.	46748.	IA	BB	1	0.91	10.0	NG/UL
4T		4.93	210	64.	26215.	IA	BB	1	1.00	10.0	NG/UL
5T		7.53	385	84.	47643.	IA	BB	1	0.82	10.0	NG/UL
6T		6.52	317	43.	23735.	IA	BV	1	0.82	10.0	NG/UL

Run name: SYO:D21427
Run date: 18-SEP-95 10:21:34
Rpt date: 18-SEP-95 16:04:48 Last edit date: 18-SEP-95 11:39:35
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21427.QRF 18-SEP-95 10:21:34
Cal date: 18-SEP-95 16:03:39

7T		7.45	380	76.	128975.	IA	BB	1	0.79	10.0	NG/UL
8T	C	6.68	328	96.	33052.	IA	BB	1	0.85	10.0	NG/UL
9T	S	8.73	466	63.	88310.	IA	BB	1	0.78	10.0	NG/UL
10T		8.05	420	96.	41111.	IA	BB	1	0.82	10.0	NG/UL
11T	C	9.88	544	83.	77035.	IA	BB	1	0.94	10.0	NG/UL
12T		11.03	621	62.	52213.	IA	VV	1	0.78	10.0	NG/UL
13T		9.38	510	43.	34866.	IA	VV	1	0.63	10.0	NG/UL
14T		10.48	584	97.	54086.	IA	BB	2	0.87	10.0	NG/UL
15T		10.87	610	117.	41545.	IA	VB	2	0.86	10.0	NG/UL
16T		8.77	469	43.	71365.	IA	BV	2	0.70	10.0	NG/UL
17T		12.52	722	83.	64330.	IA	VB	2	0.91	10.0	NG/UL
18T	C	12.20	700	63.	63258.	IA	BB	2	1.00	10.0	NG/UL
19T		13.30	774	75.	74137.	IA	BV	2	0.89	10.0	NG/UL
20T		11.97	684	130.	48571.	IA	BV	2	0.87	10.0	NG/UL
21T		15.02	890	129.	50838.	IA	VB	2	1.00	10.0	NG/UL
22T		14.25	838	97.	47149.	IA	VV	2	0.90	10.0	NG/UL
23T		11.08	625	78.	152863.	IA	BB	2	0.83	10.0	NG/UL
24T		14.00	822	75.	58706.	IA	VV	2	0.93	10.0	NG/UL
25T	S	17.37	1049	173.	39677.	IA	BB	2	0.92	10.0	NG/UL
26T		12.93	754	43.	182553.	IA	BB	3	0.49	10.0	NG/UL
27T		14.25	839	43.	61634.	IA	VB	3	0.91	10.0	NG/UL
28T		14.78	874	164.	42043.	IA	BB	3	1.00	10.0	NG/UL
29T	S	17.58	1064	83.	95516.	IA	BB	3	0.86	10.0	NG/UL
30T	C	13.80	808	91.	154732.	IA	BB	3	0.88	10.0	NG/UL
31T	S	15.97	954	112.	118312.	IA	BB	3	1.00	10.0	NG/UL
32T	C	16.05	960	106.	59336.	IA	BV	3	0.93	10.0	NG/UL
33T		16.87	1015	104.	113059.	IA	VB	3	0.83	10.0	NG/UL
34T		16.82	1012	106.	76510.	IA	BB	3	1.00	10.0	NG/UL
35T	R	13.68	800	98.	134926.	IA	BV	3	0.95	10.0	NG/UL
36T	R	17.75	1075	95.	82117.	IA	VV	3	0.92	10.0	NG/UL
37T	R	10.90	612	65.	48110.	IA	BV	1	0.83	10.0	NG/UL
38T		5.52	249	101.	48389.	IA	BB	1	0.92	10.0	NG/UL
39T		9.63	527	96.	45692.	IA	VV	1	0.75	10.0	NG/UL
40T		12.93	750	63.	123614.	IA	VV	3	0.92	40.0	NG/UL
41T		16.17	968	106.	149664.	IA	VV	3	1.00	20.0	NG/UL
42T		19.52	1194	146.	98050.	IA	BV	3	0.96	10.0	NG/UL
43T		19.68	1205	146.	98976.	IA	VV	3	0.96	10.0	NG/UL
44T		20.27	1245	146.	101172.	IA	VB	3	0.96	10.0	NG/UL
45T		6.37	306	56.	3219.	IA	BV	1	0.83	40.0	NG/UL
46T		7.73	399	53.	74274.	IA	BV	1	1.00	40.0	NG/UL
64T		7.93	412	73.	98994.	IA	VV	1	0.79	10.0	NG/UL

Run name: SYO:D21427
Run date: 18-SEP-95 10:21:34
Rpt date: 18-SEP-95 16:04:48 Last edit date: 18-SEP-95 11:39:35
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH2O
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21427.QRF 18-SEP-95 10:21:34
Cal date: 18-SEP-95 16:03:39

>>> QuickQuant Extended Quantitation Report <<<

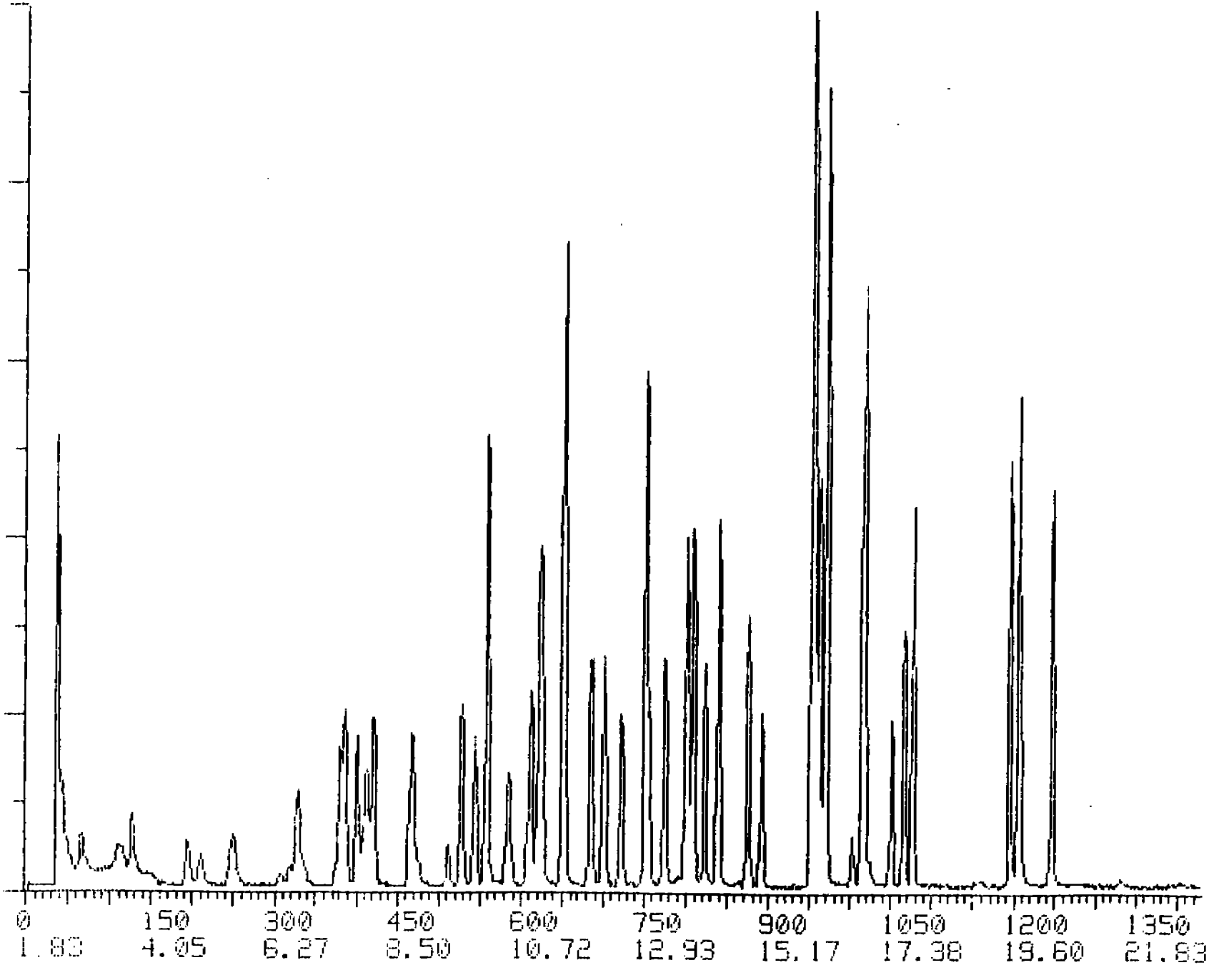
No	RRT	Mass	Area	Int	Lim	Cfile	Cal Fac	Ty	Conc	Ave.
1S		128.	109845.	551	574	560			50.0	
2S		114.	575152.	644	668	653			50.0	
3S		117.	547364.	944	978	952			50.0	
1T	0.345	50. / 128.	47808.	102	133	110	2.17616	SP	10.0	
2T	0.465	94. / 128.	28379.	188	220	196	1.29177	SP	10.0	
3T	0.366	62. / 128.	46748.	122	140	128	2.12791	SP	10.0	
4T	0.488	64. / 128.	26215.	204	224	212	1.19327	SP	10.0	
5T	0.746	84. / 128.	47643.	379	397	387	2.16865	SP	10.0	
6T	0.645	43. / 128.	23735.	304	336	321	1.08039	SP	10.0	
7T	0.738	76. / 128.	128975.	373	396	382	5.87077	SP	10.0	
8T	0.662	96. / 128.	33052.	319	342	330	1.50448	SP	10.0	
9T	0.865	63. / 128.	88310.	457	480	467	4.01975	SP	10.0	
10T	0.797	96. / 128.	41111.	412	434	423	1.87132	SP	10.0	
11T	0.979	83. / 128.	77035.	536	563	546	3.50653	SP	10.0	
12T	1.092	62. / 128.	52213.	615	632	623	2.37667	SP	10.0	
13T	0.929	43. / 128.	34866.	504	520	513	1.58705	SP	10.0	
14T	0.914	97. / 114.	54086.	575	594	586	0.47019	SP	10.0	
15T	0.948	117. / 114.	41545.	600	620	611	0.36117	SP	10.0	
16T	0.765	43. / 114.	71365.	461	493	471	0.62040	SP	10.0	
17T	1.092	83. / 114.	64330.	715	734	723	0.55924	SP	10.0	
18T	1.064	63. / 114.	63258.	691	709	702	0.54992	SP	10.0	
19T	1.160	75. / 114.	74137.	767	782	776	0.64450	SP	10.0	
20T	1.044	130. / 114.	48571.	678	695	686	0.42224	SP	10.0	
21T	1.310	129. / 114.	50838.	884	897	891	0.44195	SP	10.0	
22T	1.243	97. / 114.	47149.	832	843	839	0.40988	SP	10.0	
23T	0.967	78. / 114.	152863.	618	638	627	1.32889	SP	10.0	
24T	1.221	75. / 114.	58706.	817	832	823	0.51035	SP	10.0	
25T	1.515	173. / 114.	39677.	1044	1054	1051	0.34493	SP	10.0	
26T	0.813	43. / 117.	182553.	744	766	756	1.66756	SP	10.0	
27T	0.895	43. / 117.	61634.	832	853	840	0.56301	SP	10.0	
28T	0.929	164. / 117.	42043.	867	880	876	0.38405	SP	10.0	
29T	1.105	83. / 117.	95516.	1056	1075	1066	0.87251	SP	10.0	
30T	0.867	91. / 117.	154732.	799	817	809	1.41343	SP	10.0	
31T	1.003	112. / 117.	118312.	948	972	956	1.08074	SP	10.0	
32T	1.008	106. / 117.	59336.	953	964	962	0.54202	SP	10.0	
33T	1.060	104. / 117.	113059.	1010	1030	1017	1.03276	SP	10.0	
34T	1.057	106. / 117.	76510.	1007	1021	1014	0.69890	SP	10.0	
35T	0.860	98. / 117.	134926.	792	816	802	1.23251	SP	10.0	
36T	1.115	95. / 117.	82117.	1069	1088	1077	0.75011	SP	10.0	

Run name: SYO:D21427
Run date: 18-SEP-95 10:21:34
Rpt date: 18-SEP-95 16:04:48 Last edit date: 18-SEP-95 11:39:35
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21427.QRF 18-SEP-95 10:21:34
Cal date: 18-SEP-95 16:03:39

37T	1.079	65. / 128.	48110.	605	626	614	2.18990	SP	10.0
38T	0.546	101. / 128.	48389.	237	264	251	2.20260	SP	10.0
39T	0.954	96. / 128.	45692.	519	536	529	2.07984	SP	10.0
40T	0.813	63. / 117.	123614.	744	761	752	0.28229	SP	40.0
41T	1.016	106. / 117.	149664.	964	980	970	0.68357	SP	20.0
42T	1.226	146. / 117.	98050.	1187	1200	1196	0.89566	SP	10.0
43T	1.237	146. / 117.	98976.	1200	1213	1206	0.90411	SP	10.0
44T	1.273	146. / 117.	101172.	1234	1258	1247	0.92417	SP	10.0
45T	0.630	56. / 128.	3219.	299	309	308	0.03663	SP	40.0
46T	0.766	53. / 128.	74274.	394	408	403	0.84521	SP	40.0
64T	0.785	73. / 128.	98994.	395	425	414	4.50608	SP	10.0

SYO.021428 EXTRD 21428 VSTD20 8240W
18-SEP-95 11:00:46
Total Ion Current
Quad 1 scanning mode

100%
417541



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D21428
Run date: 18-SEP-95 11:00:46
Rpt date: 18-SEP-95 16:06:41 Last edit date: 18-SEP-95 11:42:56
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21428.QRF 18-SEP-95 11:00:46
al date: 18-SEP-95 16:03:39

Comments:
EXTRD 21428 VSTD20 8240W

Library was checked for the following compounds:

Standards

1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets

1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T trans-1,2-Dichloroethen
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane

Run name: SYO:D21428
Run date: 18-SEP-95 11:00:46
Rpt date: 18-SEP-95 16:06:41 Last edit date: 18-SEP-95 11:42:56
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21428.QRF 18-SEP-95 11:00:46
Cal date: 18-SEP-95 16:03:39

15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T o-Xylene
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4
38T Trichlorofluromethane
39T cis-1,2-Dichloroethene
40T 2-Chloroethylvinyl ether
41T m-Xylene/p-Xylene
42T 1,3-Dichlorobenzene
43T 1,4-Dichlorobenzene
44T 1,2-Dichlorobenzene
45T Acrolein
46T Acrylonitrile
54T Tert-butylmethylether

No.	Time	Scan	Mass	Area	Typ	Pk Ref		Fit	Conc	Units
1S	10.10	558	128.	120932.	IS	BB		0.84	50.0	NG/UL
2S	11.47	651	114.	618064.	IS	BB		0.89	50.0	NG/UL
3S	15.92	951	117.	554992.	IS	BB		1.00	50.0	NG/UL
1T S	3.47	111	50.	94793.	IA	VB	1	1.00	20.0	NG/UL
2T	4.70	194	94.	52164.	IA	BB	1	0.73	20.0	NG/UL
3T C	3.70	126	62.	98483.	IA	BB	1	0.83	20.0	NG/UL
4T	4.93	210	64.	47970.	IA	BB	1	1.00	20.0	NG/UL
5T	7.53	385	84.	84117.	IA	BB	1	0.86	20.0	NG/UL
6T	5.53	318	43.	35703.	IA	VV	1	0.82	20.0	NG/UL

Run name: SYO:D21428
Run date: 18-SEP-95 11:00:46
Rpt date: 18-SEP-95 16:06:41 Last edit date: 18-SEP-95 11:42:56
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21428.QRF 18-SEP-95 11:00:46
Cal date: 18-SEP-95 16:03:39

7T		7.45	380	76.	251842.	IA	BB	1	0.89	20.0	NG/UL
8T	C	6.67	327	96.	62301.	IA	BB	1	0.85	20.0	NG/UL
9T	S	8.73	466	63.	178533.	IA	BB	1	0.89	20.0	NG/UL
10T		8.05	420	96.	78727.	IA	BB	1	0.78	20.0	NG/UL
11T	C	9.88	544	83.	147000.	IA	BB	1	0.94	20.0	NG/UL
12T		11.03	622	62.	105567.	IA	VV	1	0.91	20.0	NG/UL
13T		9.40	511	43.	66726.	IA	VB	1	0.86	20.0	NG/UL
14T		10.50	585	97.	105554.	IA	BB	2	0.84	20.0	NG/UL
15T		10.87	610	117.	85637.	IA	VB	2	0.77	20.0	NG/UL
16T		8.77	469	43.	150875.	IA	BV	2	0.70	20.0	NG/UL
17T		12.52	722	83.	137802.	IA	VB	2	0.96	20.0	NG/UL
18T	C	12.20	700	63.	136310.	IA	VB	2	0.81	20.0	NG/UL
19T		13.30	774	75.	152386.	IA	BV	2	0.89	20.0	NG/UL
20T		11.97	685	130.	94117.	IA	BB	2	0.87	20.0	NG/UL
21T		15.03	891	129.	105625.	IA	VB	2	0.92	20.0	NG/UL
22T		14.23	838	97.	94203.	IA	VV	2	0.85	20.0	NG/UL
23T		11.08	625	78.	301690.	IA	BB	2	0.89	20.0	NG/UL
24T		14.00	822	75.	127740.	IA	VV	2	0.89	20.0	NG/UL
25T	S	17.38	1050	173.	84536.	IA	BV	2	0.80	20.0	NG/UL
26T		12.93	753	43.	365956.	IA	BB	3	0.40	20.0	NG/UL
27T		14.25	839	43.	104077.	IA	VV	3	1.00	20.0	NG/UL
28T		14.78	875	164.	80423.	IA	BV	3	1.00	20.0	NG/UL
29T	S	17.62	1066	83.	185066.	IA	BB	3	0.86	20.0	NG/UL
30T	C	13.82	809	91.	299616.	IA	BV	3	0.88	20.0	NG/UL
31T	S	15.98	956	112.	216756.	IA	BV	3	0.95	20.0	NG/UL
32T	C	16.07	961	106.	118200.	IA	BV	3	1.00	20.0	NG/UL
33T		16.38	1016	104.	223700.	IA	BB	3	0.83	20.0	NG/UL
34T		16.85	1014	106.	156224.	IA	VB	3	1.00	20.0	NG/UL
35T	R	13.68	800	98.	259998.	IA	BV	3	1.00	20.0	NG/UL
36T	R	17.77	1076	95.	153900.	IA	VB	3	0.96	20.0	NG/UL
37T	R	10.90	612	65.	88582.	IA	BV	1	0.79	20.0	NG/UL
38T		5.50	248	101.	97094	IA	BB	1	0.92	20.0	NG/UL
39T		9.65	528	96.	87810.	IA	VV	1	0.78	20.0	NG/UL
40T		12.95	751	63.	239782.	IA	BV	3	0.92	80.0	NG/UL
41T		16.18	969	106.	306484.	IA	VV	3	1.00	40.0	NG/UL
42T		19.53	1195	146.	199686.	IA	BV	3	1.00	20.0	NG/UL
43T		19.70	1206	146.	191150.	IA	VV	3	0.93	20.0	NG/UL
44T		20.28	1246	146.	188504.	IA	VB	3	1.00	20.0	NG/UL
45T		6.35	305	56.	6585.	IA	BB	1	0.83	80.0	NG/UL
46T		7.75	400	53.	149330.	IA	BV	1	0.91	80.0	NG/UL
47T		7.93	412	73.	204168.	IA	BV	1	0.86	20.0	NG/UL

Run name: SYO:D21428
Run date: 18-SEP-95 11:00:46
Rpt date: 18-SEP-95 16:06:41 Last edit date: 18-SEP-95 11:42:56
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21428.QRF 18-SEP-95 11:00:46
Cal date: 18-SEP-95 16:03:39

>>> QuickQuant Extended Quantitation Report <<<

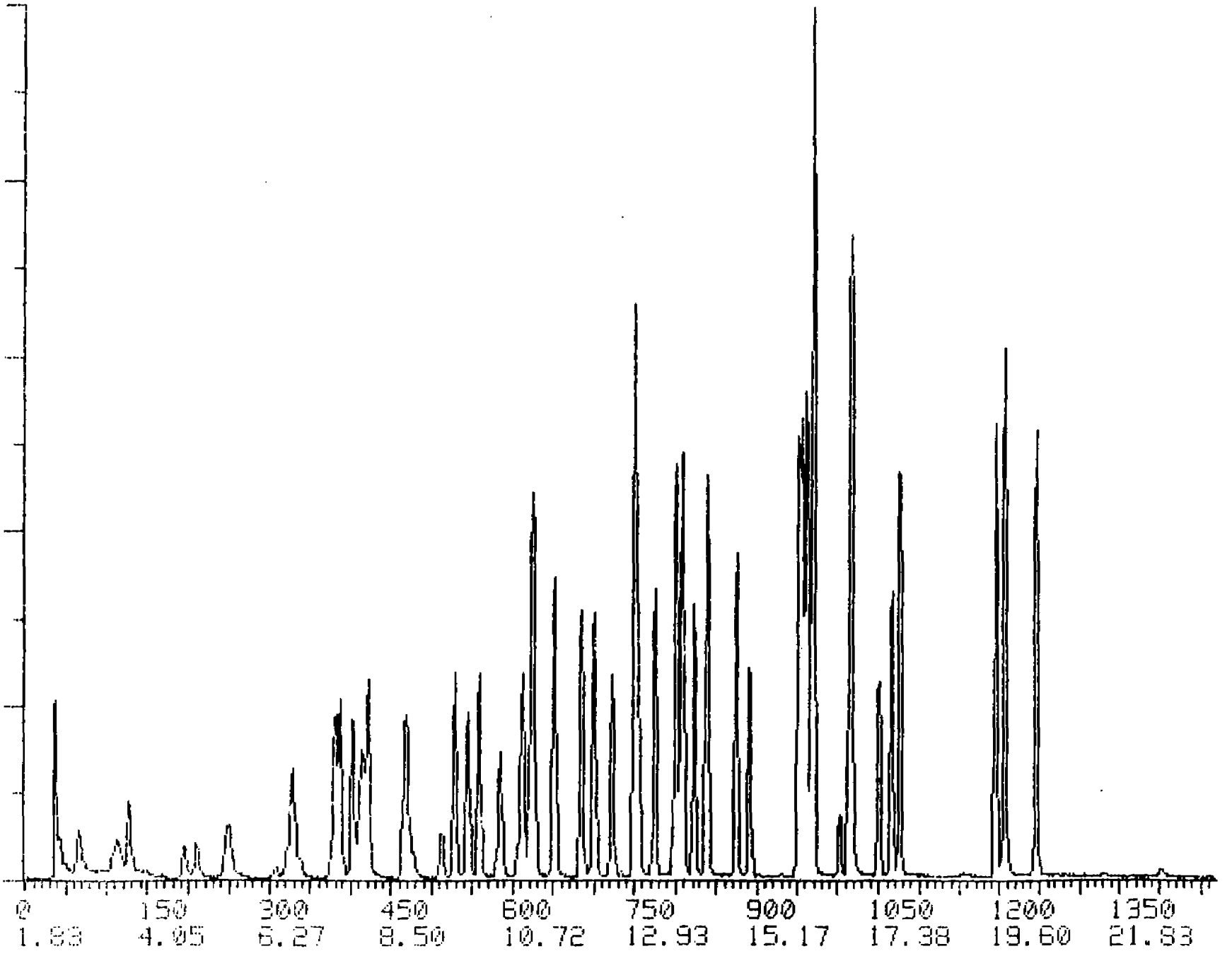
No	RRT	Mass	Area	Int	Lim	Cfile	Cal Fac	Ty	Conc	Ave.
1S		128.	120932.	551	571	560			50.0	
2S		114.	618064.	644	671	653			50.0	
3S		117.	554992.	944	961	952			50.0	
1T	0.343	50. / 128.	94793.	101	133	110	1.95963	SP	20.0	
2T	0.465	94. / 128.	52164.	186	211	196	1.07837	SP	20.0	
3T	0.366	62. / 128.	98483.	120	145	128	2.03592	SP	20.0	
4T	0.488	64. / 128.	47970.	202	224	212	0.99167	SP	20.0	
5T	0.746	84. / 128.	84117.	378	399	387	1.73893	SP	20.0	
6T	0.647	43. / 128.	35703.	310	331	321	0.73808	SP	20.0	
7T	0.738	76. / 128.	251842.	372	396	382	5.20627	SP	20.0	
8T	0.660	96. / 128.	62301.	319	339	330	1.28793	SP	20.0	
9T	0.865	63. / 128.	178533.	457	481	467	3.69077	SP	20.0	
10T	0.797	96. / 128.	78727.	413	440	423	1.62751	SP	20.0	
11T	0.979	83. / 128.	147000.	536	562	546	3.03890	SP	20.0	
12T	1.092	62. / 128.	105567.	615	632	623	2.18236	SP	20.0	
13T	0.931	43. / 128.	66726.	503	529	513	1.37941	SP	20.0	
14T	0.916	97. / 114.	105554.	576	598	586	0.42695	SP	20.0	
15T	0.948	117. / 114.	85637.	600	623	611	0.34639	SP	20.0	
16T	0.765	43. / 114.	150875.	462	493	471	0.61027	SP	20.0	
17T	1.082	83. / 114.	137802.	716	738	723	0.55739	SP	20.0	
18T	1.064	63. / 114.	136310.	692	715	702	0.55136	SP	20.0	
19T	1.160	75. / 114.	152386.	767	788	776	0.61638	SP	20.0	
20T	1.044	130. / 114.	94117.	679	700	686	0.38069	SP	20.0	
21T	1.311	129. / 114.	105625.	885	900	891	0.42724	SP	20.0	
22T	1.241	97. / 114.	94203.	831	850	839	0.38104	SP	20.0	
23T	0.967	78. / 114.	301690.	617	643	627	1.22030	SP	20.0	
24T	1.321	75. / 114.	127740.	817	836	823	0.51669	SP	20.0	
25T	1.516	173 / 114.	84536.	1044	1059	1051	0.34194	SP	20.0	
26T	0.813	43. / 117.	365956.	744	775	756	1.64847	SP	20.0	
27T	0.895	43. / 117.	104077.	833	852	840	0.46882	SP	20.0	
28T	0.929	164. / 117.	80423.	868	881	876	0.36227	SP	20.0	
29T	1.107	83. / 117.	185066.	1057	1074	1066	0.83364	SP	20.0	
30T	0.868	91. / 117.	299616.	802	822	809	1.34964	SP	20.0	
31T	1.004	112. / 117.	216756.	949	971	956	0.97639	SP	20.0	
32T	1.009	106. / 117.	118200.	955	964	962	0.53244	SP	20.0	
33T	1.061	104. / 117.	223700.	1009	1026	1017	1.00767	SP	20.0	
34T	1.059	106. / 117.	156224.	1008	1022	1014	0.70372	SP	20.0	
35T	0.860	98. / 117.	259998.	793	815	802	1.17118	SP	20.0	
36T	1.116	95. / 117.	153900.	1070	1095	1077	0.69325	SP	20.0	

Run name: SYO:D21428
Run date: 18-SEP-95 11:00:46
Rpt date: 18-SEP-95 16:06:41 Last edit date: 18-SEP-95 11:42:56
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH2O
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO.D21428.GRF 18-SEP-95 11:00:46
Cal date: 18-SEP-95 16:03:39

37T	1.079	65. / 128.	88582.	607	618	614	1.83124	SP	20.0
38T	0.545	101. / 128.	97094.	238	273	251	2.00720	SP	20.0
39T	0.955	96. / 128.	87810.	522	540	529	1.81528	SP	20.0
40T	0.814	63. / 117.	239782.	744	761	752	0.27003	SP	80.0
41T	1.017	106. / 117.	306484.	964	988	970	0.69029	SP	40.0
42T	1.227	146. / 117.	199686.	1189	1201	1196	0.89950	SP	20.0
43T	1.238	146. / 117.	191150.	1201	1217	1206	0.86105	SP	20.0
44T	1.274	146. / 117.	188504.	1239	1264	1247	0.84913	SP	20.0
45T	0.629	56. / 128.	6585.	300	313	308	0.03403	SP	80.0
46T	0.767	53. / 128.	149330.	394	412	403	0.77177	SP	80.0
64T	0.785	73. / 128.	204168.	390	431	414	4.22072	SP	20.0

570-021429 EXTRO 21429 VSTD50 8240W
18-SEP-95 11:33:04
Total Ion Current
Quad 1 scanning mode

100%
892309



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags.
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D21429
Run date: 18-SEP-95 11:33:04
Rpt date: 18-SEP-95 16:08:25 Last edit date: 18-SEP-95 12:25:42
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21429.QRF 18-SEP-95 11:33:04
Cal date: 18-SEP-95 16:03:39

Comments:
EXTRD 21429 VSTD50 8240W

Library was checked for the following compounds:

Standards

18 Bromochloromethane
23 1,4-Difluorobenzene
35 Chlorobenzene-d5

Targets

1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T trans-1,2-Dichloroethen
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane

Run name: SYO:D21429
Run date: 18-SEP-95 11:33:04
Rpt date: 18-SEP-95 16:08:25 Last edit date: 18-SEP-95 12:25:42
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21429.QRF 18-SEP-95 11:33:04
Cal date: 18-SEP-95 16:03:39

15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T o-Xylene
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4
38T Trichlorofluromethane
39T cis-1,2-Dichloroethene
40T 2-Chloroethylvinyl ether
41T m-Xylene/p-Xylene
42T 1,3-Dichlorobenzene
43T 1,4-Dichlorobenzene
44T 1,2-Dichlorobenzene
45T Acrolein
46T Acrylonitrile
54T Tert-butylmethylether

Un.	Time	Scan	Mass	Area	Typ	Pk	Ref	Fit	Conc	Units
1S	10.10	558	128.	121332.	IS	BB		0.88	50.0	NG/UL
2S	11.47	651	114.	618340.	IS	BB		0.95	50.0	NG/UL
3S	15.92	951	117.	576080.	IS	BB		0.94	50.0	NG/UL
1T S	3.48	112	50.	243266.	IA	VB	1	0.90	50.0	NG/UL
2T	4.70	194	94.	82480	IA	BB	1	0.82	50.0	NG/UL
3T C	3.70	126	62.	252288.	IA	BB	1	0.83	50.0	NG/UL
4T	4.90	208	64.	107495.	IA	BB	1	1.00	50.0	NG/UL
5T	7.55	386	84.	198198.	IA	BB	1	0.82	50.0	NG/UL
6T	6.58	321	43.	95579.	IA	VV	1	1.00	50.0	NG/UL

Run name: SYO:D21429
Run date: 18-SEP-95 11:33:04
Rpt date: 18-SEP-95 16:08:25 Last edit date: 18-SEP-95 12:25:42
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21429.GRF 18-SEP-95 11:33:04
Cal date: 18-SEP-95 16:03:39

7T		7.45	380	76.	645812.	IA	VB	1	0.75	50.0	NG/UL
8T	C	6.67	327	96.	157498.	IA	BB	1	0.85	50.0	NG/UL
9T	S	8.73	466	63.	438416.	IA	BB	1	0.89	50.0	NG/UL
10T		8.05	420	96.	195142.	IA	BB	1	0.78	50.0	NG/UL
11T	C	9.88	544	83.	366344.	IA	BB	1	1.00	50.0	NG/UL
12T		11.03	621	62.	256030.	IA	VV	1	0.83	50.0	NG/UL
13T		9.40	511	43.	170484.	IA	VB	1	0.86	50.0	NG/UL
14T		10.50	585	97.	266750.	IA	BV	2	0.96	50.0	NG/UL
15T		10.85	609	117.	221622.	IA	VB	2	0.77	50.0	NG/UL
16T		8.77	469	43.	377696.	IA	BV	2	0.70	50.0	NG/UL
17T		12.52	722	83.	346844.	IA	VV	2	0.91	50.0	NG/UL
18T	C	12.18	699	63.	330544.	IA	VB	2	0.89	50.0	NG/UL
19T		13.30	774	75.	393728.	IA	VV	2	0.80	50.0	NG/UL
20T		11.97	684	130.	230078.	IA	BB	2	0.87	50.0	NG/UL
21T		15.02	890	129.	276408.	IA	VB	2	0.92	50.0	NG/UL
22T		14.23	838	97.	225298.	IA	VB	2	0.82	50.0	NG/UL
23T		11.07	624	78.	760232.	IA	BB	2	0.77	50.0	NG/UL
24T		14.00	822	75.	314316.	IA	VV	2	0.93	50.0	NG/UL
25T	S	17.37	1049	173.	228364.	IA	BV	2	0.92	50.0	NG/UL
26T		12.93	753	43.	933792.	IA	BB	3	0.40	50.0	NG/UL
27T		14.25	839	43.	277004.	IA	VV	3	0.91	50.0	NG/UL
28T		14.78	874	164.	210668.	IA	BB	3	1.00	50.0	NG/UL
29T	S	17.60	1065	83.	458348.	IA	BV	3	0.91	50.0	NG/UL
30T	C	13.80	808	91.	769816.	IA	BB	3	0.94	50.0	NG/UL
31T	S	15.98	955	112.	562616.	IA	BV	3	1.00	50.0	NG/UL
32T	C	16.05	960	106.	308120.	IA	BV	3	1.00	50.0	NG/UL
33T		16.88	1016	104.	563400.	IA	BB	3	0.83	50.0	NG/UL
34T		16.83	1013	106.	373920.	IA	BB	3	1.00	50.0	NG/UL
35T	R	13.68	800	98.	676056.	IA	BV	3	0.84	50.0	NG/UL
36T	R	17.77	1076	95.	399808.	IA	VB	3	0.96	50.0	NG/UL
37T	R	10.90	613	65.	212328.	IA	VV	1	0.83	50.0	NG/UL
38T		5.50	248	101.	236650.	IA	BB	1	0.92	50.0	NG/UL
39T		9.65	528	96.	227492.	IA	BB	1	0.78	50.0	NG/UL
40T		12.93	750	63.	573656.	IA	BV	3	0.92	200.0	NG/UL
41T		16.17	968	106.	743744.	IA	VV	3	1.00	100.0	NG/UL
42T		19.52	1194	146.	478520.	IA	BV	3	0.93	50.0	NG/UL
43T		19.68	1205	146.	493600.	IA	VV	3	1.00	50.0	NG/UL
44T		20.27	1245	146.	466304.	IA	VB	3	1.00	50.0	NG/UL
45T		6.37	307	56.	26530.	IA	BB	1	0.83	200.0	NG/UL
46T		7.78	402	53.	363140.	IA	VV	1	1.00	200.0	NG/UL
47T		7.93	412	73.	503848.	IA	BB	1	0.72	50.0	NG/UL

Run name: SYO:D21429
Run date: 18-SEP-95 11:33:04
Rpt date: 18-SEP-95 16:08:25 Last edit date: 18-SEP-95 12:25:42
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21429.QRF 18-SEP-95 11:33:04
Cal date: 18-SEP-95 16:03:39

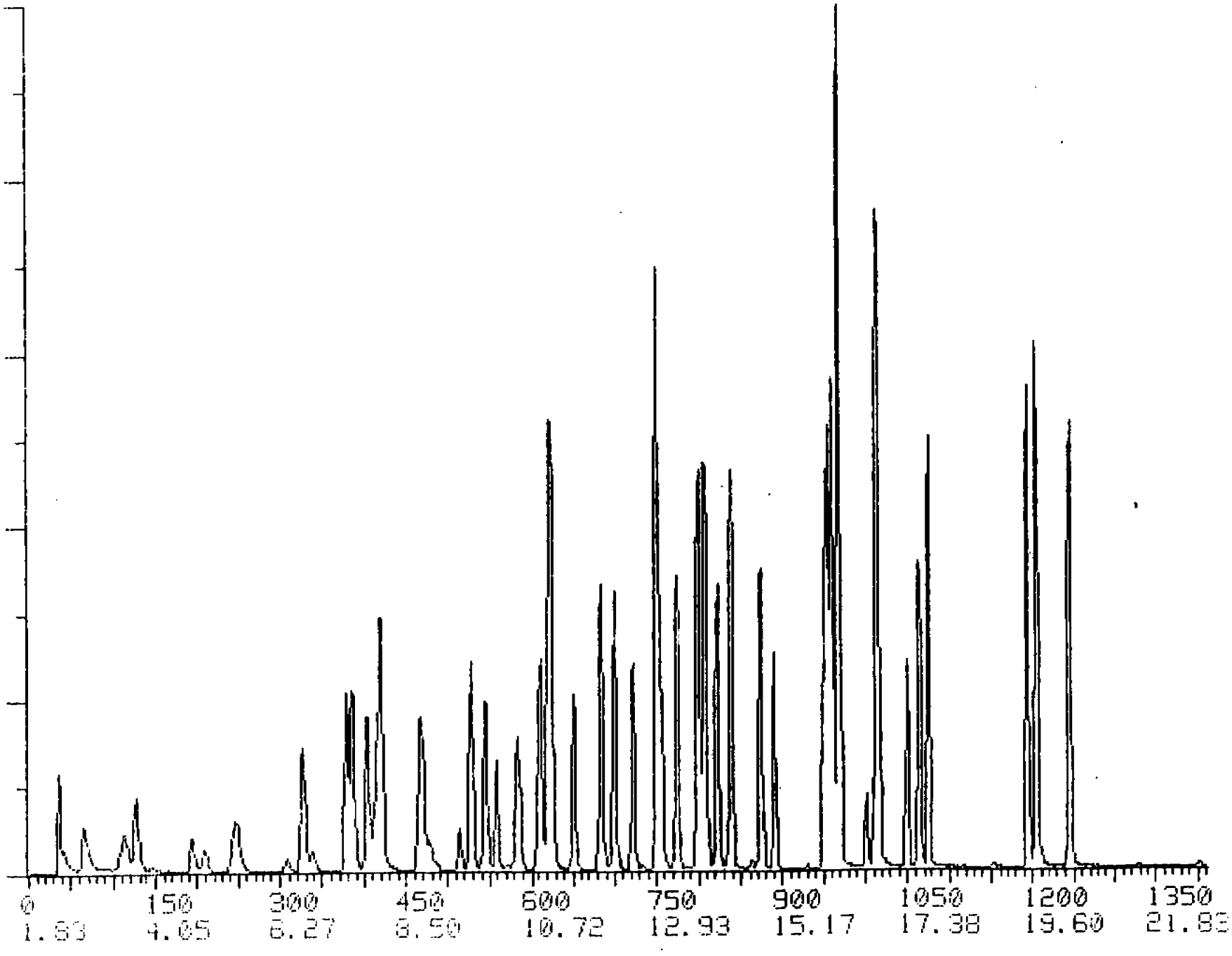
>>> QuickQuant Extended Quantitation Report <<<

No	RRT	Mass	Area	Int	Lim	Cfile	Cal Fac	Ty	Conc	Ave.
1S		128.	121332.	551	574	560			50.0	
2S		114.	618340.	645	672	653			50.0	
3S		117.	576080.	944	962	952			50.0	
1T	0.345	50. / 128.	243266.	100	136	110	2.00496	SP	50.0	
2T	0.465	94. / 128.	82480.	186	206	196	0.67979	SP	50.0	
3T	0.366	62. / 128.	252288.	119	150	128	2.07932	SP	50.0	
4T	0.485	64. / 128.	107495.	200	228	212	0.88596	SP	50.0	
5T	0.748	84. / 128.	198198.	379	405	387	1.63352	SP	50.0	
6T	0.652	43. / 128.	95579.	312	332	321	0.78775	SP	50.0	
7T	0.738	76. / 128.	645812.	372	408	382	5.32268	SP	50.0	
8T	0.660	96. / 128.	157498.	318	351	330	1.29807	SP	50.0	
9T	0.865	63. / 128.	438416.	457	484	467	3.61336	SP	50.0	
10T	0.797	96. / 128.	195142.	413	442	423	1.60833	SP	50.0	
11T	0.979	83. / 128.	366344.	536	567	546	3.01935	SP	50.0	
12T	1.092	62. / 128.	256030.	615	635	623	2.11016	SP	50.0	
13T	0.931	43. / 128.	170484.	504	526	513	1.40510	SP	50.0	
14T	0.916	97. / 114.	266750.	575	599	586	0.43140	SP	50.0	
15T	0.946	117. / 114.	221622.	599	626	611	0.35841	SP	50.0	
16T	0.765	43. / 114.	377696.	462	491	471	0.61082	SP	50.0	
17T	1.092	83. / 114.	346844.	715	735	723	0.56093	SP	50.0	
18T	1.063	63. / 114.	330544.	691	721	702	0.53457	SP	50.0	
19T	1.160	75. / 114.	393728.	766	783	776	0.63675	SP	50.0	
20T	1.044	130. / 114.	230078.	676	699	686	0.37209	SP	50.0	
21T	1.310	129. / 114.	276408.	884	906	891	0.44702	SP	50.0	
22T	1.241	97. / 114.	225298.	832	854	839	0.36436	SP	50.0	
23T	0.965	78. / 114.	760232.	617	641	627	1.22947	SP	50.0	
24T	1.221	75. / 114.	314316.	816	835	823	0.50832	SP	50.0	
25T	1.515	173. / 114.	228364.	1043	1062	1051	0.36932	SP	50.0	
26T	0.813	43. / 117.	933792.	743	775	756	1.62094	SP	50.0	
27T	0.895	43. / 117.	277004.	833	851	840	0.48084	SP	50.0	
28T	0.929	164. / 117.	210668.	867	885	876	0.36569	SP	50.0	
29T	1.106	83. / 117.	458348.	1058	1074	1066	0.79563	SP	50.0	
30T	0.867	91. / 117.	769816.	801	848	809	1.33630	SP	50.0	
31T	1.004	112. / 117.	562616.	948	966	956	0.97663	SP	50.0	
32T	1.008	106. / 117.	308120.	954	964	962	0.53486	SP	50.0	
33T	1.061	104. / 117.	563400.	1008	1027	1017	0.97799	SP	50.0	
34T	1.058	106. / 117.	373920.	1007	1028	1014	0.64908	SP	50.0	
35T	0.860	98. / 117.	676056.	793	819	802	1.17355	SP	50.0	
36T	1.116	95. / 117.	399808.	1070	1083	1077	0.69401	SP	50.0	

Run name: SYO:D21429
Run date: 18-SEP-95 11:33:04
Rpt date: 18-SEP-95 16:08:25 Last edit date: 18-SEP-95 12:25:42
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH2O
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21429.QRF 18-SEP-95 11:33:04
Cal date: 18-SEP-95 16:03:39

37T	1.079	65. / 128.	212328.	605	618	614	1.74998	SP	50.0
38T	0.545	101. / 128.	236650.	235	280	251	1.95043	SP	50.0
39T	0.955	96. / 128.	227492.	520	542	529	1.87495	SP	50.0
40T	0.813	63. / 117.	573656.	743	759	752	0.24895	SP	200.0
41T	1.016	106. / 117.	743744.	964	980	970	0.64552	SP	100.0
42T	1.226	146. / 117.	478520.	1188	1200	1196	0.83065	SP	50.0
43T	1.237	146. / 117.	493600.	1200	1217	1206	0.85683	SP	50.0
44T	1.273	146. / 117.	466304.	1239	1265	1247	0.80944	SP	50.0
45T	0.630	56. / 128.	26530.	300	321	308	0.05466	SP	200.0
46T	0.771	53. / 128.	363140.	394	422	403	0.74824	SP	200.0
64T	0.785	73. / 128.	503848.	399	436	414	4.15264	SP	50.0

SY0:D21430 EXTRD 21430 VSTD100 8240W 100%
18-SEP-95 12:06:49 1657800
Total Ion Current
Quad 1 scanning mode



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D21430
Run date: 18-SEP-95 12:06:49
Rpt date: 18-SEP-95 16:10:01 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21430.QRF 18-SEP-95 12:06:49
Cal date: 18-SEP-95 16:03:39

Comments:
EXTRD 21430 VSTD100 8240W

Library was checked for the following compounds:

Standards

1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets

1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T trans-1,2-Dichloroethen
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane

Run name: SYO:D21430
Run date: 18-SEP-95 12:06:49
Rpt date: 18-SEP-95 16:10:01 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs A
Cal type. Single point response factors
Cal run: SYO:D21430.QRF 18-SEP-95 12:06:49
Cal date: 18-SEP-95 16:03.39

15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T o-Xylene
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4
38T Trichlorofluromethane
39T cis-1,2-Dichloroethene
40T 2-Chloroethylvinyl ether
41T m-Xylene/p-Xylene
42T 1,3-Dichlorobenzene
43T 1,4-Dichlorobenzene
44T 1,2-Dichlorobenzene
45T Acrolein
46T Acrylonitrile
47T Tert-butylmethylether

No	Time	Scan	Mass	Area	Typ	Pk Ref	Fit	Conc	Units
1S	10.10	558	128.	122937.	IS	BB	0.84	50.0	NG/UL
2S	11.47	651	114.	666192.	IS	BB	0.84	50.0	NG/UL
3S	15.90	950	117.	602920.	IS	BB	1.00	50.0	NG/UL
1T B	3.50	113	50.	468798.	IA	VB 1	1.00	100.0	NG/UL
2T	4.70	194	94.	172684.	IA	BB 1	0.73	100.0	NG/UL
3T C	3.70	126	62.	513252.	IA	BB 1	0.83	100.0	NG/UL
4T	4.92	209	54.	138868.	IA	BB 1	1.00	100.0	NG/UL
5T	7.53	385	84.	388228.	IA	BB 1	0.86	100.0	NG/UL
6T	6.63	325	43.	119226.	IA	VV 1	1.00	100.0	NG/UL

Run name: SYO:D21430
Run date: 18-SEP-95 12:06:49
Rpt date: 18-SEP-95 16:10:01 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs. A
Cal type: Single point response factors
Cal run: SYO:D21430.QRF 18-SEP-95 12:06:49
Cal date: 18-SEP-95 16:03:39

7T		7.43	378	76.	1218760.	IA	BB	1	1.00	100.0	NG/UL
8T	C	6.65	326	96.	323944.	IA	BB	1	0.85	100.0	NG/UL
9T	S	8.73	466	63.	867760.	IA	BB	1	0.78	100.0	NG/UL
10T		8.07	421	96.	391404.	IA	BB	1	0.78	100.0	NG/UL
11T	C	9.88	544	83.	744704.	IA	BB	1	1.00	100.0	NG/UL
12T		11.03	621	62.	510672.	IA	VV	1	0.78	100.0	NG/UL
13T		9.43	514	43.	299912.	IA	VB	1	0.86	100.0	NG/UL
14T		10.50	585	97.	539532.	IA	BB	2	0.96	100.0	NG/UL
15T		10.85	609	117.	424974.	IA	VB	2	0.86	100.0	NG/UL
16T		8.78	470	43.	776112.	IA	BB	2	0.70	100.0	NG/UL
17T		12.52	722	83.	698136.	IA	VB	2	0.87	100.0	NG/UL
18T	C	12.20	700	63.	659336.	IA	BB	2	0.89	100.0	NG/UL
19T		13.30	774	75.	785896.	IA	VV	2	0.89	100.0	NG/UL
20T		11.97	684	130.	466548.	IA	BV	2	0.87	100.0	NG/UL
21T		15.02	890	129.	543984.	IA	VB	2	0.92	100.0	NG/UL
22T		14.25	838	97.	465640.	IA	VV	2	0.93	100.0	NG/UL
23T		11.07	624	78.	1443536.	IA	BB	2	0.77	100.0	NG/UL
24T		14.00	822	75.	650504.	IA	VV	2	0.93	100.0	NG/UL
25T	S	17.37	1049	173.	477580.	IA	BV	2	0.92	100.0	NG/UL
26T		13.02	755	43.	1880240.	IA	BB	3	0.81	100.0	NG/UL
27T		14.25	839	43.	527268.	IA	VV	3	0.91	100.0	NG/UL
28T		14.77	873	164.	383564.	IA	BB	3	0.97	100.0	NG/UL
29T	S	17.58	1064	83.	946272.	IA	BB	3	0.86	100.0	NG/UL
30T	C	13.78	807	91.	1462624.	IA	BV	3	0.88	100.0	NG/UL
31T	S	15.97	954	112.	1096104.	IA	BB	3	1.00	100.0	NG/UL
32T	C	16.05	960	106.	621504.	IA	BV	3	1.00	100.0	NG/UL
33T		16.87	1015	104.	1102496.	IA	BB	3	0.83	100.0	NG/UL
34T		16.83	1013	106.	728096.	IA	VB	3	1.00	100.0	NG/UL
35T	R	13.68	800	98.	1309024.	IA	BV	3	0.95	100.0	NG/UL
36T	R	17.75	1075	95.	782104.	IA	VB	3	0.85	100.0	NG/UL
37T	P	10.90	612	65.	398200.	IA	BV	1	0.71	100.0	NG/UL
38T		5.47	246	101.	441500.	IA	BB	1	0.92	100.0	NG/UL
39T		9.63	527	96.	443308.	IA	BB	1	0.71	100.0	NG/UL
40T		12.93	750	63.	1156952.	IA	VV	3	0.92	400.0	NG/UL
41T		16.17	968	106.	1307120.	IA	VV	3	1.00	200.0	NG/UL
42T		19.52	1194	146.	901864.	IA	BV	3	0.96	100.0	NG/UL
43T		19.68	1205	146.	979624.	IA	VV	3	1.00	100.0	NG/UL
44T		20.27	1245	146.	904056.	IA	VB	3	0.96	100.0	NG/UL
45T		5.38	308	56.	19027.	IA	BV	1	0.83	400.0	NG/UL
46T		7.82	404	53.	747960.	IA	VV	1	0.80	400.0	NG/UL
47T		7.98	416	73.	1015264.	IA	BB	1	0.72	100.0	NG/UL

Run name: SYO:D21430
Run date: 18-SEP-95 12:06:49
Rpt date: 18-SEP-95 16:10:01 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21430.QRF 18-SEP-95 12:06:49
Cal date: 18-SEP-95 16:03:39

>>> QuickQuant Extended Quantitation Report <<<

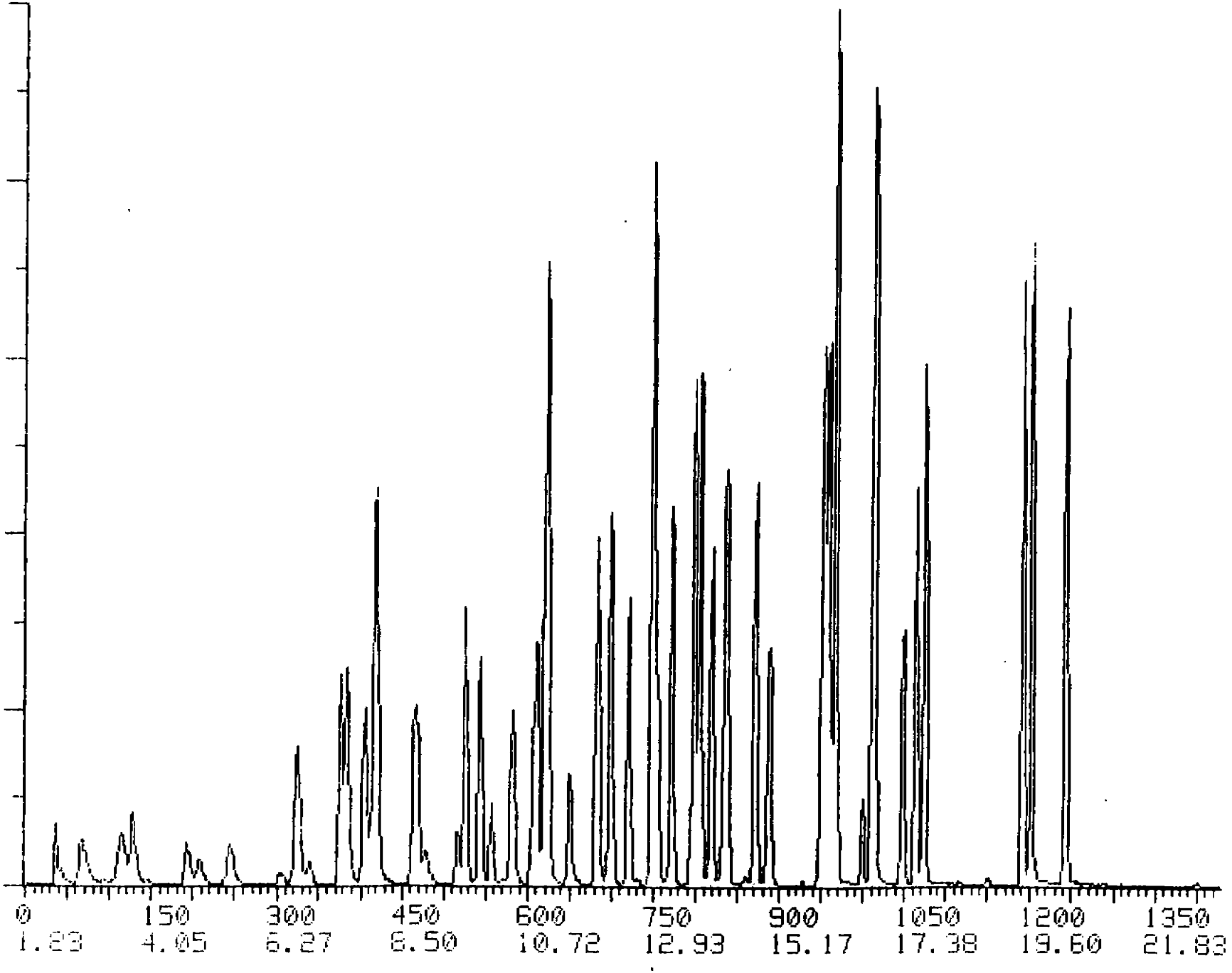
No	RRT	Mass	Area	Int	Lim	Cfile	Cal Fac	Ty	Conc	Ave.
1S		128.	122937.	552	573	560			50.0	
2S		114.	666192.	643	671	653			50.0	
3S		117.	602920.	943	969	952			50.0	
1T	0.347	50. / 128.	468798.	102	130	110	1.90666	SP	100.0	
2T	0.465	94. / 128.	172684.	186	214	196	0.70233	SP	100.0	
3T	0.366	62. / 128.	513252.	119	157	128	2.08746	SP	100.0	
4T	0.487	64. / 128.	138868.	200	233	212	0.56479	SP	100.0	
5T	0.746	84. / 128.	388228.	378	402	387	1.57897	SP	100.0	
6T	0.657	43. / 128.	119226.	316	337	321	0.48491	SP	100.0	
7T	0.736	76. / 128.	1218760.	371	401	382	4.95685	SP	100.0	
8T	0.658	96. / 128.	323944.	317	360	330	1.31752	SP	100.0	
9T	0.865	63. / 128.	867760.	457	492	467	3.52929	SP	100.0	
10T	0.799	96. / 128.	391404.	413	448	423	1.59189	SP	100.0	
11T	0.979	83. / 128.	744704.	536	561	546	3.02880	SP	100.0	
12T	1.092	62. / 128.	510672.	615	633	623	2.07697	SP	100.0	
13T	0.934	43. / 128.	299912.	505	531	513	1.21978	SP	100.0	
14T	0.916	97. / 114.	539532.	573	603	586	0.40494	SP	100.0	
15T	0.946	117. / 114.	424974.	599	629	611	0.31896	SP	100.0	
16T	0.766	43. / 114.	776112.	461	494	471	0.58250	SP	100.0	
17T	1.092	83. / 114.	698136.	714	737	723	0.52398	SP	100.0	
18T	1.064	63. / 114.	659336.	691	720	702	0.49485	SP	100.0	
19T	1.160	75. / 114.	785896.	766	790	776	0.58984	SP	100.0	
20T	1.044	130. / 114.	466548.	677	704	686	0.35016	SP	100.0	
21T	1.310	129. / 114.	543984.	883	909	891	0.40828	SP	100.0	
22T	1.243	97. / 114.	465640.	830	851	839	0.34948	SP	100.0	
23T	0.965	78. / 114.	1443536.	616	661	627	1.08342	SP	100.0	
24T	1.221	75. / 114.	650504.	816	831	823	0.48823	SP	100.0	
25T	1.515	173. / 114.	477580.	1042	1058	1051	0.35844	SP	100.0	
26T	0.819	43. / 117.	1880240.	743	778	756	1.55928	SP	100.0	
27T	0.896	43. / 117.	527268.	833	849	840	0.43726	SP	100.0	
28T	0.929	164. / 117.	383564.	867	886	876	0.31809	SP	100.0	
29T	1.106	83. / 117.	946272.	1058	1078	1066	0.78474	SP	100.0	
30T	0.867	91. / 117.	1462624.	800	828	809	1.21295	SP	100.0	
31T	1.004	112. / 117.	1096104.	947	968	956	0.90900	SP	100.0	
32T	1.009	106. / 117.	621504.	953	964	962	0.51541	SP	100.0	
33T	1.061	104. / 117.	1102496.	1007	1039	1017	0.91430	SP	100.0	
34T	1.059	106. / 117.	728096.	1006	1029	1014	0.60381	SP	100.0	
35T	0.861	98. / 117.	1309024.	792	815	802	1.08557	SP	100.0	
36T	1.116	95. / 117	782104.	1069	1086	1077	0.64860	SP	100.0	

Run name: SYO:D21430
Run date: 18-SEP-95 12:06:49
Rpt date: 18-SEP-95 16:10:01 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21430.QRF 18-SEP-95 12:06:49
Cal date: 18-SEP-95 16:03:39

37T	1.079	65. / 128.	398200.	605	618	614	1.61953	SP	100.0
38T	0.541	101. / 128.	441500.	234	291	251	1.79564	SP	100.0
39T	0.954	96. / 128.	443308.	520	547	529	1.80299	SP	100.0
40T	0.813	63. / 117.	1156952.	743	761	752	0.23986	SP	400.0
41T	1.017	106. / 117.	1307120.	964	976	970	0.54200	SP	200.0
42T	1.227	146. / 117.	901864.	1188	1199	1196	0.74791	SP	100.0
43T	1.238	146. / 117.	979624.	1199	1226	1206	0.81240	SP	100.0
44T	1.275	146. / 117.	904056.	1238	1265	1247	0.74973	SP	100.0
45T	0.632	56. / 128.	19027.	303	327	308	0.01935	SP	400.0
46T	0.774	53. / 128.	747960.	395	432	403	0.76051	SP	400.0
64T	0.790	73. / 128.	1015264.	402	441	414	4.12920	SP	100.0

SY0.021431 EXTRD 21431 VSTD200 8240W
18-SEP-95 12:38:49
Total Ion Current
Quad 1 scanning mode

100%
2360504



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D21431
Run date: 18-SEP-95 12:38:49
Rpt date: 18-SEP-95 16:12:19 Last edit date: 18-SEP-95 13:23:10
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21431.QRF 18-SEP-95 12:38:49
Cal date: 18-SEP-95 16:03:39

Comments:
EXTRD 21431 VSTD200 8240W

Library was checked for the following compounds:

Standards

1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets

1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T trans-1,2-Dichloroethen
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane

Run name: SYO:D21431
Run date: 18-SEP-95 12:38:49
Rpt date: 18-SEP-95 16:12:19 Last edit date: 18-SEP-95 13:23:10
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs. A
Cal type: Single point response factors
Cal run: SYO:D21431.QRF 18-SEP-95 12:38:49
Cal date: 18-SEP-95 16:03:39

15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T o-Xylene
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4
38T Trichlorofluromethane
39T cis-1,2-Dichloroethene
40T 2-Chloroethylvinyl ether
41T m-Xylene/p-Xylene
42T 1,3-Dichlorobenzene
43T 1,4-Dichlorobenzene
44T 1,2-Dichlorobenzene
45T Acrolain
46T Acrylonitrile
47T Tert-butylmethylether

No	Time	Scan	Mass	Area	Typ	Pk Ref	Fit	Conc	Units
1S	10.08	557	128.	118403.	IS	BB	0.77	50.0	NG/UL
2S	11.45	650	114.	639548.	IS	BB	0.78	50.0	NG/UL
3S	15.87	948	117.	559800	IS	BB	0.88	50.0	NG/UL
1T S	3.50	113	50.	903808.	IA	VB 1	1.00	200.0	NG/UL
2T	4.68	193	94.	341102.	IA	BB 1	0.82	200.0	NG/UL
3T C	3.70	126	62.	926160	IA	BB 1	0.91	200.0	NG/UL
4T	4.90	207	54.	269033	IA	BB 1	0.92	200.0	NG/UL
5T	7.52	384	84.	692088	IA	BB 1	0.86	200.0	NG/UL
6T	5.65	328	43.	234805. M	IA	BV 1	1.00	200.0	NG/UL

Run name: SYO:D21431
Run date: 18-SEP-95 12:38:49
Rpt date: 18-SEP-95 16:12:19 Last edit date: 18-SEP-95 13:23:10
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21431.QRF 18-SEP-95 12:38:49
Cal date: 18-SEP-95 16:03:39

7T		7.38	375	76.	2190304.	IA	BB	1	0.89	200.0	NG/UL
8T	C	6.62	323	96.	541488.	IA	BB	1	0.85	200.0	NG/UL
9T	S	8.70	464	63.	1684960.	IA	BB	1	0.78	200.0	NG/UL
10T		8.02	418	96.	683400.	IA	BV	1	0.78	200.0	NG/UL
11T	C	9.88	544	83.	1367712.	IA	BB	1	0.94	200.0	NG/UL
12T		11.02	620	62.	921304.	IA	VV	1	0.87	200.0	NG/UL
13T		9.45	515	43.	600704.	IA	VB	1	0.86	200.0	NG/UL
14T		10.45	582	97.	997768.	IA	BV	2	0.87	200.0	NG/UL
15T		10.83	608	117.	803876.	IA	VB	2	0.86	200.0	NG/UL
16T		8.78	470	43.	1548672.	IA	BB	2	0.70	200.0	NG/UL
17T		12.50	720	83.	1301488.	IA	VV	2	0.96	200.0	NG/UL
18T	C	12.17	698	63.	1222912.	IA	VB	2	0.93	200.0	NG/UL
19T		13.25	771	75.	1543712.	IA	VV	2	0.89	200.0	NG/UL
20T		11.93	682	130.	839568.	IA	BV	2	0.87	200.0	NG/UL
21T		14.97	887	129.	1026264.	IA	VB	2	1.00	200.0	NG/UL
22T		14.20	835	97.	839912.	IA	VV	2	0.85	200.0	NG/UL
23T		11.05	622	78.	2497792.	IA	BB	2	0.83	200.0	NG/UL
24T		13.97	819	75.	1270384.	IA	VV	2	0.93	200.0	NG/UL
25T	S	17.35	1048	173.	857432.	IA	BV	2	1.00	200.0	NG/UL
26T		12.92	750	43.	3544416.	IA	BB	3	0.49	200.0	NG/UL
27T		14.25	838	43.	1031832.	IA	VV	3	0.83	200.0	NG/UL
28T		14.73	871	164.	741120.	IA	BV	3	1.00	200.0	NG/UL
29T	S	17.58	1063	83.	1718352.	IA	BV	3	0.95	200.0	NG/UL
30T	C	13.75	805	91.	2618336.*	IA	BB	3	0.94	200.0	NG/UL
31T	S	15.93	952	112.	1947136.	IA	BB	3	1.00	200.0	NG/UL
32T	C	16.02	958	106.	1037008.	IA	BV	3	0.93	200.0	NG/UL
33T		16.83	1013	104.	1937824.	IA	BV	3	0.83	200.0	NG/UL
34T		16.80	1011	106.	1245264.	IA	VB	3	1.00	200.0	NG/UL
35T	R	13.63	797	98.	2378080.	IA	BV	3	0.95	200.0	NG/UL
36T	R	17.72	1073	95.	1392512.	IA	VV	3	0.85	200.0	NG/UL
37T	R	10.88	611	65.	823624.	IA	BV	1	0.83	200.0	NG/UL
38T		5.45	245	101.	495662.	IA	BV	1	0.92	200.0	NG/UL
39T		9.62	526	96.	814304.	IA	BB	1	0.78	200.0	NG/UL
40T		12.92	748	63.	2299984.	IA	BV	3	0.92	800.0	NG/UL
41T		16.13	966	106.	2464080.	IA	VV	3	0.74	400.0	NG/UL
42T		19.48	1192	146.	1748880.	IA	BV	3	1.00	200.0	NG/UL
43T		19.65	1203	146.	1716096.	IA	VV	3	1.00	200.0	NG/UL
44T		20.25	1243	146.	1675456.	IA	VB	3	1.00	200.0	NG/UL
45T		6.40	309	56.	27545.	IA	BB	1	0.83	800.0	NG/UL
46T		7.82	404	53.	1393576.	IA	BB	1	1.00	800.0	NG/UL
47T		8.00	417	73.	1820800.	IA	BB	1	0.86	200.0	NG/UL

Run name: SYO:D21431
Run date: 18-SEP-95 12:38:49
Rpt date: 18-SEP-95 16:12:19 Last edit date: 18-SEP-95 13:23:10
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Qrs flgs A
Cal type: Single point response factors
Cal run: SYO.D21431.QRF 18-SEP-95 12:38:49
Cal date: 18-SEP-95 16:03:39

>>> QuickQuant Extended Quantitation Report <<<

No	RRT	Mass	Area	Int	Lim	Cfile	Cal Fac	Ty	Conc	Ave.
1S		128.	118403.	551	575	560			50.0	
2S		114.	639548.	641	668	653			50.0	
3S		117.	559800.	939	961	952			50.0	
1T	0.347	50. / 128.	903808.	102	131	110	1.90833	SP	200.0	
2T	0.464	94. / 128.	341102.	185	215	196	0.72021	SP	200.0	
3T	0.367	62. / 128.	926160.	119	146	128	1.95552	SP	200.0	
4T	0.486	64. / 128.	269035.	199	232	212	0.56805	SP	200.0	
5T	0.745	84. / 128.	692088. 9/18/95	376	425	387	1.46130	SP	200.0	
6T	0.663	43. / 128.	234805. M	319	354	321	0.49578	SP	200.0	
7T	0.732	76. / 128.	2190304.	368	394	382	4.62468	SP	200.0	
8T	0.656	96. / 128.	541488.	313	341	330	1.14332	SP	200.0	
9T	0.863	63. / 128.	1684960.	455	496	467	3.55768	SP	200.0	
10T	0.795	96. / 128.	683400.	410	454	423	1.44295	SP	200.0	
11T	0.990	83. / 128.	1367712.	535	555	546	2.88783	SP	200.0	
12T	1.092	62. / 128.	921304.	613	640	623	1.94527	SP	200.0	
13T	0.937	43. / 128.	600704.	508	536	513	1.26835	SP	200.0	
14T	0.913	97. / 114.	997768.	572	613	586	0.39003	SP	200.0	
15T	0.946	117. / 114.	803876.	596	630	611	0.31424	SP	200.0	
16T	0.767	43. / 114.	1548672.	462	494	471	0.60538	SP	200.0	
17T	1.092	83. / 114.	1301488.	713	739	723	0.50875	SP	200.0	
18T	1.063	63. / 114.	1222912.	690	716	702	0.47804	SP	200.0	
19T	1.157	75. / 114.	1543712.	763	787	776	0.60344	SP	200.0	
20T	1.042	130. / 114.	839568.	674	714	686	0.32819	SP	200.0	
21T	1.307	129. / 114.	1026264.	879	905	891	0.40117	SP	200.0	
22T	1.240	97. / 114.	839912.	826	844	839	0.32832	SP	200.0	
23T	0.965	78. / 114.	2497792.	614	637	627	0.97639	SP	200.0	
24T	1.220	75. / 114.	1270384.	812	831	823	0.49659	SP	200.0	
25T	1.315	173. / 114.	857432.	1038	1068	1051	0.33517	SP	200.0	
26T	0.814	43. / 117.	3544416.	740	779	756	1.58289	SP	200.0	
27T	0.898	43. / 117.	1031832.	829	846	840	0.46080	SP	200.0	
28T	0.929	164. / 117.	741120.	863	896	876	0.33098	SP	200.0	
29T	1.108	83. / 117.	1718352. 9/18/95	1055	1082	1066	0.76740	SP	200.0	
30T	0.867	91. / 117.	2618336. *	797	819	809	1.16932	SP	200.0	
31T	1.004	112. / 117.	1947136.	944	995	956	0.86957	SP	200.0	
32T	1.029	106. / 117.	1037008.	951	961	962	0.46312	SP	200.0	
33T	1.061	104. / 117.	1937824.	1005	1025	1017	0.86541	SP	200.0	
34T	1.059	106. / 117.	1245264.	1003	1028	1014	0.55612	SP	200.0	
35T	0.889	98. / 117.	2378080.	789	808	802	1.06202	SP	200.0	
36T	1.117	95. / 117.	1392512.	1067	1087	1077	0.62188	SP	200.0	

Run name: SYO:D21431
Run date: 18-SEP-95 12:38:49
Rpt date: 18-SEP-95 16:12:19 Last edit date: 18-SEP-95 13:23:10
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D21431.QRF 18-SEP-95 12:38:49
Cal date: 18-SEP-95 16:03:39

37T	1.079	65. / 128.	823624.	604	637	614	1.73903	SP	200.0
38T	0.540	101. / 128.	495662.	233	267	251	1.04656	SP	200.0
39T	0.954	96. / 128.	814304.	518	538	529	1.71935	SP	200.0
40T	0.814	63. / 117.	2299984.	740	763	752	0.25679	SP	800.0
41T	1.017	106. / 117.	2464080.	961	980	970	0.55021	SP	400.0
42T	1.228	146. / 117.	1748880.	1186	1198	1196	0.78103	SP	200.0
43T	1.238	146. / 117.	1716096.	1198	1235	1206	0.76639	SP	200.0
44T	1.276	146. / 117.	1675456.	1236	1262	1247	0.74824	SP	200.0
45T	0.635	56. / 128.	27545.	301	329	308	0.01454	SP	800.0
46T	0.775	53. / 128.	1393576.	397	441	403	0.73561	SP	800.0
64T	0.793	73. / 128.	1820800.	405	451	414	3.84450	SP	200.0

Analyte name: Acetone

File:SY0:D21431

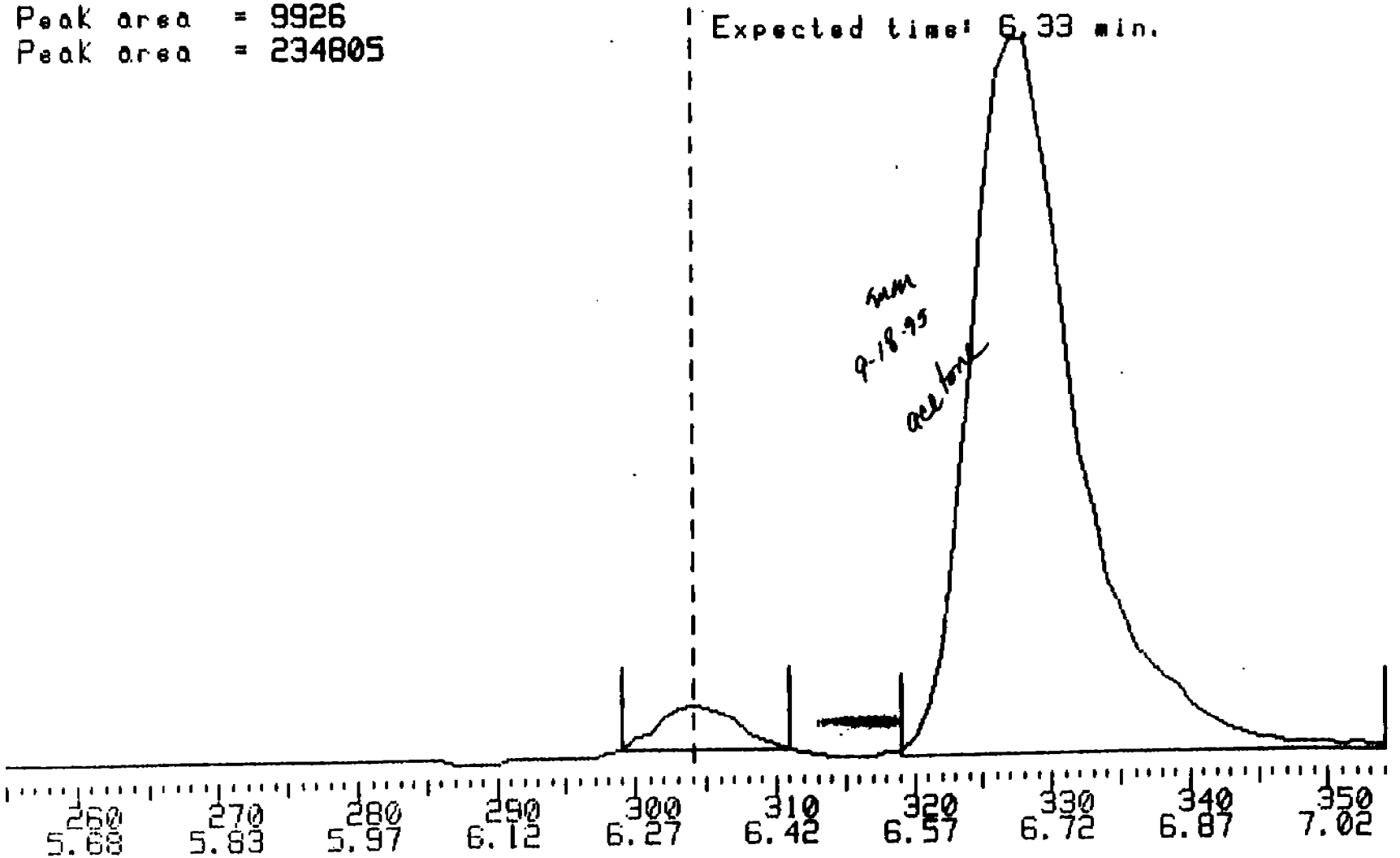
Peak profile for mass 43

Commands:

- Y or P: Accept default limits
- B or I: Define new limits with baseline
- E or X: Exit baseline override mode
- H or C: Hardcopy of screen
- S: Display selected spectrum
- D: Discard current integration
- R: Refresh screen
- G: Define background spectrum
- T: Time for current scan

Full scale = 26112
Peak area = 9926
Peak area = 234805

Expected time: 6.33 min.



Analyte name: Toluene — OK

File: SY0: D21431

Peak profile for mass 91

Commands:

- Y or P: Accept default limits
- B or I: Define new limits with baseline
- E or X: Exit baseline override mode
- H or C: Hardcopy of screen
- S: Display selected spectrum
- D: Discard current integration
- R: Refresh screen
- G: Define background spectrum
- T: Time for current scan

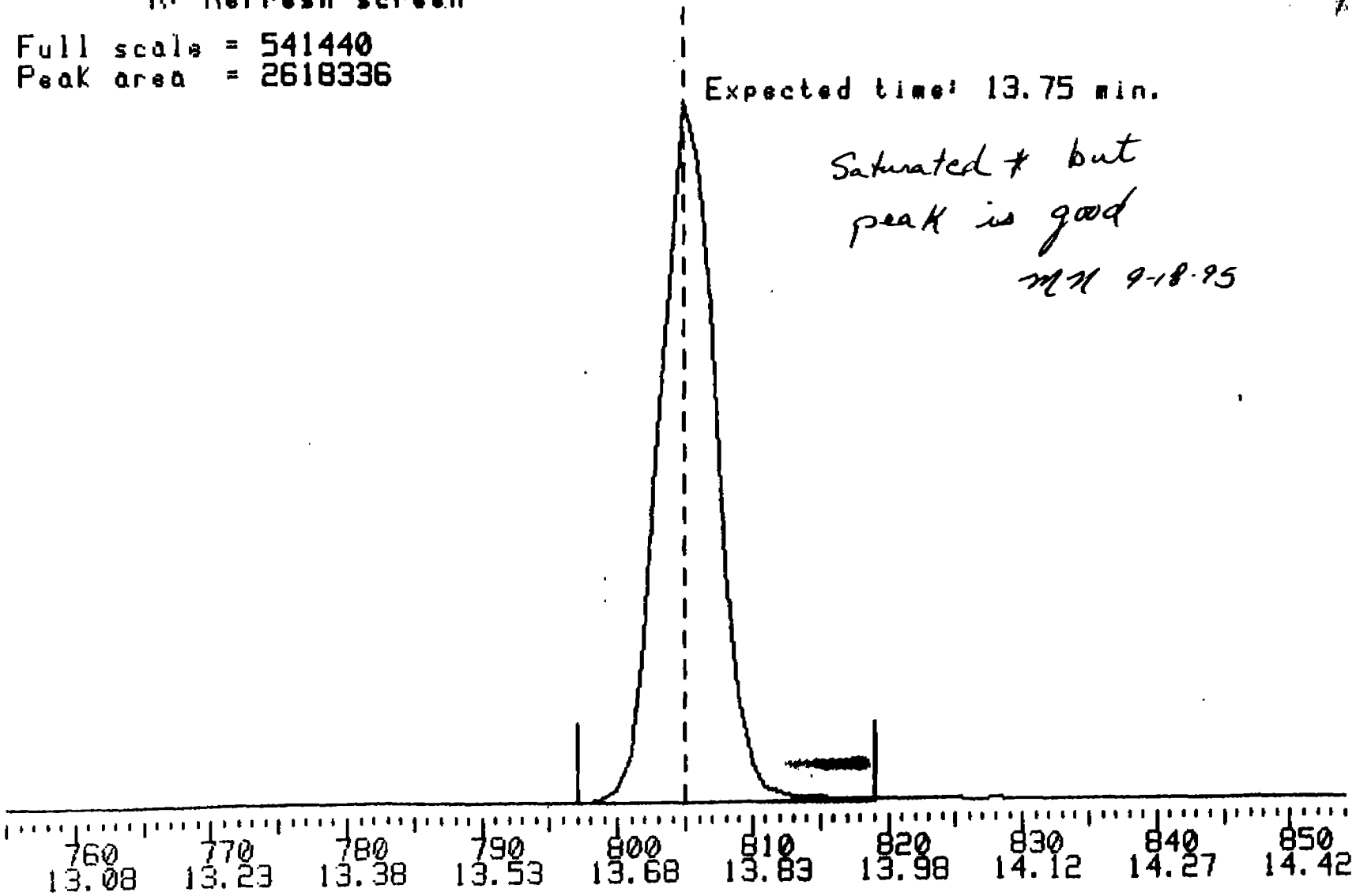
Full scale = 541440

Peak area = 2618336

Expected time: 13.75 min.

Saturated * but peak is good

MN 9-18-95



Current library files: SYO:DBH20
Calibration file name: SYO:D22335.QRF
Calibration file date: 22-NOV-95 09:40:22
Last calibration date: 22-NOV-95 10:32:23

SPCC compounds marked with a "*" CCC compounds marked with a "+"

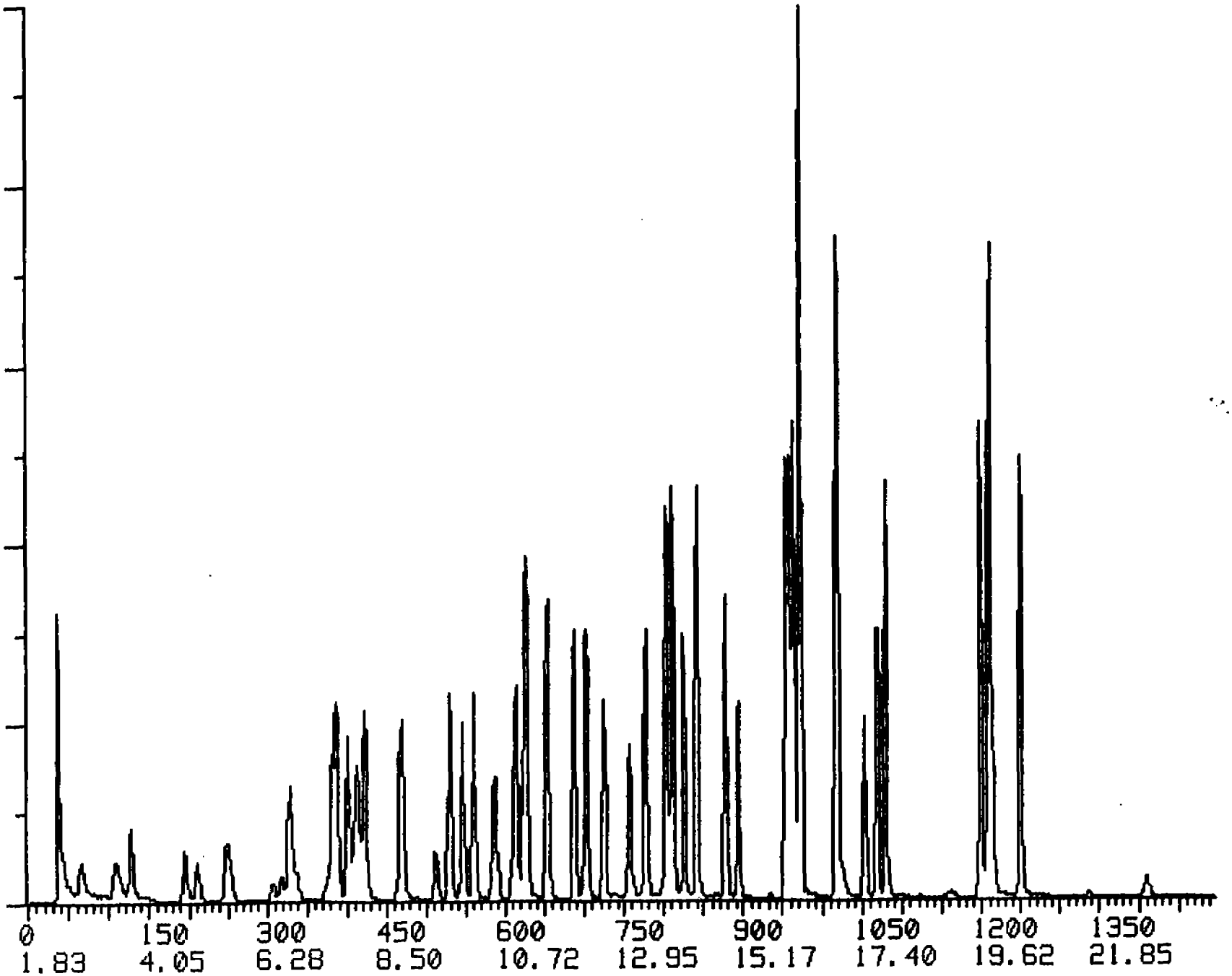
Target name	Ave RF	Single RF	% Diff
Chloromethane	1.991	1.861	6.5
Bromomethane	0.894	1.034	15.6
Vinyl Chloride	2.057	1.986	3.5
Chloroethane	0.841	1.058	25.8
Methylene Chloride	1.716	1.656	3.5
Acetone	0.717	0.815	13.5
Carbon Disulfide	5.196	5.052	2.8
1,1-Dichloroethene	1.310	1.383	5.5
1,1-Dichloroethane	3.682	3.837	4.2
1,2-Dichloroethene (total)	1.628	1.658	1.8
Chloroform	3.096	3.285	6.1
1,2-Dichloroethane	2.138	2.265	5.9
2-Butanone	1.372	1.387	1.1
1,1,1-Trichloroethane	0.425	0.429	1.1
Carbon Tetrachloride	0.340	0.356	4.7
Vinyl Acetate	0.606	0.575	5.1
Bromodichloromethane	0.542	0.564	4.1
1,2-Dichloropropane	0.522	0.529	1.4
cis-1,3-Dichloropropene	0.618	0.611	1.2
Trichloroethene	0.371	0.377	1.8
Dibromochloromethane	0.425	0.444	4.4
1,1,2-Trichloroethane	0.367	0.393	7.2
Benzene	1.168	1.241	6.2
trans-1,3-Dichloropropene	0.504	0.508	0.8
Bromoform	0.350	0.339	3.3
4-Methyl-2-Pentanone	1.616	0.566	65.0
2-Hexanone	0.482	0.407	15.6
Tetrachloroethene	0.352	0.344	2.4
1,1,2,2-Tetrachloroethane	0.811	0.774	4.6
Toluene	1.296	1.266	2.4
Chlorobenzene	0.962	0.949	1.4
Ethylbenzene	0.518	0.526	1.6
Styrene	0.960	0.974	1.5
Total Xylenes	0.642	0.679	5.7
Toluene-d8	1.145	1.101	3.8
Bromofluorobenzene	0.682	0.641	6.0
1,2-Dichloroethane-d4	1.826	1.787	2.1
Trichlorofluromethane	1.800	2.061	14.5
cis-1,2-Dichloroethene	1.858	1.951	5.0
2-Chloroethylvinyl ether	0.260	1.951	651.4
m-Xylene/p-Xylene	0.622	0.670	7.7
1,3-Dichlorobenzene	0.831	0.837	0.8
1,4-Dichlorobenzene	0.840	0.786	6.4
1,2-Dichlorobenzene	0.816	0.794	2.8

Current library files: SYO:DBH2O
Calibration file name: SYO:D22335.GRF
Calibration file date: 22-NOV-95 09:40:22
Last calibration date: 22-NOV-95 10:32:23

SPCC compounds marked with a "*" CCC compounds marked with a "+"

Target name	Ave RF	Single RF	% Diff
Acrolein	0.032	0.043	35.9
Acrylonitrile	0.772	0.740	4.1
Tert-butylmethylether	4.171	4.101	1.7

SY0:D22335 EXTRD 22335, V STD 50 CON CAL 100%
22-NOV-95 09:40:22 628939
Total Ion Current
Quad 1 scanning mode



>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22335
Run date: 22-NOV-95 09:40:22
Rpt date: 22-NOV-95 10:36:38 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.GRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

Comments:
EXTRD 22335, V STD 50 CON CAL

Library was checked for the following compounds:

Standards

1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets

1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane

Run name: SYO:D22335
Run date: 22-NOV-95 09:40:22
Rpt date: 22-NOV-95 10:36:38 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.GRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T Total Xylenes
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4
38T Trichlorofluromethane
39T cis-1,2-Dichloroethene
40T 2-Chloroethylvinyl ether
41T m-Xylene/p-Xylene
42T 1,3-Dichlorobenzene
43T 1,4-Dichlorobenzene
44T 1,2-Dichlorobenzene
45T Acrolein
46T Acrylonitrile
64T Tert-butylmethylether

No.	Time	Scan	Mass	Area	Typ	Pk Ref		Fit	Conc	Units
1S	10.12	559	128.	79506.	IS	BB		0.84	50.0	NG/UL
2S	11.50	652	114.	413516.	IS	BB		0.89	50.0	NG/UL
3S	15.98	954	117.	395896.	IS	BB		1.00	50.0	NG/UL
1T S	3.43	108	50.	147955.	IA	VB	1	1.00	50.0	NG/UL
2T	4.72	195	94.	82210.	IA	BB	1	0.82	50.0	NG/UL
3T C	3.72	127	62.	157913.	IA	BB	1	0.83	50.0	NG/UL
4T	4.95	211	64.	84084.	IA	BB	1	1.00	50.0	NG/UL
5T	7.55	386	84.	131678.	IA	BB	1	0.78	50.0	NG/UL
6T	6.55	318	43.	64761.	IA	VV	1	1.00	50.0	NG/UL

Run name: SYO:D22335
Run date: 22-NOV-95 09:40:22
Print date: 22-NOV-95 10:36:38 Last edit date:
All factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.GRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

7T		7.48	381	76.	401700.	IA	BB	1	0.89	50.0	NG/UL
8T	C	6.68	328	96.	109927.	IA	BB	1	0.85	50.0	NG/UL
9T	S	8.75	467	63.	305064.	IA	VB	1	0.78	50.0	NG/UL
10T		8.07	421	96.	131859.	IA	BB	1	0.82	50.0	NG/UL
11T	C	9.92	545	83.	261154.	IA	BB	1	0.94	50.0	NG/UL
12T		11.07	623	62.	180076.	IA	VV	1	0.78	50.0	NG/UL
13T		9.40	511	43.	110272.	IA	VV	1	1.00	50.0	NG/UL
14T		10.50	585	97.	177483.	IA	BB	2	0.84	50.0	NG/UL
15T		10.88	611	117.	147085.	IA	VB	2	0.91	50.0	NG/UL
16T		8.80	470	43.	237766.	IA	BV	2	0.70	50.0	NG/UL
17T		12.55	723	83.	233266.	IA	VV	2	0.91	50.0	NG/UL
18T	C	12.23	702	63.	218718.	IA	BB	2	0.85	50.0	NG/UL
19T		13.33	776	75.	252662.	IA	VV	2	0.89	50.0	NG/UL
20T		12.00	686	130.	156009.	IA	BV	2	0.87	50.0	NG/UL
21T		15.07	893	129.	183600.	IA	VV	2	0.96	50.0	NG/UL
22T		14.28	840	97.	162586.	IA	VV	2	0.82	50.0	NG/UL
3T		11.10	625	78.	512972.	IA	BB	2	0.89	50.0	NG/UL
24T		14.05	824	75.	210040.	IA	VV	2	0.89	50.0	NG/UL
25T	S	17.45	1053	173.	140008.	IA	BB	2	0.92	50.0	NG/UL
26T		13.05	757	43.	224208.	IA	BB	3	0.88	50.0	NG/UL
27T		14.30	841	43.	161144.	IA	VV	3	1.00	50.0	NG/UL
28T		14.82	876	164.	136156.	IA	BB	3	1.00	50.0	NG/UL
29T	S	17.68	1069	83.	306260.	IA	BB	3	0.91	50.0	NG/UL
30T	C	13.83	810	91.	501144.	IA	BB	3	0.94	50.0	NG/UL
31T	S	16.02	957	112.	375808.	IA	BB	3	1.00	50.0	NG/UL
32T	C	16.12	963	106.	208212.	IA	BV	3	1.00	50.0	NG/UL
33T		16.93	1019	104.	385636.	IA	BB	3	0.83	50.0	NG/UL
34T		16.90	1016	106.	268776.	IA	BB	3	1.00	50.0	NG/UL
35T	R	13.72	802	98.	436048.	IA	BV	3	1.00	50.0	NG/UL
36T	R	17.83	1079	95.	253672.	IA	VB	3	0.96	50.0	NG/UL
37T	R	10.93	614	65.	142059.	IA	BV	1	0.83	50.0	NG/UL
38T		5.53	250	101.	163901.	IA	BB	1	0.92	50.0	NG/UL
39T		9.67	529	96.	155083.	IA	BV	1	0.78	50.0	NG/UL
40T		13.02	753	63.	+NOT FOUND+	IA	VV	3	0.00		NG/UL
41T		16.23	971	106.	530512.	IA	VV	3	1.00	100.0	NG/UL
42T		19.62	1199	146.	331492.	IA	BV	3	0.96	50.0	NG/UL
43T		19.77	1210	146.	311336.	IA	VV	3	0.93	50.0	NG/UL
44T		20.37	1250	146.	314188.	IA	VB	3	1.00	50.0	NG/UL
45T		6.37	306	56.	13764.	IA	BB	1	0.83	200.0	NG/UL
46T		7.77	401	53.	235490.	IA	BV	1	0.91	200.0	NG/UL
64T		7.95	413	73.	326072.	IA	BB	1	0.93	50.0	NG/UL

Run name: SYO:D22335
Run date: 22-NOV-95 09:40:22
Rpt date: 22-NOV-95 10:36:38 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.GRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

>>> QuickQuant Extended Quantitation Report <<<

No	RRT	Mass	Area	Int Lim		Cfile	Cal Fac	Ty	Conc	Ave.
1S		128.	79506.	553	575	559			50.0	
2S		114.	413516.	645	672	652			50.0	
3S		117.	395896.	947	965	953			50.0	
1T	0.339	50. / 128.	147955.	101	133	107	1.86093	SP	50.0	
2T	0.466	94. / 128.	82210.	187	214	194	1.03401	SP	50.0	
3T	0.367	62. / 128.	157913.	120	148	126	1.98618	SP	50.0	
4T	0.489	64. / 128.	84084.	203	229	210	1.05758	SP	50.0	
5T	0.746	84. / 128.	131678.	378	405	386	1.65620	SP	50.0	
6T	0.647	43. / 128.	64761.	311	332	317	0.81454	SP	50.0	
7T	0.740	76. / 128.	401700.	374	413	381	5.05245	SP	50.0	
8T	0.661	96. / 128.	109927.	319	347	328	1.38263	SP	50.0	
9T	0.865	63. / 128.	305064.	458	480	467	3.83699	SP	50.0	
10T	0.797	96. / 128.	131859.	414	439	421	1.65848	SP	50.0	
11T	0.980	83. / 128.	261154.	537	567	545	3.28471	SP	50.0	
12T	1.094	62. / 128.	180076.	616	638	622	2.26494	SP	50.0	
13T	0.929	43. / 128.	110272.	505	524	510	1.38696	SP	50.0	
14T	0.913	97. / 114.	177483.	576	603	586	0.42920	SP	50.0	
15T	0.946	117. / 114.	147085.	602	632	610	0.35569	SP	50.0	
16T	0.765	43. / 114.	237766.	462	494	469	0.57499	SP	50.0	
17T	1.091	83. / 114.	233266.	717	739	723	0.56410	SP	50.0	
18T	1.064	63. / 114.	218718.	694	717	702	0.52892	SP	50.0	
19T	1.159	75. / 114.	252662.	769	786	776	0.61101	SP	50.0	
20T	1.043	130. / 114.	156009.	678	701	686	0.37727	SP	50.0	
21T	1.310	129. / 114.	183600.	885	901	893	0.44400	SP	50.0	
22T	1.242	97. / 114.	162586.	833	853	840	0.39318	SP	50.0	
23T	0.965	78. / 114.	512972.	617	639	626	1.24051	SP	50.0	
24T	1.222	75. / 114.	210040.	818	833	824	0.50794	SP	50.0	
25T	1.517	173. / 114.	140008.	1047	1070	1053	0.33858	SP	50.0	
26T	0.816	43. / 117.	224208.	749	768	756	0.56633	SP	50.0	
27T	0.895	43. / 117.	161144.	835	852	841	0.40704	SP	50.0	
28T	0.927	164. / 117.	136156.	869	890	876	0.34392	SP	50.0	
29T	1.106	83. / 117.	306260.	1062	1076	1068	0.77359	SP	50.0	
30T	0.865	91. / 117.	501144.	802	820	810	1.26585	SP	50.0	
31T	1.002	112. / 117.	375808.	951	967	957	0.94926	SP	50.0	
32T	1.008	106. / 117.	208212.	956	967	963	0.52593	SP	50.0	
33T	1.059	104. / 117.	385636.	1011	1035	1019	0.97408	SP	50.0	
34T	1.057	106. / 117.	268776.	1010	1032	1016	0.67891	SP	50.0	
35T	0.858	98. / 117.	436048.	795	815	802	1.10142	SP	50.0	
36T	1.116	95. / 117.	253672.	1073	1097	1079	0.64075	SP	50.0	

Run name: SYO:D22335
Run date: 22-NOV-95 09:40:22
Rpt date: 22-NOV-95 10:36:38 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH2O
Grp flgs: A
Cal type: Single point response factors
Cal run: SYO:D22335.QRF 22-NOV-95 09:40:22
Cal date: 22-NOV-95 10:32:23

37T	1.081	65. / 128.	142059.	607	620	614	1.78677	SP	50.0
38T	0.547	101. / 128.	163901.	237	277	249	2.06149	SP	50.0
39T	0.956	96. / 128.	155083.	522	551	529	1.95058	SP	50.0
40T		63. / 117.				755	1.95058	SP	
41T	1.016	106. / 117.	530512.	967	1002	971	0.67001	SP	100.0
42T	1.227	146. / 117.	331492.	1193	1204	1199	0.83732	SP	50.0
43T	1.237	146. / 117.	311336.	1204	1233	1210	0.78641	SP	50.0
44T	1.274	146. / 117.	314188.	1244	1264	1250	0.79361	SP	50.0
45T	0.629	56. / 128.	13764.	300	315	306	0.04328	SP	200.0
46T	0.768	53. / 128.	235490.	395	424	400	0.74048	SP	200.0
64T	0.786	73. / 128.	326072.	400	435	411	4.10122	SP	50.0

>>> NAStech Systems "QuickQuant" Report <<<

Run No: _____ SDG: _____
Sample Rerun: [ ]-Yes [ ]-No Diluted: 1:
Analyst: _____ Date: ___ / ___ / ___
Reviewed by: _____ Date: ___ / ___ / ___
Comments: _____

QC Flags:
S - SPCC compound C - CCC compound P - MS/MSD compound R - Surrogate
Edit Flags:
M - Manually integrated * - Signal saturation J - Below detection limits

Run name: SYO:D22335
Run date: 22-NOV-95 09:40:22
Rpt date: 22-NOV-95 10:21:11 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Average response factors
Crv done: 18-SEP-95 13:35:36

Comments:
EXTRD 22335, V STD 50 CON CAL

No.	GC	Name	Mass	Scan	Time	Pk	Fit	Area	Conc
1S		Bromochloromethane	128.	559	10.12	BB	0.84	79506.	50.0
2S		1,4-Difluorobenzene	114.	652	11.50	BB	0.89	413516.	50.0
3S		Chlorobenzene-d5	117.	954	15.98	BB	1.00	395896.	50.0
1T	S	Chloromethane	50.	108	3.43	VB	1.00	147955.	46.7
2T		Bromomethane	94.	195	4.72	BB	0.82	82210.	57.8
3T	C	Vinyl Chloride	62.	127	3.72	BB	0.83	157913.	48.3
4T		Chloroethane	64.	211	4.95	BB	1.00	84084.	62.9
5T		Methylene Chloride	84.	386	7.55	BB	0.78	131678.	48.2
6T		Acetone	43.	318	6.55	VV	1.00	64761.	56.8
7T		Carbon Disulfide	76.	381	7.48	BB	0.89	401700.	48.6
8T	C	1,1-Dichloroethene	96.	328	6.68	BB	0.85	109927.	52.8
9T	S	1,1-Dichloroethane	63.	467	8.75	VB	0.78	305064.	52.1
10T		1,2-Dichloroethene (to	96.	421	8.07	BB	0.82	131859.	50.9
11T	C	Chloroform	83.	545	9.92	BB	0.94	261154.	53.0
12T		1,2-Dichloroethane	62.	623	11.07	VV	0.78	180076.	53.0
13T		2-Butanone	43.	511	9.40	VV	1.00	110272.	50.5
14T		1,1,1-Trichloroethane	97.	585	10.50	BB	0.84	177483.	50.5
15T		Carbon Tetrachloride	117.	611	10.88	VB	0.91	147085.	52.3
16T		Vinyl Acetate	43.	470	8.80	BV	0.70	237766.	47.5
17T		Bromodichloromethane	83.	723	12.55	VV	0.91	233266.	52.0
18T	C	1,2-Dichloropropane	63.	702	12.23	BB	0.85	218718.	50.7
19T		cis-1,3-Dichloropropen	75.	776	13.33	VV	0.89	252662.	49.4

Run name: SYO:D22335
Run date: 22-NOV-95 09:40:22
Rpt date: 22-NOV-95 10:21:11 Last edit date:
Dil factors are as follows:
Dilution factor 1: 1.00
Dilution factor 2: 1.00
Dilution factor 3: 1.00
Library : SYO:DBH20
Grp flgs: A
Cal type: Average response factors
Crv done: 18-SEP-95 13:35:36

20T		Trichloroethene	130.	686	12.00	BV	0.87	156009.	50.9
21T		Dibromochloromethane	129.	893	15.07	VV	0.96	183600.	52.2
22T		1,1,2-Trichloroethane	97.	840	14.28	VV	0.82	162586.	53.6
23T		Benzene	78.	625	11.10	BB	0.89	512972.	53.1
24T		trans-1,3-Dichloroprop	75.	824	14.05	VV	0.89	210040.	50.4
25T	S	Bromoform	173.	1053	17.45	BB	0.92	140008.	48.4
26T		4-Methyl-2-Pentanone	43.	757	13.05	BB	0.88	224208.	17.5
27T		2-Hexanone	43.	841	14.30	VV	1.00	161144.	42.2
28T		Tetrachloroethene	164.	876	14.82	BB	1.00	136156.	48.8
29T	S	1,1,2,2-Tetrachloroeth	83.	1069	17.68	BB	0.91	306260.	47.7
30T	C	Toluene	91.	810	13.83	BB	0.94	501144.	48.8
31T	S	Chlorobenzene	112.	957	16.02	BB	1.00	375808.	49.3
32T	C	Ethylbenzene	106.	963	16.12	BV	1.00	208212.	50.8
33T		Styrene	104.	1019	16.93	BB	0.83	385636.	50.8
34T		Total Xylenes	106.	1016	16.90	BB	1.00	268776.	52.8
35T	R	Toluene-d8	98.	802	13.72	BV	1.00	436048.	48.1
36T	R	Bromofluorobenzene	95.	1079	17.83	VB	0.96	253672.	47.0
37T	R	1,2-Dichloroethane-d4	65.	614	10.93	BV	0.83	142059.	48.9
38T		Trichlorofluromethane	101.	250	5.53	BB	0.92	163901.	57.2
39T		cis-1,2-Dichloroethene	96.	529	9.67	BV	0.78	155083.	52.5
40T		2-Chloroethylvinyl eth	63.	753	13.02		0.00	NOT FOUND	
41T		m-Xylene/p-Xylene	106.	971	16.23	VV	1.00	530512.	107.7
42T		1,3-Dichlorobenzene	146.	1199	19.62	BV	0.96	331492.	50.4
43T		1,4-Dichlorobenzene	146.	1210	19.77	VV	0.93	311336.	46.8
44T		1,2-Dichlorobenzene	146.	1250	20.37	VB	1.00	314188.	48.6
45T		Acrolein	56.	306	6.37	BB	0.83	13764.	271.8
46T		Acrylonitrile	53.	401	7.77	BV	0.91	235490.	191.8
64T		Tert-butylmethylether	73.	413	7.95	BB	0.93	326072.	49.2

Quanterra Environmental Services

OC/MS LOG SHEET 8240W

METHOD #: DBH20 **INST ID:** EXTRD **TAPE #:** PD456 **CONTRACT #:** _____

Column: _____ **Injector Temp:** _____ C **Detector Temp:** _____ C

Temp 1: _____ C **Time 1:** _____ min **Rate 1:** _____ C/min **Temp 2:** _____ C **Time 2:** _____ min

STD 93-5-1 STD 93-7-3 STD 93-8-2 STD 93-6-12 STD 93-6-9 STD 93-6-13

Mon BFB TARG QCCHECK IS/SU Port IS SU

DATE	RUN #	LOT #	LAB #	QC	VOL/WT	EXT DATE	pH	Port	COMMENTS / SMO#
9-19-95	D21426		BFB 50ng						(cleaned Ion Volume) Method DBH20 - Changed Quant Zero for 4/H2P 20EVE
	D21427		VSTD 10	2ul				1	
	D21428		VSTD 20	4ul				2	
	D21429		VSTD 50	10ul				3	New 5pt H2O
	D21430		VSTD 100	20ul				4	
	D21431		VSTD 200	40ul				5	
	D21432		VBLK					6	
	D21433		VBLK	✓				7	
	D21434		QCCHECK 1	MS(50)	✓			8	
	D21435 (typo)		QCCHECK 2	S(100)	✓			9	
	D21436	CSI150002	002	✓	5ml		7	10	CRL
	D21437		002 MS	S(100)	✓		7	11	
	D21438		002 MSD	S(100)	✓		7	12	
	D21439		003 TB	✓			7	13	
	D21440	CSI150006	001	✓	Composite		7	14	CRL
	D21441		002 TB	✓		Surr	7	15	Tol-d8 113 Re-run 5ml
	D21442	CSI140008	001	✓	5ml		1	16	(full analyte spike)
	D21443	CSI140008	001 MS	MS(50)			1	1	— (don't need)
	D21444		001 MSD	MS(50)			1	2	— (don't need)
	D21445	CSI140005	001	✓	1ml/100 → 1ml/100 → 5ml		7	3	10,000x dil Benzene Batch with D21405
	D21446		003 TB	✓	5ml		7	4	
	D21447	CSI140008	002 TB	✓	5ml		1	5	

ANALYST: [illegible] SUPERVISOR: [illegible]

Quanterra Environmental Services

GC/MS LOG SHEET

METHOD #: 8240 INST ID: EXTRD TAPE #: _____ CONTRACT #: _____

Column: 60m Injector Temp: _____ C Detector Temp: _____ C

Temp 1: _____ C Time 1: _____ min Rate 1: _____ C/min Temp 2: _____ C Time 2: _____ min

STD 193 - 5 - 1 (BFB, 2ul) STD 193 - 9 - 2 (V+A TARGET) STD 193 - 9 - 3 (IS/Su) STD 193 - 6 - 6 (MATRIX Spike) STD ___ - ___ - ___ STD ___ - ___ - ___

DATE	RUN #	LOT#	LAB #	QC	VOL/WT	EXT DATE	pH	Part ~~SH120~~	TO 11/22/95 COMMENTS / SMO#
11-22-95	D22334		50ng BFB						
	D22335	CON CAL	V STD 50					9	
	D22336		V BLANK					10	
	D22337		QC Check LCS	at spike	5ml/spl			11	
	D22338	CSK180003	001	✓	5ml		3	12	
	D22339		001ms	✓	5ml		3	13	
	D22340		001msD	✓	5ml		3	14	
	D22341 ~~D22~~ 11/22/95		002	✓	5ml		<2	15	
	D22342		QC Check LCS	✓ at 100 ug/l	5ml/spl			1	
	D22343		TCLP BLANK	✓	1ml/5ml	11-20-95	ZHE	2	
	D22344	CSK160003	001	✓	1ml/5ml		ZHE	3	
	D22345		001ms	✓	1ml/5ml		ZHE	4	Acetone not found
	D22346		001msD	✓	1ml/5ml	11-20-95	ZHE	5	
11-22-95	D22347		BLANK	✓	5ml			6	

SMO 11-22-95

ANALYST: John Delisset 11-27-95 SUPERVISOR: _____

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P
LAB #: C5K180003-001
MATRIX: WATER

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Silver	3,240	10.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Barium	2,930	200	ug/L	SW846 6010A	11/22-11/27/95	5326029
Cadmium	20.4	5.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Chromium	45,500	10.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Copper	17,500	25.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Nickel	5,010	40.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Zinc	16,600	20.0	ug/L	SW846 6010A	11/22-11/27/95	5326029
Mercury	16.5	2.0	ug/L	SW846 7470	11/22/95	5332017

NOTE: AS RECEIVED

INTRA-LAB BLANK REPORT

LAB #: C5K180003

- **METALS** -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:5326029			
Silver	ND	10.0	ug/L	SW846 6010A	11/22-11/27/95
Barium	ND	200	ug/L	SW846 6010A	11/22-11/27/95
Cadmium	ND	5.0	ug/L	SW846 6010A	11/22-11/27/95
Chromium	ND	10.0	ug/L	SW846 6010A	11/22-11/27/95
Copper	ND	25.0	ug/L	SW846 6010A	11/22-11/27/95
Nickel	ND	40.0	ug/L	SW846 6010A	11/22-11/27/95
Zinc	ND	20.0	ug/L	SW846 6010A	11/22-11/27/95
		BATCH:5332017			
Mercury	ND	2.0	ug/L	SW846 7470	11/22/95

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

CHECK SAMPLE REPORT

LAB #: C5K180003

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS	PREPARATION - ANALYSIS DATE
	BATCH:5326029		
Silver	95	(80-120)	11/22-11/27/95
Barium	97	(80-120)	11/22-11/27/95
Cadmium	96	(80-120)	11/22-11/27/95
Chromium	96	(80-120)	11/22-11/27/95
Copper	96	(80-120)	11/22-11/27/95
Nickel	96	(80-120)	11/22-11/27/95
Zinc	92	(80-120)	11/22-11/27/95
	BATCH:5332017		
Mercury	96	(80-120)	11/22/95

MATRIX SPIKE REPORT

LAB #: C5K180003-001

- METALS -

COMPOUND		SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE
			BATCH:5326029 MATRIX:		WATER		
Silver	MI	0	0	(80-120)	0	(0-20)	11/22-11/27/95
Barium		91	91	(80-120)	0.68	(0-20)	11/22-11/27/95
Cadmium		88	89	(80-120)	2.1	(0-20)	11/22-11/27/95
Chromium	MI	0	0	(80-120)	0	(0-20)	11/22-11/27/95
Copper	MI	0	0	(80-120)	0	(0-20)	11/22-11/27/95
Nickel	MI	65	58	(80-120)	12	(0-20)	11/22-11/27/95
Zinc	MI	24	0	(80-120)	0	(0-20)	11/22-11/27/95
			BATCH:5332017 MATRIX:		WATER		
Mercury	MI	442	471	(80-120)	6.4	(0-20)	11/22/95

NOTE:

MI Matrix Interference

Calculations are performed before rounding to avoid round-off errors in calculated results

C5K180003 SWEAG

Analysis Report Averages Mon 11-27-95 01:44:06 PM page 3

Reviewed/Filed 11-27-95

#	Sample Name	AG	BA	CD	CR	CU	NI
1	STD1	-.00453	-.00001	-.00026	.00093	.00024	.00009
2	STD2	1.92422					
3	STD3		11.9683	5.71933	11.2495	1.75551	4.73388
4	STD4						
5	STD2	2.0148	.00153	.00380	.00017	.00082	.00273
6	STD3	-.00145	9.9651	10.039	10.015	9.9764	9.9855
7	STD4	.00007	.00414	.00454	.00527	.00515	.00198
8	ICV1-1 247-68-2	1.0037	.99013	1.0073	.99361	1.0064	1.0063
9	ICB1	.00105	.00060	.00046	.00059	.00124	.00025
10	ICSA 188-67-3	-.00632	.00739	.00231	-.00348	-.00162	.00109
11	ICSAB 188-69-1	.98008	.48238	.91984	.45413	.48707	.93158
12	CRI-1 188-66-1	.02135	.00009	.01002	.01993	.04988	.08211
13	CCV1-1 247-65-3	2.0385	1.9793	2.0397	2.0077	2.0037	2.0516
14	CCB1	.00193	.00082	.00069	.00100	.00135	-.00019
15	PBW 11-21-2	.00077	.00031	.00081	-.00029	.00114	-.00014
16	LCSW-1 11-21-2	1.0014	.98971	1.0053	.99805	.99219	1.0070
17	C5K160007001	.00023	.00818	.00094	.00153	.00205	-.00002
18	C5K160007001L	.00038	.00167	.00102	.00142	-.00010	-.00038
19	C5K160007001S	.04893	1.9453	.05047	.19867	.25066	.50900
20	C5K160007001SD	.05012	1.9524	.05093	.19991	.25218	.51311
21	C5K170007001	.03294	.03533	.00053	.00159	.11322	.00162
22	C5K170007002	.00124	.04236	-.00019	.00157	.05647	.00377
23	C5K170010001	-.00155	.97750	.00024	.00099	.16168	.00242
24	C5K170010002	.00009	.08044	.00050	.00027	.00194	.00165
25	CCV1-2	2.0284	1.9876	2.0366	1.9959	2.0013	2.0387
26	CCB2	.00141	.00102	.00139	.00171	.00325	.00140
27	ICSA 188-67-3	-.00628	.00741	.00257	-.00307	.00179	.00174
28	ICSAB 188-69-1	.97131	.48006	.92011	.45126	.48283	.93029
29	CRI-2	.02183	.00024	.01107	.02029	.04956	.08323
30	CCV1-3	2.0269	1.9867	2.0435	1.9992	1.9994	2.0471
31	CCB3	.00186	.00100	.00116	.00082	.00032	-.00030
32	PBW 11-22-7	.00066	.00011	.00116	.00000	.00087	-.00006
33	LCSW-1 11-22-7	.94805	.97282	.95527	.95800	.95666	.96111
34	C5K170005001	.00043	.02723	.00303	.00245	.00716	.15633
35	C5K170005002	-.00132	.03037	.00892	.00314	.00822	.10755
36	C5K170005003	.00056	.09449	.00658	.00200	.01069	.00561
37	C5K170005004	-.00090	.09744	.00454	.00769	.02198	.01270
38	C5K170005005	-.00005	.02555	.00493	.00097	.00932	.02444
39	CCV1-4	2.0325	1.9730	2.0579	2.0125	1.9791	2.0570
40	CCB4	.00182	.00070	.00081	.00059	.00048	.00136
41	C5K180003001	3.2439	2.9339	.02041	45.523	17.540	5.0139
42	C5K180003001L	.69664	.60291	.00427	9.6721	3.6522	1.0766
43	C5K180003001S	2.5327	4.7462	.06421	44.283	17.456	5.3378
44	C5K180003001SD	2.5830	4.7586	.06513	43.910	17.312	5.3019
45	PBS 11-22-1	.00165	.00092	.00034	H.01025	.00553	.00241
46	LCSS 11-22-1 (224)	.55567	2.0073	.79565	1.4150	1.7235	1.1261
47	C5K130002007	.00168	.00301	.00042	.00290	.00797	-.00053
48	C5K130002007L	.00050	.00091	-.00035	-.00023	.00357	.00015
49	C5K130002007S	.04478	1.8913	.04583	.18613	.23583	.46059
50	C5K130002007SD	.04430	1.8547	.04466	.18282	.23143	.45521
51	CCV1-5	2.0941	2.0220	2.1198	2.0679	2.0261	2.1148
52	CCB5	.00226	.00133	.00163	.00183	.00097	.00114
53	PBS 11-22-1 Cr Rerun	.00184	.00013	.00058	.00213	-.00005	.00043

REVIEWED BY: Awc
DATE: 11/27/95

QUANTERRA PITTSBURGH
ICP-METALS

#	Sample Name	AG	BA	CD	CR	CU	NI
54	H202 Test M157-KPBY	.00129	.00015	-.00069	.00100	.00075	-.00002
55	ICSA 188-67-3	-.00643	.00772	.00134	-.00290	-.00314	.00247
56	ICSAB 188-69-1	.99165	.48887	.94479	.46335	.48636	.95168
57	CRI-3	.02335	.00022	.01130	.02011	.04874	.08286
58	CCV1-6	2.0405	1.9930	2.0750	2.0205	1.9833	2.0708
59	CCB6	.00189	.00085	.00128	.00082	.00070	.00036

#	Sample Name	ZN
1	STD1	.00071
2	STD2	
3	STD3	4.74939
4	STD4	
5	STD2	.00150
6	STD3	9.9656
7	STD4	.00548
8	ICV1-1 247-68-2	.99509
9	ICB1	.00194
10	ICSA 188-67-3	.00871
11	ICSAB 188-69-1	.95200
12	CRI-1 188-66-1	.04163
13	CCV1-1 247-65-3	2.0163
14	CCB1	.00248
15	PBW 11-21-2	.00262
16	LCSW-1 11-21-2	.98935
17	C5K160007001	.02425
18	C5K160007001L	.01056
19	C5K160007001S	.53183
20	C5K160007001SD	.54201
21	C5K170007001	.05179
22	C5K170007002	.06787
23	C5K170010001	.04049
24	C5K170010002	.01273
25	CCV1-2	2.0004
26	CCB2	.00307
27	ICSA 188-67-3	.00893
28	ICSAB 188-69-1	.94387
29	CRI-2	.04153
30	CCV1-3	2.0061
31	CCB3	.00345
32	PBW 11-22-7	.00258
33	LCSW-1 11-22-7	.91977
34	C5K170005001	.69619
35	C5K170005002	.09441
36	C5K170005003	.08786
37	C5K170005004	.13313
38	C5K170005005	.05211
39	CCV1-4	2.0177
40	CCB4	.00274
41	C5K180003001	16.615
42	C5K180003001L	3.6088
43	C5K180003001S	16.733
44	C5K180003001SD	16.581

#	Sample Name	ZN
45	PBS 11-22-1	.00486
46	LCSS 11-22-1 (224)	1.6116
47	C5K130002007	.00880
48	C5K130002007L	.00923
49	C5K130002007S	.43104
50	C5K130002007SD	.42069
51	CCV1-5	2.0740
52	CCB5	.00268
53	PBS 11-22-1 Cr Rerun	.00333
54	H202 Test M157-KPBY	.00260
55	ICSA 188-67-3	.00851
56	ICSAB 188-69-1	.96831
57	CRI-3	.04174
58	CCV1-6	2.0211
59	CCB6	.00328

Analysis Report Summary Mon 11-27-95 01:44:06 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	STD1	E1127HA	QUAN61	11/27/95	10:00		X	IR
2	STD2	E1127HA	QUAN61	11/27/95	10:04		X	IR
3	STD3	E1127HA	QUAN61	11/27/95	10:07		X	IR
4	STD4	E1127HA	QUAN61	11/27/95	10:10		X	IR
5	STD2	E1127HA	QUAN61	11/27/95	10:14	RJG	Q	CONC
6	STD3	E1127HA	QUAN61	11/27/95	10:17	RJG	Q	CONC
7	STD4	E1127HA	QUAN61	11/27/95	10:21	RJG	Q	CONC
8	ICV1-1 247-68-2	E1127HA	QUAN61	11/27/95	10:24	RJG	S	CONC
9	ICB1	E1127HA	QUAN61	11/27/95	10:28	RJG	S	CONC
10	ICSA 188-67-3	E1127HA	QUAN61	11/27/95	10:31	RJG	Q	CONC
11	ICSAB 188-69-1	E1127HA	QUAN61	11/27/95	10:34	RJG	Q	CONC
12	CRI-1 188-66-1	E1127HA	QUAN61	11/27/95	10:38	RJG	S	CONC
13	CCV1-1 247-65-3	E1127HA	QUAN61	11/27/95	10:41	RJG	S	CONC
14	CCB1	E1127HA	QUAN61	11/27/95	10:45	RJG	S	CONC
15	PBW 11-21-2	E1127HA	QUAN61	11/27/95	10:48	RJG	S	CONC
16	LCSW-1 11-21-2	E1127HA	QUAN61	11/27/95	10:51	RJG	S	CONC
17	C5K160007001	E1127HA	QUAN61	11/27/95	10:55	RJG	S	CONC
18	C5K160007001L	E1127HA	QUAN61	11/27/95	10:58	RJG	S	CONC
19	C5K160007001S	E1127HA	QUAN61	11/27/95	11:02	RJG	S	CONC
20	C5K160007001SD	E1127HA	QUAN61	11/27/95	11:05	RJG	S	CONC
21	C5K170007001	E1127HA	QUAN61	11/27/95	11:08	RJG	S	CONC
22	C5K170007002	E1127HA	QUAN61	11/27/95	11:12	RJG	S	CONC
23	C5K170010001	E1127HA	QUAN61	11/27/95	11:15	RJG	S	CONC
24	C5K170010002	E1127HA	QUAN61	11/27/95	11:19	RJG	S	CONC
25	CCV1-2	E1127HA	QUAN61	11/27/95	11:22	RJG	S	CONC
26	CCB2	E1127HA	QUAN61	11/27/95	11:25	RJG	S	CONC
27	ICSA 188-67-3	E1127HA	QUAN61	11/27/95	11:29	RJG	Q	CONC
28	ICSAB 188-69-1	E1127HA	QUAN61	11/27/95	11:32	RJG	Q	CONC
29	CRI-2	E1127HA	QUAN61	11/27/95	11:36	RJG	S	CONC
30	CCV1-3	E1127HA	QUAN61	11/27/95	11:39	RJG	S	CONC
31	CCB3	E1127HA	QUAN61	11/27/95	11:42	RJG	S	CONC
32	PBW 11-22-7	E1127HA	QUAN61	11/27/95	11:49	RJG	S	CONC
33	LCSW-1 11-22-7	E1127HA	QUAN61	11/27/95	11:52	RJG	S	CONC
34	C5K170005001	E1127HA	QUAN61	11/27/95	11:56	RJG	S	CONC
35	C5K170005002	E1127HA	QUAN61	11/27/95	11:59	RJG	S	CONC
36	C5K170005003	E1127HA	QUAN61	11/27/95	12:02	RJG	S	CONC
37	C5K170005004	E1127HA	QUAN61	11/27/95	12:06	RJG	S	CONC
38	C5K170005005	E1127HA	QUAN61	11/27/95	12:09	RJG	S	CONC
39	CCV1-4	E1127HA	QUAN61	11/27/95	12:13	RJG	S	CONC
40	CCB4	E1127HA	QUAN61	11/27/95	12:16	RJG	S	CONC
41	C5K180003001	E1127HA	QUAN61	11/27/95	12:19	RJG	S	CONC
42	C5K180003001L	E1127HA	QUAN61	11/27/95	12:23	RJG	S	CONC
43	C5K180003001S	E1127HA	QUAN61	11/27/95	12:26	RJG	S	CONC
44	C5K180003001SD	E1127HA	QUAN61	11/27/95	12:30	RJG	S	CONC
45	PBS 11-22-1	E1127HA	QUAN61	11/27/95	12:35	RJG	S	CONC
46	LCSS 11-22-1 (224)	E1127HA	QUAN61	11/27/95	12:38	RJG	S	CONC
47	C5K130002007	E1127HA	QUAN61	11/27/95	12:42	RJG	S	CONC
48	C5K130002007L	E1127HA	QUAN61	11/27/95	12:45	RJG	S	CONC
49	C5K130002007S	E1127HA	QUAN61	11/27/95	12:49	RJG	S	CONC
50	C5K130002007SD	E1127HA	QUAN61	11/27/95	12:52	RJG	S	CONC
51	CCV1-5	E1127HA	QUAN61	11/27/95	12:55	RJG	S	CONC
52	CCB5	E1127HA	QUAN61	11/27/95	12:59	RJG	S	CONC
53	PBS 11-22-1 Cr Rerun	E1127HA	QUAN61	11/27/95	13:04	RJG	S	CONC

QUANTERRA PITTSBURGH
ICP-METALS

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
54	H202 Test M157-KPBY	E1127HA	QUAN61	11/27/95	13:07	RJG	S	CONC
55	ICSA 188-67-3	E1127HA	QUAN61	11/27/95	13:11	RJG	Q	CONC
56	ICSAB 188-69-1	E1127HA	QUAN61	11/27/95	13:14	RJG	Q	CONC
57	CRI-3	E1127HA	QUAN61	11/27/95	13:18	RJG	S	CONC
58	CCV1-6	E1127HA	QUAN61	11/27/95	13:21	RJG	S	CONC
59	CCB6	E1127HA	QUAN61	11/27/95	13:24	RJG	S	CONC

95-MT-356

Quanterra Environmental Services
ICP Sequence Log

By: RJG
Date: 11-27-95
File: E1127HA

Instrument No. 1, ICP 61
Projects: CSK16007 CSK17007 CSK17010 CSK17005 CSK18003 CSK13002

		STD2		4	CSK17005002
		STD3		5	CSK17005003
		STD4		6	CSK17005004
		ICV1-1 247.682		7	CSK17005005
		ICB1			CCV4
		ICSA 188.673			CCB4
		ICSAB 188.69-1	Ag	1	CSK18003001
		CRI-1 188.66-1	Bi	2	CSK18003001L
		CCV1-1 247.65 23 11-27-95	Cd	3	CSK18003001S ok
		CCB1	Cr	4	CSK18003001SD ok.
Ag	1	PBW 11-21-2	Cu	5	PBS 11-22-1 Cr VOID: [illegible] BS 11-27-95
Al	2	LCSW-1 11-21-2	Ni	6	LCSS 11-22-1 (22A)
Be	3	CSK16007001	Zn	7	CSK13007001
Cd	4	CSK16007001L		8	CSK13007001L
Cr	5	CSK16007001S ok	Ag	9	CSK13007001S
Cu	6	CSK16007001SD ok.	As	10	CSK13007001SD Pb.
Fe	7	CSK17007001	Ba		CCV5
Ni	8	CSK17007002	Cd		CCB5
Mn	9	CSK17007001	Cr	1	PBS 11-22-1 Cr. Rerun
Pb	10	CSK17007002	Pb	2	H702 Rst MISTKPBK
Sb		CCV1-2	Se	3	ICSA 188.673
Zn		CCB2		4	ICSAB 188.69-1
	1	ICSA 188.673		5	CRI-3
	2	ICSAB 188.69-1			CCV6
	3	CRI-2			CCB6
		CCV1-3			END OF ANALYSIS
		CCB3			RJG 11-27-95
Fe	1	PBW 11-22-7			
Mn	2	LCSW-1 11-22-7			RJG 11-27-95
Na	3	CSK17007001			

0000083

Method: QUAN61 Standard: STD1

Elem	AG	AL	AS	B_	BA	BE	CA
Avge	-.00454	.01567	-.00153	.00160	-.00002	-.00013	.00256
SDev	.00124	.00241	.00050	.00040	.00031	.00012	.00171
%RSD	27.331	15.390	32.825	25.000	1702.0	86.603	66.692
#1	-.00345	.01540	-.00160	.00200	-.00008	-.00020	.00372
#2	-.00428	.01820	-.00200	.00160	.00032	.00000	.00336
#3	-.00588	.01340	-.00100	.00120	-.00028	-.00020	.00060

Elem	CD	CO	CR	CU	FE	K_	MG
Avge	-.00027	-.00007	.00093	.00024	.00214	.00208	.00361
SDev	.00050	.00012	.00094	.00019	.00056	.00181	.00262
%RSD	188.75	173.21	101.27	79.489	26.392	87.113	72.665
#1	.00020	-.00020	.00020	.00046	.00265	.00368	.00471
#2	-.00020	.00000	.00200	.00012	.00223	.00244	.00550
#3	-.00080	.00000	.00060	.00015	.00153	.00012	.00062

Elem	MN	MO	NA	NI	PB	SB	SE
Avge	.00020	.00033	.06387	.00009	-.00107	-.00126	.00320
SDev	.00000	.00031	.00170	.00057	.00242	.00024	.00250
%RSD	.00000	91.652	2.6633	603.63	226.82	18.874	78.062
#1	.00020	.00000	.06260	.00061	-.00020	-.00152	.00240
#2	.00020	.00040	.06580	.00020	.00080	-.00118	.00600
#3	.00020	.00060	.06320	-.00052	-.00380	-.00107	.00120

Elem	SN	SR	TL	V_	ZN
Avge	.00147	.00000	.06000	.00013	.00071
SDev	.00200	.00000	.00191	.00023	.00013
%RSD	136.59	.00000	3.1798	173.21	17.578
#1	.00220	.00000	.05800	.00040	.00057
#2	.00300	.00000	.06180	.00000	.00077
#3	-.00080	.00000	.06020	.00000	.00080

Standardization Rpt. Mon 11-27-95 10:07:20 AM page 1

Method: QUAN61 Standard: STD2 247.584

Elem	AG	MO	SB	SN
Avge	1.9242	2.3377	2.1004	1.3370
SDev	.0088	.0080	.0111	.0082
%RSD	.45697	.34054	.53059	.61258
#1	1.9141	2.3288	2.0876	1.3276
#2	1.9297	2.3400	2.1072	1.3408
#3	1.9289	2.3442	2.1065	1.3426

Standardization Rpt. Mon 11-27-95 10:10:46 AM page 1

Method: QUAN61 Standard: STD3 247.585

Elem	AL	AS	B_	BA	BE	CD	CO
Avge	3.1611	1.1845	4.6639	11.968	10.819	5.7193	1.2233
SDev	.0059	.0063	.0157	.025	.063	.0297	.0054
%RSD	.18579	.53298	.33559	.21242	.58572	.52012	.43759
#1	3.1570	1.1772	4.6584	11.989	10.753	5.6906	1.2188
#2	3.1584	1.1876	4.6518	11.940	10.826	5.7174	1.2218
#3	3.1678	1.1886	4.6816	11.976	10.879	5.7500	1.2292

Elem	CR	CU	FE	MN	NI	PB	SE
Avge	11.249	1.7555	9.2790	5.8089	4.7339	1.6372	1.2543
SDev	.066	.0031	.0390	.0242	.0270	.0061	.0140
%RSD	.58233	.17650	.42015	.41638	.56966	.37274	1.1196
#1	11.185	1.7565	9.2457	5.7866	4.7143	1.6312	1.2430
#2	11.248	1.7520	9.2695	5.8054	4.7228	1.6370	1.2700
#3	11.316	1.7580	9.3219	5.8346	4.7646	1.6434	1.2498

Elem	SR	TL	V_	ZN
Avge	15.526	1.4647	4.8019	4.7494
SDev	.027	.0170	.0149	.0267
%RSD	.17487	1.1638	.31096	.56212
#1	15.535	1.4542	4.7904	4.7222
#2	15.495	1.4556	4.7966	4.7503
#3	15.547	1.4844	4.8188	4.7756

Standardization Rpt. Mon 11-27-95 10:14:12 AM page 1

Method: QUAN61 Standard: STD4 247.586

Elem	CA	K_	MG	NA
Avge	32.607	1.9022	13.212	36.135
SDev	.116	.0040	.052	.158
%RSD	.35657	.20917	.39062	.43860
#1	32.490	1.8978	13.154	35.964
#2	32.610	1.9034	13.230	36.166
#3	32.722	1.9055	13.252	36.277

QUANTERRA PITTSBURGH
ICP-METALS

Standardization Report Mon 11-27-95 10:14:16 AM page 1

Method: QUAN61 Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
AG	328.068	STD2	STD1	1.03652	.004702	11/27/95 10:10:54
AL	308.216	STD3	STD1	3.17810	-.049790	11/27/95 10:10:54
AS	193.696	STD3	STD1	8.37445	.012841	11/27/95 10:10:54
B_	249.678	STD3	STD1	2.14176	-.003427	11/27/95 10:10:54
BA	493.409	STD3	STD1	.835536	.000015	11/27/95 10:10:54
BE	234.861	STD3	STD1	.924329	.000123	11/27/95 10:10:54
CA	317.933	STD4	STD1	1.53353	-.003928	11/27/95 10:10:54
CD	226.502	STD3	STD1	1.74820	.000466	11/27/95 10:10:54
CO	228.616	STD3	STD1	8.17708	.000545	11/27/95 10:10:54
CR	267.716	STD3	STD1	.889376	-.000830	11/27/95 10:10:54
CU	324.754	STD3	STD1	5.69455	-.001373	11/27/95 10:10:54
FE	259.940	STD3	STD1	1.07516	-.002296	11/27/95 10:10:54
K_	766.490	STD4	STD1	26.3136	-.054719	11/27/95 10:10:54
MG	279.078	STD4	STD1	3.78549	-.013657	11/27/95 10:10:54
MN	257.610	STD3	STD1	1.72157	-.000344	11/27/95 10:10:54
MO	202.030	STD2	STD1	4.27838	-.001426	11/27/95 10:10:54
NA	588.995	STD4	STD1	1.38613	-.088528	11/27/95 10:10:54
NI	231.604	STD3	STD1	2.11693	-.000201	11/27/95 10:10:54
PB	220.363	STD3	STD1	6.10120	.006508	11/27/95 10:10:54
SB	206.838	STD2	STD1	4.76982	.005993	11/27/95 10:10:54
SE	196.026	STD3	STD1	7.91645	-.025333	11/27/95 10:10:54
SN	242.949	STD2	STD1	7.76252	-.011385	11/27/95 10:10:54
SR	407.772	STD3	STD1	.644083	.000000	11/27/95 10:10:54
TL	190.801	STD3	STD1	7.33491	-.440095	11/27/95 10:10:54
V_	292.402	STD3	STD1	2.07693	-.000277	11/27/95 10:10:54
ZN	213.856	STD3	STD1	2.11240	-.001506	11/27/95 10:10:54

Analysis Report QC Standard Mon 11-27-95 10:17:41 AM page 1

Method: QUAN61 Sample Name: STD2 Operator: RJG
Run Time: 11/27/95 10:14:21
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Robert A Jed 11-27-95

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0148	.01850	.00770	.01942	.00154	.00061	.02930
SDev	.0042	.00528	.00760	.00138	.00012	.00018	.00499
%RSD	.20978	28.563	98.756	7.1103	7.9387	29.945	17.038
#1	2.0166	.01352	.00710	.02099	.00164	.00079	.03475
#2	2.0099	.01795	.01559	.01840	.00157	.00061	.02821
#3	2.0178	.02404	.00042	.01886	.00140	.00043	.02495
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	2.0000						
Range	5.0000						

CSK160001
CSK190001
CSK170010
CSK170005
CSK180003
CSK130002

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00380	.01635	.00017	.00082	.00000	.04062	-.00759
SDev	.00070	.00094	.00143	.00183	.00067	.02300	.00411
%RSD	18.454	5.7760	836.31	222.19	89072.	56.629	54.175
#1	.00381	.01526	.00165	-.00075	.00074	.02867	-.00329
#2	.00450	.01689	-.00119	.00039	-.00058	.06713	-.00800
#3	.00310	.01689	.00005	.00283	-.00015	.02604	-.01149
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00138	10.066	.03539	.00274	-.01565	10.045	-.03333
SDev	.00000	.022	.00493	.00110	.00669	.038	.01067
%RSD	.00000	.21611	13.924	40.117	42.743	.37586	32.007
#1	.00138	10.053	.04094	.00400	-.00795	10.012	-.03068
#2	.00138	10.054	.03151	.00220	-.01894	10.038	-.04508
#3	.00138	10.091	.03373	.00202	-.02006	10.086	-.02424
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value		10.000				10.000	
Range		5.0000				5.0000	

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	9.7080	.00081	.16552	.00149	.00150
SDev	.0340	.00016	.01445	.00063	.00048
%RSD	.35051	19.383	8.7279	42.656	31.910
#1	9.6820	.00096	.17836	.00217	.00169
#2	9.6954	.00083	.14988	.00091	.00096
#3	9.7465	.00064	.16833	.00138	.00186
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	10.000				

Analysis Report QC Standard Mon 11-27-95 10:21:06 AM page 1

Method: QUAN61 Sample Name: STD3 Operator: RJG
Run Time: 11/27/95 10:17:46
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00145	9.9898	10.050	10.010	9.9651	9.9854	.01664
SDev	.00119	.0505	.010	.037	.0527	.0423	.00417
%RSD	81.527	.50519	.09994	.36833	.52879	.42336	25.022
#1	-.00015	9.9321	10.058	9.9677	9.9113	9.9408	.01716
#2	-.00175	10.012	10.052	10.030	9.9676	10.025	.02053
#3	-.00247	10.026	10.039	10.033	10.017	9.9904	.01224
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK
Value		10.000	10.000	10.000	10.000	10.000	
Range		5.0000	5.0000	5.0000	5.0000	5.0000	

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	10.039	10.029	10.015	9.9764	10.046	-.04440	-.02445
SDev	.046	.043	.041	.0514	.046	.03565	.00581
%RSD	.45928	.43210	.40849	.51477	.45647	80.296	23.774
#1	9.9945	9.9864	9.9700	9.9191	9.9927	-.07820	-.03087
#2	10.086	10.073	10.049	9.9919	10.074	-.00715	-.01955
#3	10.035	10.027	10.027	10.018	10.070	-.04784	-.02294
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	10.000	10.000	10.000	10.000	10.000		
Range	5.0000	5.0000	5.0000	5.0000	5.0000		

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	10.003	.00827	.01405	9.9855	9.9952	.00326	10.133
SDev	.036	.00431	.00327	.0373	.0385	.01199	.043
%RSD	.35689	52.068	23.269	.37366	.38552	368.18	.42559
#1	9.9630	.01226	.01488	9.9449	9.9655	.00934	10.147
#2	10.032	.00884	.01682	10.018	10.039	.01099	10.085
#3	10.015	.00371	.01044	9.9934	9.9814	-.01056	10.168
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	10.000			10.000	10.000		10.000
Range	5.0000			5.0000	5.0000		5.0000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01233	9.9591	9.6886	10.036	9.9656
SDev	.01574	.0456	.0654	.045	.0430
%RSD	127.63	.45769	.67503	.45312	.43184
#1	.00483	9.9100	9.6392	9.9846	9.9196
#2	.03041	9.9674	9.6638	10.069	10.005
#3	.00174	10.000	9.7628	10.056	9.9724
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value		10.000	10.000	10.000	10.000

Analysis Report QC Standard Mon 11-27-95 10:24:32 AM page 1

Method: QUAN61 Sample Name: STD4 Operator: RJG
Run Time: 11/27/95 10:21:12
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00008	-.00064	.00786	.01875	.00415	.00400	49.898
SDev	.00073	.00785	.01100	.00258	.00112	.00092	.405
%RSD	968.29	1235.8	139.93	13.780	27.074	23.079	.81086
#1	.00005	.00806	-.00386	.02146	.00529	.00493	49.444
#2	.00081	-.00277	.01797	.01846	.00410	.00400	50.220
#3	-.00064	-.00720	.00949	.01632	.00305	.00308	50.032
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value							50.000
Range							5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00454	.00163	.00527	.00516	.00801	49.713	49.809
SDev	.00132	.00250	.00080	.00182	.00139	.309	.345
%RSD	29.135	152.77	15.193	35.374	17.342	.62231	.69246
#1	.00606	.00381	.00610	.00612	.00953	49.388	49.426
#2	.00361	.00218	.00521	.00630	.00766	50.004	50.096
#3	.00396	-.00109	.00450	.00305	.00682	49.747	49.904
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass
Value						50.000	50.000
Range						5.0000	5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00666	-.00029	49.824	.00199	.00896	.00558	-.01005
SDev	.00139	.00131	.375	.00224	.00212	.00813	.01753
%RSD	20.904	458.26	.75309	112.36	23.651	145.75	174.43
#1	.00792	-.00057	49.443	.00449	.01018	.01234	-.01590
#2	.00689	.00114	50.193	.00131	.01018	.00783	-.02390
#3	.00516	-.00143	49.836	.00017	.00651	-.00344	.00966
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value			50.000				
Range			5.0000				

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00355	.00502	.06622	.00390	.00549
SDev	.00774	.00103	.00519	.00150	.00131
%RSD	217.96	20.513	7.8295	38.552	23.903
#1	-.00803	.00605	.07115	.00557	.00624
#2	.00539	.00502	.06081	.00349	.00624
#3	-.00802	.00399	.06670	.00265	.00397
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					

Analysis Report Mon 11-27-95 10:27:57 AM page 1

Method: QUAN61 Sample Name: ICV1-1 247-68-2 Operator: RJG
Run Time: 11/27/95 10:24:38
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.0037	1.0111	1.0106	1.0394	.99014	.98402	10.238
SDev	.0022	.0052	.0126	.0047	.00062	.00339	.030
%RSD	.22375	.51028	1.2483	.45477	.06232	.34437	.29163
#1	1.0013	1.0119	1.0034	1.0341	.98984	.98032	10.204
#2	1.0056	1.0157	1.0033	1.0432	.99085	.98698	10.253
#3	1.0043	1.0055	1.0252	1.0410	.98972	.98476	10.257
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	11.000
Low	.90000	.90000	.90000	.90000	.90000	.90000	9.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.0073	1.0204	.99361	1.0064	1.0280	9.9365	10.110
SDev	.0032	.0033	.00427	.0055	.0019	.0673	.037
%RSD	.31489	.32041	.42977	.54407	.18462	.67756	.36374
#1	1.0037	1.0236	.98881	1.0019	1.0271	9.8623	10.069
#2	1.0096	1.0204	.99699	1.0125	1.0268	9.9936	10.140
#3	1.0085	1.0171	.99504	1.0048	1.0302	9.9536	10.122
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.1000	1.1000	1.1000	1.1000	1.1000	11.000	11.000
Low	.90000	.90000	.90000	.90000	.90000	9.0000	9.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.99828	1.0317	10.076	1.0063	.98296	1.0107	1.0003
SDev	.00190	.0028	.031	.0021	.01411	.0090	.0371
%RSD	.18996	.26662	.30564	.20900	1.4359	.89376	3.7047
#1	.99610	1.0297	10.067	1.0085	.96667	1.0063	.96089
#2	.99954	1.0305	10.110	1.0043	.99111	1.0047	1.0344
#3	.99920	1.0348	10.051	1.0061	.99111	1.0211	1.0057
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.1000	1.1000	11.000	1.1000	1.1000	1.1000	1.1000
Low	.90000	.90000	9.0000	.90000	.90000	.90000	.90000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.99547	.99201	.98754	1.0255	.99509
SDev	.00458	.00145	.01248	.0025	.00263
%RSD	.45964	.14632	1.2641	.24780	.26398
#1	.99159	.99086	.99800	1.0238	.99210
#2	1.0005	.99364	.97372	1.0284	.99704
#3	.99431	.99153	.99091	1.0242	.99614
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.1000	1.1000	1.1000	1.1000	1.1000

Analysis Report Mon 11-27-95 10:31:21 AM page 1

Method: QUAN61 Sample Name: ICB1 Operator: RJG
Run Time: 11/27/95 10:28:02
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00105	-.00254	.00616	.00658	.00060	.00062	.00718
SDev	.00062	.00147	.00773	.00089	.00030	.00011	.00328
%RSD	59.233	57.869	125.41	13.559	49.182	17.332	45.647
#1	.00167	-.00339	-.00227	.00687	.00095	.00068	.01005
#2	.00042	-.00084	.01291	.00558	.00045	.00068	.00787
#3	.00107	-.00339	.00786	.00729	.00042	.00049	.00361
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00047	.00109	.00059	.00124	.00167	.01154	.00156
SDev	.00035	.00189	.00145	.00074	.00090	.03871	.00452
%RSD	75.037	173.20	245.71	59.213	53.711	335.55	290.66
#1	.00082	.00218	.00219	.00108	.00257	.04122	.00531
#2	.00012	-.00109	-.00065	.00204	.00078	.02564	.00282
#3	.00047	.00218	.00024	.00060	.00166	-.03225	-.00347
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00080	-.00029	.01414	.00025	.00284	.00770	-.01597
SDev	.00020	.00049	.00712	.00078	.00800	.01106	.00890
%RSD	24.744	173.21	50.386	309.11	281.43	143.68	55.709
#1	.00103	.00029	.02070	.00100	.01139	.02017	-.02395
#2	.00069	-.00057	.01516	-.00056	-.00448	-.00093	-.01758
#3	.00069	-.00057	.00656	.00031	.00162	.00386	-.00638
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01548	.00063	.00757	.00097	.00194
SDev	.00565	.00013	.01229	.00042	.00013
%RSD	36.526	21.186	162.27	43.134	6.4839
#1	.02194	.00077	.00992	.00139	.00204
#2	.01148	.00059	.01851	.00097	.00180
#3	.01300	.00052	-.00572	.00056	.00198
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Analysis Report QC Standard Mon 11-27-95 10:34:46 AM page 1

Method: QUAN61 Sample Name: ICSA 188-67-3 Operator: RJG
Run Time: 11/27/95 10:31:27
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00632	516.12	.07817	.00721	.00740	.00026	499.80
SDev	.00029	1.63	.09235	.00211	.00008	.00022	.82
%RSD	4.5356	.31631	118.14	29.215	1.1309	82.516	.16359
#1	-.00661	514.51	.12368	.00681	.00740	.00043	499.06
#2	-.00604	516.09	.13894	.00949	.00748	.00002	499.67
#3	-.00631	517.77	-.02810	.00533	.00731	.00034	500.68
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value		500.00					500.00
Range		20.000					20.000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00232	.00272	-.00348	-.00163	183.97	-.02429	490.26
SDev	.00097	.00189	.00135	.00303	.51	.02800	1.04
%RSD	41.679	69.290	38.733	186.70	.27609	115.29	.21169
#1	.00133	.00054	-.00210	-.00478	183.48	.00479	489.24
#2	.00326	.00381	-.00354	-.00136	183.94	-.05108	490.21
#3	.00236	.00381	-.00480	.00127	184.49	-.02658	491.32
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value					200.00		500.00
Range					20.000		20.000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00574	-.02168	.05286	.00110	.02481	-.00003	-.01586
SDev	.00020	.00300	.00194	.00010	.03470	.00802	.04459
%RSD	3.4641	13.863	3.6713	8.9727	139.87	23514.	281.17
#1	.00585	-.01854	.05480	.00098	-.00371	-.00891	-.05466
#2	.00585	-.02196	.05286	.00117	.06344	.00667	.03285
#3	.00551	-.02453	.05092	.00114	.01470	.00214	-.02575
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00739	.01056	.32157	.00316	.00872
SDev	.01707	.00000	.01307	.00063	.00080
%RSD	230.98	.00000	4.0661	19.931	9.2047
#1	.02343	.01056	.31219	.00261	.00782
#2	.00930	.01056	.31602	.00302	.00898
#3	-.01056	.01056	.33651	.00384	.00936
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					

Analysis Report QC Standard Mon 11-27-95 10:38:12 AM page 1

Method: QUAN61 Sample Name: ICSAB 188-69-1 Operator: RJG
Run Time: 11/27/95 10:34:52
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.98009	519.11	2.0419	.01334	.48239	.50322	501.33
SDev	.00306	4.00	.0770	.00125	.00451	.00305	2.94
%RSD	.31219	.77133	3.7687	9.3766	.93602	.60546	.58639
#1	.97658	514.50	1.9531	.01259	.47722	.49971	497.94
#2	.98217	521.63	2.0830	.01479	.48440	.50489	503.10
#3	.98152	521.22	2.0896	.01265	.48555	.50507	502.96
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	1.0000	500.00	2.0000		.50000	.50000	500.00
Range	20.000	20.000	20.000		20.000	20.000	20.000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.91985	.46781	.45414	.48707	185.24	.00499	492.23
SDev	.00455	.00713	.00261	.00671	1.15	.01428	3.12
%RSD	.49503	1.5230	.57429	1.3771	.62099	285.95	.63440
#1	.91463	.45964	.45127	.47933	183.91	.01815	488.63
#2	.92193	.47108	.45477	.49086	185.88	-.01019	493.96
#3	.92299	.47272	.45637	.49103	185.91	.00702	494.11
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	1.0000	.50000	.50000	.50000	200.00		500.00
Range	20.000	20.000	20.000	20.000	20.000		20.000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.46781	-.02025	.02837	.93159	.97411	1.9618	1.8800
SDev	.00289	.00309	.00596	.00469	.00838	.0486	.0290
%RSD	.61726	15.235	21.012	.50313	.86021	2.4787	1.5403
#1	.46448	-.02367	.02985	.92672	.96639	1.9061	1.8470
#2	.46930	-.01940	.02181	.93199	.98302	1.9960	1.9012
#3	.46964	-.01768	.03345	.93607	.97291	1.9832	1.8919
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000			1.0000	1.0000	2.0000	2.0000
Range	20.000			20.000	20.000	20.000	20.000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.03854	.01064	2.0654	.48060	.95201
SDev	.02506	.00007	.0373	.00388	.00501
%RSD	65.028	.69865	1.8039	.80737	.52651
#1	.03254	.01071	2.0441	.47615	.94623
#2	.01702	.01056	2.0436	.48324	.95464
#3	.06606	.01064	2.1084	.48242	.95515
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value			2.0000	.50000	1.0000

Method: QUAN61 Sample Name: CCV1-1 247-65-3 Operator: RJG
Run Time: 11/27/95 10:41:41
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0386	2.0360	2.0401	2.0681	1.9793	1.9822	10.291
SDev	.0079	.0061	.0213	.0084	.0077	.0078	.037
%RSD	.38536	.29966	1.0438	.40744	.38881	.39484	.36044
#1	2.0299	2.0418	2.0239	2.0602	1.9731	1.9733	10.248
#2	2.0404	2.0365	2.0322	2.0671	1.9768	1.9851	10.315
#3	2.0453	2.0296	2.0642	2.0770	1.9879	1.9881	10.309
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0397	2.0326	2.0077	2.0037	2.0615	9.8347	9.9982
SDev	.0069	.0082	.0098	.0072	.0076	.0717	.0419
%RSD	.33722	.40467	.48960	.36159	.36737	.72871	.41872
#1	2.0324	2.0238	1.9964	1.9980	2.0545	9.7564	9.9668
#2	2.0460	2.0337	2.0121	2.0012	2.0606	9.8505	9.9822
#3	2.0408	2.0402	2.0145	2.0119	2.0695	9.8971	10.046
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	11.000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000	9.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0213	2.0876	10.027	2.0516	2.0259	2.0312	2.0386
SDev	.0061	.0111	.050	.0104	.0197	.0061	.0314
%RSD	.30296	.53338	.49646	.50715	.97108	.30116	1.5409
#1	2.0160	2.0762	9.9781	2.0427	2.0234	2.0259	2.0673
#2	2.0201	2.0984	10.026	2.0491	2.0466	2.0379	2.0050
#3	2.0280	2.0881	10.078	2.0630	2.0075	2.0297	2.0435
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	11.000	2.2000	2.2000	2.2000	2.2000
Low	1.8000	1.8000	9.0000	1.8000	1.8000	1.8000	1.8000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	1.9806	1.9904	1.9976	2.0714	2.0163
SDev	.0212	.0081	.0233	.0063	.0064
%RSD	1.0729	.40630	1.1647	.30344	.31507
#1	1.9830	1.9840	1.9741	2.0650	2.0090
#2	1.9582	1.9878	1.9981	2.0717	2.0191
#3	2.0005	1.9995	2.0207	2.0776	2.0207
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000

Method: QUAN61 Sample Name: CCB1 Operator: RJG
Run Time: 11/27/95 10:45:04
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00193	.00529	.01805	.00487	.00082	.00080	.00763
SDev	.00012	.00576	.00164	.00131	.00011	.00011	.00173
%RSD	6.2417	108.96	9.1003	27.020	13.620	13.348	22.722
#1	.00205	.00105	.01799	.00601	.00095	.00086	.00918
#2	.00194	.01185	.01643	.00515	.00073	.00086	.00796
#3	.00181	.00297	.01972	.00343	.00078	.00068	.00576
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00070	.00055	.00101	.00136	.00373	-.03940	.00922
SDev	.00073	.00000	.00098	.00175	.00056	.01060	.00434
%RSD	104.32	.05469	97.228	128.80	14.918	26.891	47.109
#1	.00047	.00054	.00148	.00060	.00419	-.02739	.00739
#2	.00011	.00055	.00166	.00336	.00389	-.04743	.01418
#3	.00151	.00055	-.00012	.00012	.00311	-.04338	.00609
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00126	.00114	.00906	-.00019	-.00040	.00400	-.01275
SDev	.00020	.00148	.00554	.00090	.00775	.00666	.00959
%RSD	15.746	129.90	61.225	464.34	1942.8	166.49	75.209
#1	.00138	.00200	.00906	.00084	-.00935	.00744	-.02234
#2	.00138	.00200	.01460	-.00061	.00409	.00824	-.00316
#3	.00103	-.00057	.00351	-.00082	.00407	-.00368	-.01276
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00990	.00091	.00850	.00084	.00249
SDev	.00541	.00017	.00932	.00127	.00035
%RSD	54.664	18.355	109.68	152.06	14.063
#1	.01436	.00103	.00992	.00223	.00289
#2	.00388	.00098	.01703	-.00027	.00228
#3	.01147	.00072	-.00145	.00055	.00229
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Method: QUAN61 Sample Name: PBW 11-21-2 Operator: RJG
Run Time: 11/27/95 10:48:28
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00077	.00382	.00686	.00358	.00031	.00025	.00797
SDev	.00060	.00361	.00518	.00066	.00020	.00011	.00270
%RSD	77.320	94.458	75.542	18.364	65.197	43.450	33.909
#1	.00018	.00679	.01137	.00429	.00052	.00031	.00822
#2	.00077	-.00020	.00120	.00300	.00011	.00031	.00516
#3	.00137	.00487	.00800	.00343	.00030	.00012	.01055
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00081	.00055	-.00030	.00114	.01344	-.03819	.00230
SDev	.00060	.00000	.00139	.00088	.00006	.01818	.00747
%RSD	74.444	.10834	467.98	77.074	.42555	47.604	324.99
#1	.00011	.00054	.00059	.00108	.01337	-.02719	.00736
#2	.00116	.00055	.00041	.00205	.01347	-.05917	-.00628
#3	.00116	.00054	-.00190	.00029	.01347	-.02820	.00581
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00057	-.00086	.03521	-.00015	-.00367	.00566	-.00893
SDev	.00020	.00178	.00258	.00179	.00551	.00014	.00244
%RSD	34.641	208.17	7.3162	1212.7	150.18	2.5513	27.335
#1	.00069	-.00143	.03595	.00160	-.00936	.00557	-.01106
#2	.00069	-.00228	.03234	-.00197	-.00326	.00582	-.00627
#3	.00034	.00114	.03733	-.00007	.00163	.00558	-.00946
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00162	.00025	.00660	.00055	.00263
SDev	.00485	.00007	.01497	.00084	.00031
%RSD	299.71	30.224	226.66	150.82	11.650
#1	.00390	.00033	-.00860	.00139	.00271
#2	-.00357	.00020	.00710	.00055	.00229
#3	-.00518	.00020	.02132	-.00028	.00289
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Analysis Report Mon 11-27-95 10:55:09 AM page 1

Method: QUAN61 Sample Name: LCSW-1 11-21-2 Operator: RJG
Run Time: 11/27/95 10:51:51
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.0014	1.0121	.99541	1.0336	.98971	.97706	10.216
SDev	.0043	.0148	.01733	.0048	.00692	.00647	.075
%RSD	.42561	1.4604	1.7410	.46557	.69952	.66209	.73864
#1	.99715	1.0056	.98809	1.0281	.98464	.96979	10.130
#2	1.0057	1.0291	1.0152	1.0372	.99760	.98217	10.270
#3	1.0013	1.0017	.98295	1.0355	.98691	.97922	10.248

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.0053	1.0177	.99806	.99219	1.0283	9.8001	10.000
SDev	.0060	.0025	.00771	.00619	.0075	.1111	.062
%RSD	.59252	.24534	.77208	.62341	.73379	1.1338	.61763
#1	.99841	1.0155	.98917	.99020	1.0210	9.6854	9.9423
#2	1.0089	1.0204	1.0021	.99913	1.0361	9.9072	10.065
#3	1.0086	1.0171	1.0029	.98725	1.0277	9.8076	9.9929

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.99977	1.0297	10.019	1.0070	.99152	1.0061	.97209
SDev	.00549	.0089	.087	.0030	.01137	.0130	.01735
%RSD	.54923	.86761	.87158	.29700	1.1464	1.2880	1.7849
#1	.99369	1.0194	9.9612	1.0036	.98618	.99796	.95283
#2	1.0044	1.0357	10.120	1.0079	1.0046	1.0211	.97697
#3	1.0013	1.0339	9.9765	1.0094	.98380	.99939	.98648

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.98154	.99086	1.0033	1.0271	.98935
SDev	.02929	.00735	.0203	.0066	.00524
%RSD	2.9840	.74219	2.0190	.63976	.53015
#1	.99495	.98499	.98828	1.0213	.98361
#2	1.0017	.99911	1.0263	1.0342	.99390
#3	.94795	.98847	.99524	1.0259	.99054

Analysis Report Mon 11-27-95 10:58:32 AM page 1

Method: QUAN61 Sample Name: C5K160007001 Operator: RJG
Run Time: 11/27/95 10:55:14
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00024	.05528	-.00372	2.6962	.00819	.00039	4.0092
SDev	.00059	.00844	.00793	.0142	.00016	.00021	.0205
%RSD	247.49	15.261	213.27	.52577	1.9738	54.494	.51254
#1	.00078	.06014	-.01269	2.6816	.00837	.00064	3.9862
#2	-.00038	.04554	.00237	2.7099	.00813	.00027	4.0257
#3	.00031	.06016	-.00084	2.6970	.00806	.00027	4.0157

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00094	.00218	.00154	.00206	.44355	11.166	49.744
SDev	.00101	.00163	.00098	.00139	.00102	.038	.252
%RSD	106.85	75.018	63.628	67.317	.23087	.34040	.50720
#1	.00036	.00054	.00059	.00336	.44273	11.149	49.479
#2	.00036	.00218	.00255	.00222	.44321	11.140	49.982
#3	.00211	.00381	.00148	.00060	.44470	11.210	49.770

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01492	.00399	S1590.4	-.00003	-.00207	.00297	-.02398
SDev	.00020	.00198	1070.7	.00163	.00954	.00429	.00720
%RSD	1.3323	49.487	67.320	5735.2	460.79	144.15	30.034
#1	.01515	.00627	S2208.6	.00182	.00893	.00634	-.01652
#2	.01481	.00285	S2208.6	-.00126	-.00818	.00443	-.02452
#3	.01481	.00285	354.12	-.00065	-.00696	-.00185	-.03090

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00123	.02240	.06788	.00195	.02425
SDev	.00611	.00020	.00343	.00048	.00023
%RSD	496.70	.91547	5.0575	24.698	.94637
#1	-.00434	.02232	.06473	.00223	.02415
#2	.00776	.02263	.07154	.00223	.02452
#3	.00027	.02225	.06736	.00140	.02409

Analysis Report Mon 11-27-95 11:01:55 AM page 1

Method: QUAN61 Sample Name: C5K160007001L Operator: RJG
Run Time: 11/27/95 10:58:37
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00039	.01144	.00961	.54740	.00167	.00018	.81619
SDev	.00166	.00424	.00849	.00172	.00018	.00011	.00534
%RSD	427.12	37.012	88.322	.31436	10.854	60.442	.65482
#1	.00186	.01504	.00176	.54912	.00188	.00030	.81025
#2	.00072	.01251	.01862	.54740	.00159	.00012	.81771
#3	-.00141	.00678	.00846	.54568	.00154	.00011	.82060

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00103	-.00109	.00142	-.00010	.09236	2.2512	10.091
SDev	.00053	.00163	.00144	.00083	.00050	.0408	.048
%RSD	51.986	150.02	101.07	811.26	.53929	1.8142	.47648
#1	.00149	-.00272	.00166	-.00102	.09236	2.2981	10.037
#2	.00044	.00054	.00273	.00060	.09187	2.2234	10.106
#3	.00114	-.00109	-.00012	.00012	.09286	2.2321	10.129

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00367	-.00000	70.465	-.00038	.00040	.00408	-.03002
SDev	.00020	.00049	.284	.00150	.00440	.00397	.00370
%RSD	5.4127	1273e6	.40234	392.53	1095.3	97.430	12.314
#1	.00379	.00029	70.174	.00049	.00407	.00085	-.02789
#2	.00344	-.00057	70.741	.00047	-.00448	.00286	-.03429
#3	.00379	.00029	70.481	-.00211	.00162	.00851	-.02788

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00407	.00466	.01880	.00070	.01057
SDev	.00918	.00003	.00996	.00048	.00019
%RSD	225.61	.67587	52.948	69.371	1.7803
#1	-.00609	.00469	.01172	.00098	.01071
#2	.00595	.00464	.01450	.00098	.01064
#3	-.01208	.00464	.03019	.00014	.01036

Analysis Report Mon 11-27-95 11:05:18 AM page 1

Method: QUAN61 Sample Name: C5K160007001S Operator: RJG
Run Time: 11/27/95 11:02:00
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.04894	2.0521	2.0417	2.6642	1.9453	.04906	3.9407
SDev	.00043	.0220	.0198	.0139	.0145	.00021	.0230
%RSD	.88486	1.0725	.97020	.52353	.74405	.43362	.58368
#1	.04913	2.0328	2.0494	2.6501	1.9393	.04881	3.9158
#2	.04923	2.0474	2.0192	2.6647	1.9349	.04918	3.9612
#3	.04844	2.0760	2.0566	2.6780	1.9619	.04918	3.9451

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.05048	.50283	.19867	.25067	1.4519	11.055	49.278
SDev	.00073	.00250	.00118	.00191	.0074	.154	.305
%RSD	1.4411	.49656	.59537	.76152	.50996	1.3949	.61889
#1	.04990	.50065	.19737	.25018	1.4437	10.970	49.093
#2	.05129	.50555	.19968	.24905	1.4540	10.962	49.111
#3	.05024	.50228	.19897	.25277	1.4581	11.233	49.630

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.51590	-.00029	350.74	.50900	.48947	.51579	1.9989
SDev	.00263	.00178	2.94	.00137	.00922	.00310	.0191
%RSD	.50974	624.50	.83779	.26868	1.8830	.60075	.95367
#1	.51303	.00114	349.93	.50764	.48092	.51361	2.0074
#2	.51647	.00029	348.29	.51038	.49923	.51934	1.9771
#3	.51819	-.00228	354.00	.50900	.48827	.51442	2.0123

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00285	.02177	1.9795	.50785	.53183
SDev	.00914	.00021	.0151	.00334	.00220
%RSD	320.70	.96088	.76043	.65776	.41369
#1	.00487	.02162	1.9912	.50465	.52960
#2	.01082	.02168	1.9625	.50757	.53189
#3	-.00713	.02201	1.9849	.51131	.53400

Analysis Report Mon 11-27-95 11:08:42 AM page 1

Method: QUAN61 Sample Name: C5K160007001SD Operator: RJG
Run Time: 11/27/95 11:05:23
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.05013	2.0764	2.0465	2.6681	1.9524	.04949	3.9759
SDev	.00126	.0203	.0221	.0089	.0086	.00038	.0301
%RSD	2.5082	.97790	1.0783	.33401	.44284	.77651	.75661
#1	.05077	2.0614	2.0211	2.6629	1.9527	.04918	3.9427
#2	.05093	2.0995	2.0586	2.6784	1.9608	.04992	4.0013
#3	.04868	2.0684	2.0599	2.6629	1.9435	.04936	3.9837

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.05094	.50882	.19992	.25219	1.4659	11.134	49.413
SDev	.00070	.00566	.00198	.00415	.0089	.077	.160
%RSD	1.3701	1.1129	.99117	1.6459	.60428	.69578	.32453
#1	.05094	.50555	.19844	.25246	1.4570	11.172	49.317
#2	.05164	.51536	.20217	.25619	1.4747	11.185	49.598
#3	.05024	.50555	.19915	.24790	1.4661	11.045	49.323

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.51957	.00143	351.11	.51311	.50047	.52895	1.9900
SDev	.00260	.00178	1.58	.00153	.00969	.01194	.0153
%RSD	.50032	124.90	.45121	.29826	1.9364	2.2580	.76831
#1	.51716	-.00057	351.32	.51232	.50412	.52774	1.9755
#2	.52232	.00200	352.58	.51487	.50781	.54145	1.9885
#3	.51922	.00285	349.44	.51213	.48948	.51765	2.0060

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00019	.02185	1.9802	.51146	.54201
SDev	.00822	.00022	.0098	.00230	.00422
%RSD	4265.1	.99013	.49275	.44983	.77943
#1	-.00865	.02201	1.9709	.50923	.53735
#2	.00762	.02193	1.9904	.51383	.54559
#3	.00161	.02160	1.9794	.51132	.54309

Analysis Report Mon 11-27-95 11:12:06 AM page 1

Method: QUAN61 Sample Name: C5K170007001 Operator: RJG
Run Time: 11/27/95 11:08:47
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.03294	.07034	.00119	.10258	.03534	-.00008	25.184
SDev	.00087	.00168	.00735	.00227	.00014	.00000	.133
%RSD	2.6503	2.3883	619.49	2.2132	.38854	.12900	.52731
#1	.03196	.07098	-.00725	.10172	.03542	-.00008	25.044
#2	.03362	.07161	.00626	.10515	.03542	-.00008	25.199
#3	.03326	.06844	.00454	.10086	.03518	-.00008	25.309

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00054	.00109	.00160	.11323	.19679	8.5410	5.0038
SDev	.00088	.00094	.00074	.00085	.00091	.0735	.0172
%RSD	164.31	86.639	46.340	.75362	.46288	.86026	.34347
#1	.00147	.00054	.00183	.11353	.19575	8.4926	4.9847
#2	.00042	.00218	.00219	.11388	.19717	8.6255	5.0180
#3	-.00028	.00054	.00077	.11226	.19746	8.5049	5.0087

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02341	.00057	33.095	.00163	.01345	.00171	-.00930
SDev	.00069	.00049	.027	.00129	.00254	.00360	.01691
%RSD	2.9412	86.603	.08236	79.403	18.901	210.42	181.85
#1	.02272	.00029	33.117	.00023	.01142	.00078	.00348
#2	.02410	.00114	33.102	.00186	.01630	.00568	-.02848
#3	.02341	.00029	33.064	.00279	.01263	-.00133	-.00290

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00623	.23015	.01941	.00153	.05180
SDev	.01765	.00074	.00294	.00024	.00052
%RSD	283.32	.31982	15.137	15.827	.99797
#1	.00175	.22940	.01611	.00139	.05170
#2	.02568	.23018	.02175	.00181	.05235
#3	-.00875	.23087	.02037	.00139	.05134

Analysis Report Mon 11-27-95 11:15:30 AM page 1

Method: QUAN61 Sample Name: C5K170007002 Operator: RJG
Run Time: 11/27/95 11:12:11
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00124	.09767	.01631	.07728	.04236	.00005	28.845
SDev	.00097	.00326	.01599	.00089	.00023	.00000	.174
%RSD	77.902	3.3411	98.068	1.1514	.54511	.84444	.60384
#1	.00022	.09491	-.00174	.07657	.04210	.00005	28.655
#2	.00136	.09681	.02193	.07828	.04253	.00005	28.884
#3	.00214	.10127	.02872	.07701	.04246	.00005	28.997

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00019	.00054	.00158	.05647	.83096	6.8893	4.9642
SDev	.00041	.00000	.00178	.00175	.00572	.0389	.0432
%RSD	209.75	.10851	112.85	3.0956	.68787	.56474	.86980
#1	.00027	.00054	.00146	.05757	.82445	6.8615	4.9171
#2	-.00043	.00054	-.00014	.05446	.83326	6.8726	4.9736
#3	-.00043	.00054	.00341	.05739	.83516	6.9338	5.0020

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.26214	.00057	46.960	.00378	.00724	.00585	-.00748
SDev	.00155	.00049	.177	.00179	.00141	.00157	.00556
%RSD	.59228	86.603	.37769	47.310	19.455	26.820	74.394
#1	.26065	.00029	46.756	.00462	.00886	.00694	-.00168
#2	.26202	.00114	47.078	.00499	.00642	.00656	-.00799
#3	.26374	.00029	47.046	.00173	.00643	.00405	-.01276

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00954	.18603	.02055	.00153	.06788
SDev	.01181	.00083	.01086	.00064	.00058
%RSD	123.83	.44786	52.853	41.735	.84841
#1	-.00385	.18507	.02298	.00098	.06723
#2	.01399	.18660	.00868	.00139	.06833
#3	.01848	.18642	.03000	.00223	.06808

Analysis Report Mon 11-27-95 11:18:54 AM page 1

Method: QUAN61 Sample Name: C5K170010001 Operator: RJG
Run Time: 11/27/95 11:15:35
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00156	.02147	.00633	.04243	.97750	-.00002	331.96
SDev	.00119	.00495	.00870	.00151	.00598	.00011	1.06
%RSD	76.601	23.067	137.35	3.5461	.61191	461.17	.31903
#1	-.00293	.01997	.00858	.04228	.97838	-.00015	330.97
#2	-.00079	.02699	.01369	.04400	.97113	.00004	333.08
#3	-.00095	.01744	-.00327	.04100	.98299	.00004	331.82

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00024	-.00000	.00099	.16168	.97789	8.1497	38.164
SDev	.00126	.00250	.00074	.00049	.00065	.0384	.150
%RSD	521.76	311740.	74.562	.30446	.06689	.47108	.39202
#1	-.00116	.00218	.00076	.16222	.97782	8.1590	38.177
#2	.00129	.00054	.00182	.16126	.97728	8.1076	38.008
#3	.00059	-.00273	.00040	.16156	.97858	8.1827	38.307

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.17594	-.00171	S2159.7	.00243	.00103	.00257	.02271
SDev	.00060	.00215	.5	.00144	.00694	.00590	.00402
%RSD	.33896	125.83	.02259	59.145	673.93	229.76	17.711
#1	.17526	.00029	S2160.0	.00089	-.00467	.00693	.02697
#2	.17629	-.00399	S2159.9	.00373	-.00101	.00492	.02217
#3	.17629	-.00143	S2159.1	.00267	.00876	-.00415	.01898

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00365	2.4115	.07813	.00208	.04049
SDev	.00313	.0131	.01248	.00024	.00072
%RSD	85.907	.54379	15.978	11.596	1.7841
#1	-.00121	2.4138	.07241	.00222	.04100
#2	-.00255	2.3973	.09245	.00222	.04082
#3	-.00718	2.4232	.06953	.00180	.03967

Method: QUAN61 Sample Name: C5K170010002 Operator: RJG
Run Time: 11/27/95 11:19:00
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00010	.01823	.00321	.03826	.08045	-.00003	32.276
SDev	.00058	.00576	.01217	.00149	.00043	.00011	.251
%RSD	593.65	31.579	378.55	3.8872	.53045	410.50	.77835
#1	-.00001	.01739	.01670	.03654	.08020	-.00009	32.043
#2	.00073	.02437	-.00012	.03912	.08020	-.00009	32.244
#3	-.00042	.01294	-.00694	.03912	.08094	.00010	32.542

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00051	.00054	.00028	.00194	.33554	1.8096	5.5174
SDev	.00020	.00000	.00027	.00175	.00253	.0208	.0133
%RSD	39.989	.05244	97.237	89.916	.75439	1.1475	.24024
#1	.00039	.00054	.00004	.00007	.33418	1.8121	5.5041
#2	.00074	.00054	.00022	.00353	.33399	1.8289	5.5175
#3	.00039	.00054	.00058	.00222	.33846	1.7876	5.5306

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.21416	-.00000	27.037	.00165	.00483	.00239	.00109
SDev	.00150	.00178	.181	.00086	.00353	.00210	.00804
%RSD	.70078	9180e6	.66775	52.348	73.189	87.873	738.08
#1	.21313	-.00057	27.210	.00115	.00279	.00233	.00960
#2	.21347	.00200	26.850	.00265	.00891	.00452	-.00638
#3	.21588	-.00143	27.052	.00115	.00278	.00032	.00005

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00028	.21647	.01460	.00000	.01274
SDev	.01766	.00097	.00295	.00064	.00074
%RSD	6374.5	.44928	20.221	84672.	5.8122
#1	-.01466	.21634	.01368	-.00069	.01212
#2	-.00427	.21556	.01791	.00056	.01253
#3	.01976	.21750	.01222	.00014	.01356

Method: QUAN61 Sample Name: CCV1-2 Operator: RJG
Run Time: 11/27/95 11:22:24
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0284	2.0293	1.9978	2.0552	1.9876	1.9711	10.212
SDev	.0131	.0095	.0220	.0185	.0121	.0154	.075
%RSD	.64722	.46602	1.1011	.89842	.60675	.77918	.73023
#1	2.0134	2.0203	1.9764	2.0349	1.9739	1.9535	10.126
#2	2.0337	2.0284	1.9966	2.0598	1.9926	1.9777	10.250
#3	2.0379	2.0391	2.0203	2.0710	1.9964	1.9820	10.260
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0366	2.0206	1.9959	2.0013	2.0518	9.8771	10.046
SDev	.0135	.0216	.0147	.0102	.0159	.0319	.058
%RSD	.66526	1.0700	.73607	.51128	.77655	.32276	.58150
#1	2.0212	1.9961	1.9802	1.9895	2.0340	9.8404	9.9823
#2	2.0467	2.0288	1.9980	2.0084	2.0570	9.8930	10.058
#3	2.0418	2.0369	2.0094	2.0058	2.0646	9.8979	10.097
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	11.000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000	9.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0130	2.0762	10.122	2.0387	2.0083	2.0075	1.9900
SDev	.0149	.0186	.036	.0193	.0123	.0200	.0120
%RSD	.73795	.89446	.35370	.94529	.61037	.99383	.60460
#1	1.9960	2.0548	10.082	2.0165	1.9989	1.9878	1.9903
#2	2.0194	2.0856	10.152	2.0483	2.0039	2.0277	1.9778
#3	2.0235	2.0881	10.131	2.0513	2.0222	2.0070	2.0019
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	11.000	2.2000	2.2000	2.2000	2.2000
Low	1.8000	1.8000	9.0000	1.8000	1.8000	1.8000	1.8000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	1.9610	1.9926	1.9413	2.0737	2.0004
SDev	.0090	.0139	.0293	.0167	.0124
%RSD	.45951	.69999	1.5110	.80418	.61818
#1	1.9687	1.9766	1.9121	2.0549	1.9865
#2	1.9632	1.9985	1.9411	2.0796	2.0043
#3	1.9511	2.0026	1.9708	2.0867	2.0103
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000

Analysis Report Mon 11-27-95 11:29:09 AM page 1

Method: QUAN61 Sample Name: CCB2 Operator: RJG
Run Time: 11/27/95 11:25:50
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00141	.00104	.00900	.00630	.00103	.00086	.01005
SDev	.00027	.00110	.01804	.00151	.00017	.00018	.00333
%RSD	19.338	105.87	200.53	23.921	16.348	21.428	33.120
#1	.00145	.00169	.01295	.00772	.00118	.00086	.01202
#2	.00167	.00166	.02473	.00644	.00104	.00105	.01191
#3	.00112	-.00023	-.01069	.00472	.00085	.00068	.00620
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00140	.00163	.00172	.00326	.00187	.00493	.01025
SDev	.00053	.00094	.00027	.00322	.00075	.04929	.01039
%RSD	38.205	57.754	15.805	98.754	39.933	1000.7	101.31
#1	.00186	.00218	.00148	.00174	.00175	.05418	.01411
#2	.00082	.00054	.00201	.00695	.00266	-.04440	.01816
#3	.00152	.00218	.00166	.00108	.00118	.00499	-.00151
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00126	.00285	.03493	.00140	.00001	.00926	-.02662
SDev	.00020	.00171	.00662	.00041	.00672	.00313	.00402
%RSD	15.746	60.000	18.937	29.491	86050.	33.773	15.082
#1	.00138	.00114	.03789	.00093	.00773	.01069	-.02716
#2	.00138	.00456	.03955	.00156	-.00446	.01142	-.03034
#3	.00103	.00285	.02735	.00172	-.00325	.00567	-.02237
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01487	.00096	.00279	.00181	.00308
SDev	.00819	.00024	.00621	.00042	.00056
%RSD	55.114	24.691	222.66	23.134	18.029
#1	.00545	.00116	-.00149	.00139	.00348
#2	.01878	.00103	-.00006	.00223	.00245
#3	.02037	.00070	.00991	.00181	.00331
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Analysis Report QC Standard Mon 11-27-95 11:32:35 AM page 1

Method: QUAN61 Sample Name: ICSA 188-67-3 Operator: RJG
Run Time: 11/27/95 11:29:15
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00628	517.82	.22744	.00393	.00742	.00027	497.42
SDev	.00065	2.86	.07626	.00131	.00016	.00003	1.46
%RSD	10.320	.55273	33.533	33.406	2.1273	11.651	.29328
#1	-.00554	514.54	.21225	.00511	.00759	.00024	495.75
#2	-.00672	519.10	.31015	.00416	.00738	.00030	498.10
#3	-.00659	519.83	.15990	.00252	.00728	.00027	498.42
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value		500.00					500.00
Range		20.000					20.000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00258	.00218	-.00308	.00179	184.57	-.00816	492.13
SDev	.00094	.00163	.00091	.00269	.88	.03249	2.17
%RSD	36.510	75.009	29.709	149.79	.47474	397.99	.44181
#1	.00236	.00381	-.00210	.00403	183.58	.02888	489.63
#2	.00361	.00054	-.00392	.00254	184.93	-.02152	493.25
#3	.00177	.00218	-.00321	-.00119	185.21	-.03185	493.52
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value					200.00		500.00
Range					20.000		20.000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00631	-.02225	.05646	.00175	.03671	-.00322	.05761
SDev	.00020	.00178	.00315	.00076	.00095	.01228	.02623
%RSD	3.1492	8.0064	5.5767	43.246	2.5825	381.23	45.535
#1	.00654	-.02025	.05785	.00256	.03658	-.00336	.05495
#2	.00620	-.02282	.05868	.00106	.03771	.00913	.03280
#3	.00620	-.02367	.05286	.00162	.03583	-.01543	.08506
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00940	.01072	.28071	.00343	.00894
SDev	.00328	.00007	.01791	.00072	.00039
%RSD	34.955	.69356	6.3812	21.070	4.3145
#1	.00596	.01064	.26326	.00386	.00851
#2	.00973	.01077	.29906	.00385	.00925
#3	.01250	.01077	.27981	.00260	.00906
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					

Analysis Report QC Standard Mon 11-27-95 11:36:00 AM page 1

Method: QUAN61 Sample Name: ICSAB 188-69-1 Operator: RJG
Run Time: 11/27/95 11:32:41
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.97132	515.07	2.0897	.01623	.48006	.50222	498.04
SDev	.00441	1.44	.0401	.00309	.00146	.00162	1.85
%RSD	.45398	.27994	1.9200	19.052	.30521	.32255	.37052
#1	.96937	513.65	2.1300	.01834	.47846	.50223	497.45
#2	.96822	515.03	2.0498	.01268	.48042	.50059	496.57
#3	.97637	516.53	2.0892	.01766	.48132	.50383	500.11
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	1.0000	500.00	2.0000		.50000	.50000	500.00
Range	20.000	20.000	20.000		20.000	20.000	20.000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.92012	.46509	.45127	.48284	184.77	-.05883	490.21
SDev	.00283	.00340	.00363	.00195	.51	.04587	1.16
%RSD	.30745	.73169	.80365	.40406	.27427	77.957	.23622
#1	.92009	.46781	.45252	.48060	184.64	-.00796	489.47
#2	.91730	.46127	.44718	.48420	184.34	-.09702	489.61
#3	.92296	.46618	.45410	.48371	185.33	-.07152	491.54
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	1.0000	.50000	.50000	.50000	200.00		500.00
Range	20.000	20.000	20.000	20.000	20.000		20.000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.46528	-.01968	.03687	.93030	.96141	1.9496	1.9203
SDev	.00190	.00501	.00442	.00258	.00851	.0383	.0741
%RSD	.40757	25.476	11.991	.27759	.88491	1.9666	3.8578
#1	.46517	-.01597	.03983	.92889	.96064	1.9073	1.8653
#2	.46345	-.02539	.03179	.92872	.95331	1.9594	1.8911
#3	.46723	-.01768	.03900	.93328	.97027	1.9821	2.0045
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000			1.0000	1.0000	2.0000	2.0000
Range	20.000			20.000	20.000	20.000	20.000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.02093	.01066	2.0466	.48379	.94387
SDev	.02637	.00004	.0122	.00470	.00317
%RSD	126.01	.40243	.59540	.97090	.33551
#1	.02829	.01071	2.0327	.48491	.94479
#2	-.00834	.01064	2.0516	.47863	.94035
#3	.04284	.01064	2.0555	.48783	.94647
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value			2.0000	.50000	1.0000

Analysis Report Mon 11-27-95 11:39:24 AM page 1

Method: QUAN61 Sample Name: CRI-2 Operator: RJG
Run Time: 11/27/95 11:36:05
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02183	.17850	.00973	.40296	.00025	.00998	.18397
SDev	.00051	.02976	.00515	.00161	.00009	.00011	.02639
%RSD	2.3320	16.673	52.889	.40080	36.522	1.0713	14.347
#1	.02125	.21007	.01293	.40181	.00035	.00992	.21106
#2	.02215	.17447	.01247	.40225	.00018	.01011	.18253
#3	.02210	.15096	.00379	.40481	.00021	.00992	.15833
Errors	LC Pass	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	NOCHECK
High	.03000			.60000		.01500	
Low	.01000			.20000		.00500	

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01107	.10569	.02029	.04957	.07574	-.01026	.17573
SDev	.00053	.00340	.00047	.00154	.01365	.03634	.02861
%RSD	4.8216	3.2202	2.3179	3.1128	18.021	354.33	16.280
#1	.01095	.10678	.01994	.05011	.08994	-.05209	.20511
#2	.01166	.10188	.02083	.04783	.07457	.01349	.17415
#3	.01061	.10842	.02012	.05077	.06272	.00783	.14795
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK
High	.01500	.15000	.03000	.07500			
Low	.00500	.05000	.01000	.02500			

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02915	.03879	.00693	.08324	.05296	.12672	-.01894
SDev	.00020	.00148	.00402	.00209	.00762	.00717	.01207
%RSD	.68191	3.8207	58.012	2.5103	14.394	5.6573	63.737
#1	.02927	.03965	.00296	.08510	.04688	.13451	-.00707
#2	.02892	.03965	.00684	.08364	.06151	.12525	-.03120
#3	.02927	.03708	.01100	.08098	.05049	.12040	-.01853
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass	NOCHECK
High	.04500	.06000		.12000	.07500	.18000	
Low	.01500	.02000		.04000	.02500	.06000	

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.21590	.10097	.00787	.10409	.04153
SDev	.00831	.00030	.00357	.00127	.00050
%RSD	3.8479	.29463	45.343	1.2214	1.1993
#1	.20773	.10080	.00823	.10271	.04096
#2	.22434	.10080	.01124	.10438	.04182
#3	.21564	.10131	.00413	.10520	.04182
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.30000	.15000		.15000	.06000

Analysis Report Mon 11-27-95 11:42:48 AM page 1

Method: QUAN61 Sample Name: CCV1-3 Operator: RJG
Run Time: 11/27/95 11:39:29
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0269	2.0421	1.9940	2.0612	1.9867	1.9772	10.256
SDev	.0071	.0103	.0188	.0152	.0092	.0122	.055
%RSD	.35207	.50393	.94115	.73645	.46256	.61454	.53961
#1	2.0227	2.0464	1.9800	2.0473	1.9821	1.9657	10.207
#2	2.0351	2.0495	2.0153	2.0774	1.9973	1.9899	10.316
#3	2.0228	2.0303	1.9865	2.0589	1.9808	1.9761	10.245
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0435	2.0347	1.9992	1.9994	2.0660	9.8335	10.014
SDev	.0095	.0062	.0124	.0115	.0087	.0487	.055
%RSD	.46325	.30400	.61984	.57638	.41977	.49525	.54917
#1	2.0359	2.0320	1.9863	1.9897	2.0586	9.7795	9.9753
#2	2.0541	2.0418	2.0110	2.0122	2.0756	9.8740	10.077
#3	2.0404	2.0304	2.0003	1.9964	2.0639	9.8471	9.9897
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	11.000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000	9.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0145	2.0653	10.049	2.0471	1.9940	2.0274	2.0002
SDev	.0091	.0120	.053	.0146	.0086	.0206	.0105
%RSD	.45361	.58052	.53142	.71113	.43032	1.0140	.52673
#1	2.0056	2.0531	10.039	2.0326	1.9855	2.0049	1.9890
#2	2.0239	2.0659	10.107	2.0617	1.9941	2.0321	2.0019
#3	2.0139	2.0770	10.002	2.0470	2.0026	2.0453	2.0098
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	11.000	2.2000	2.2000	2.2000	2.2000
Low	1.8000	1.8000	9.0000	1.8000	1.8000	1.8000	1.8000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	1.9504	1.9918	1.9614	2.0883	2.0061
SDev	.0052	.0103	.0362	.0114	.0102
%RSD	.26556	.51695	1.8457	.54824	.50728
#1	1.9478	1.9857	1.9854	2.0795	1.9947
#2	1.9563	2.0037	1.9791	2.1013	2.0143
#3	1.9469	1.9861	1.9198	2.0842	2.0092
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000

Method: QUAN61 Sample Name: CCB3 Operator: RJG
Run Time: 11/27/95 11:42:53
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00186	.00952	-.00046	.00572	.00100	.00092	.01098
SDev	.00082	.00256	.01029	.00108	.00012	.00028	.00476
%RSD	44.236	26.921	2246.4	18.895	11.930	30.549	43.369
#1	.00276	.01185	.00631	.00687	.00111	.00123	.01631
#2	.00114	.00677	-.01231	.00472	.00102	.00086	.00715
#3	.00169	.00994	.00462	.00558	.00088	.00068	.00948
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00116	.00109	.00083	.00032	.00487	-.01295	.00575
SDev	.00035	.00189	.00136	.00158	.00097	.01829	.00316
%RSD	29.985	173.25	163.73	490.74	19.812	141.16	54.852
#1	.00116	.00218	.00201	.00060	.00598	-.02011	.00921
#2	.00082	-.00109	-.00065	-.00137	.00438	-.02658	.00302
#3	.00151	.00218	.00113	.00174	.00425	.00783	.00504
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00115	.00228	.00573	-.00031	.00693	.00016	-.01380
SDev	.00020	.00099	.00200	.00238	.00736	.00334	.02358
%RSD	17.321	43.301	34.892	772.62	106.22	2110.1	170.79
#1	.00138	.00285	.00739	-.00282	.00775	.00059	.01285
#2	.00103	.00114	.00351	.00192	-.00081	-.00338	-.03193
#3	.00103	.00285	.00628	-.00002	.01385	.00326	-.02234
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00163	.00106	-.00053	.00112	.00345
SDev	.01132	.00022	.00082	.00127	.00030
%RSD	695.14	20.991	154.00	114.05	8.6901
#1	.01132	.00129	-.00009	.00223	.00326
#2	-.00658	.00103	-.00003	.00139	.00380
#3	-.00962	.00085	-.00148	-.00027	.00330
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Method: QUAN61 Sample Name: PBW 11-22-7 Operator: RJG
Run Time: 11/27/95 11:49:22
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00066	.00254	-.00278	.00543	.00011	.00012	.00072
SDev	.00015	.00636	.00421	.00131	.00015	.00000	.00035
%RSD	22.197	250.29	151.47	24.097	130.42	.18890	48.962
#1	.00056	.00296	.00115	.00686	.00018	.00012	.00032
#2	.00083	-.00402	-.00227	.00515	.00021	.00012	.00086
#3	.00060	.00868	-.00721	.00429	-.00006	.00012	.00098
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00117	.00054	-.00000	.00088	.00145	-.04817	-.00565
SDev	.00000	.00163	.00037	.00117	.00062	.01779	.00330
%RSD	.11983	300.01	1317800.	133.15	42.413	36.920	58.351
#1	.00117	.00218	.00041	.00012	.00077	-.02780	-.00884
#2	.00117	-.00109	-.00030	.00222	.00161	-.06059	-.00225
#3	.00116	.00055	-.00012	.00029	.00198	-.05614	-.00587
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00034	.00029	.01941	-.00006	.00488	.00489	-.00478
SDev	.00000	.00148	.00516	.00188	.00308	.00222	.02305
%RSD	.00000	519.62	26.586	3111.0	63.001	45.428	482.07
#1	.00034	.00114	.01460	.00071	.00773	.00298	.02079
#2	.00034	-.00143	.01876	.00131	.00162	.00438	-.01118
#3	.00034	.00114	.02486	-.00220	.00530	.00733	-.02396
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00547	.00011	-.00950	.00000	.00258
SDev	.00452	.00003	.00786	.00087	.00034
%RSD	82.694	28.437	82.749	230930.	13.336
#1	.00097	.00013	-.01855	.00097	.00289
#2	.01001	.00013	-.00567	-.00070	.00221
#3	.00543	.00007	-.00429	-.00028	.00265
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Method: QUAN61 Sample Name: LCSW-1 11-22-7 Operator: RJG
Run Time: 11/27/95 11:52:46
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.94806	.97576	.94507	1.0082	.97282	.92271	9.7385
SDev	.00983	.01268	.01193	.0090	.00553	.00949	.1139
%RSD	1.0369	1.2993	1.2628	.89499	.56823	1.0284	1.1693
#1	.93751	.96143	.93368	.99802	.96645	.91266	9.6225
#2	.94972	.98552	.94404	1.0113	.97571	.92394	9.7430
#3	.95696	.98034	.95748	1.0152	.97631	.93152	9.8501

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.95528	.97734	.95800	.95667	.99597	9.3945	9.5980
SDev	.00790	.00999	.01011	.00736	.00923	.0388	.0672
%RSD	.82677	1.0218	1.0553	.76944	.92622	.41311	.70038
#1	.94701	.96644	.94686	.95601	.98629	9.3923	9.5213
#2	.95609	.97952	.96055	.94966	.99695	9.3569	9.6262
#3	.96274	.98606	.96659	.96433	1.0047	9.4344	9.6465

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.95811	.99144	9.8041	.96112	.92304	.94696	.94136
SDev	.00764	.01202	.0514	.00772	.01188	.00455	.02079
%RSD	.79739	1.2124	.52413	.80331	1.2867	.48006	2.2089
#1	.94996	.98003	9.7450	.95342	.92015	.94313	.92846
#2	.95926	.99030	9.8295	.96108	.91287	.95198	.96534
#3	.96511	1.0040	9.8378	.96886	.93610	.94575	.93027

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.92294	.96898	.92351	1.0019	.91977
SDev	.01828	.00617	.01835	.0057	.00877
%RSD	1.9806	.63660	1.9875	.57176	.95292
#1	.92136	.96203	.90439	.99570	.91063
#2	.94196	.97110	.94099	1.0028	.92058
#3	.90550	.97380	.92515	1.0070	.92810

Method: QUAN61 Sample Name: C5K170005001 Operator: RJG
Run Time: 11/27/95 11:56:09
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00043	10.107	.06711	.15937	.02724	.00452	63.914
SDev	.00038	.084	.00248	.00104	.00035	.00009	.575
%RSD	86.620	.82845	3.6887	.65418	1.2865	1.9328	.89958
#1	.00039	10.026	.06883	.15817	.02686	.00442	63.297
#2	.00008	10.102	.06427	.15994	.02729	.00458	64.011
#3	.00083	10.193	.06823	.16000	.02756	.00456	64.434

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00304	.06970	.00245	.00716	32.962	4.0070	21.983
SDev	.00041	.00189	.00098	.00228	.255	.0697	.169
%RSD	13.535	2.7075	39.950	31.816	.77309	1.7383	.76690
#1	.00345	.06752	.00198	.00716	32.706	3.9286	21.810
#2	.00304	.07079	.00358	.00488	32.966	4.0615	21.991
#3	.00263	.07079	.00180	.00944	33.215	4.0310	22.147

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.6802	-.00171	26.469	.15634	.01287	.00863	.01270
SDev	.0131	.00215	.177	.00194	.00678	.00401	.02406
%RSD	.77869	125.83	.66880	1.2392	52.705	46.436	189.56
#1	1.6672	.00029	26.324	.15443	.01164	.00771	-.01055
#2	1.6802	-.00399	26.417	.15830	.02018	.01302	.01113
#3	1.6933	-.00143	26.667	.15628	.00678	.00516	.03751

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.03712	.25599	.07697	.00181	.69620
SDev	.02634	.00175	.01316	.00042	.00717
%RSD	70.943	.68322	17.092	23.061	1.0307
#1	.01004	.25435	.07010	.00181	.68836
#2	.03868	.25577	.09214	.00223	.69778
#3	.06265	.25783	.06867	.00139	.70245

Method: QUAN61 Sample Name: C5K170005002 Operator: RJG
Run Time: 11/27/95 11:59:33
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00132	10.706	.08055	.20218	.03037	.00335	96.051
SDev	.00062	.063	.01347	.00037	.00024	.00008	.838
%RSD	47.000	.58972	16.725	.18478	.80418	2.4796	.87294
#1	-.00071	10.640	.08984	.20209	.03031	.00326	95.223
#2	-.00195	10.712	.06510	.20259	.03016	.00342	96.032
#3	-.00129	10.766	.08671	.20186	.03064	.00338	96.900

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00892	.08661	.00315	.00822	52.786	26.856	47.606
SDev	.00087	.00250	.00081	.00196	.370	.157	.284
%RSD	9.7555	2.8843	25.788	23.834	.70027	.58501	.59693
#1	.00795	.08879	.00244	.01028	52.450	26.679	47.357
#2	.00963	.08716	.00297	.00800	52.727	26.911	47.544
#3	.00918	.08389	.00403	.00638	53.182	26.978	47.916

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.7602	-.00685	111.75	.10755	.00472	.00385	.06178
SDev	.0362	.00300	.37	.00291	.00746	.00166	.01117
%RSD	.76020	43.899	.33151	2.7014	157.90	43.082	18.084
#1	4.7250	-.00399	111.51	.10639	-.00177	.00205	.04950
#2	4.7584	-.00998	111.57	.10540	.01287	.00531	.07134
#3	4.7973	-.00656	112.18	.11086	.00307	.00421	.06452

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.04051	.85021	.12091	.00597	.09442
SDev	.00590	.00356	.00446	.00000	.00064
%RSD	14.556	.41877	3.6911	.06749	.68298
#1	.04530	.84726	.12606	.00597	.09372
#2	.04230	.84919	.11818	.00596	.09455
#3	.03392	.85416	.11848	.00597	.09498

Analysis Report Mon 11-27-95 12:06:16 PM page 1

Method: QUAN61 Sample Name: C5K170005003 Operator: RJG
Run Time: 11/27/95 12:02:57
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00057	.12260	.00831	.39700	.09449	.00006	44.682
SDev	.00039	.00610	.00732	.00114	.00063	.00000	.353
%RSD	68.727	4.9748	88.074	.28797	.66473	.28060	.78900
#1	.00015	.11604	.01161	.39613	.09378	.00006	44.286
#2	.00063	.12365	.01340	.39657	.09471	.00006	44.801
#3	.00092	.12810	-.00008	.39829	.09498	.00006	44.960

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00658	.00054	.00201	.01069	.77050	31.917	7.8532
SDev	.00035	.00163	.00111	.00213	.00324	.201	.0494
%RSD	5.2972	301.06	55.321	19.900	.42020	.63056	.62851
#1	.00658	.00218	.00165	.01313	.76680	31.719	7.7967
#2	.00623	.00054	.00112	.00923	.77282	31.912	7.8749
#3	.00693	-.00109	.00325	.00971	.77189	32.121	7.8880

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.08929	.00513	145.55	.00561	.00484	.00220	-.01551
SDev	.00072	.00131	.97	.00318	.00735	.00374	.00367
%RSD	.80270	25.459	.66690	56.619	151.96	169.93	23.678
#1	.08849	.00371	144.44	.00323	.01256	.00058	-.01342
#2	.08952	.00542	145.96	.00922	-.00208	-.00046	-.01975
#3	.08987	.00627	146.25	.00438	.00404	.00647	-.01336

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.02243	1.0046	.02255	.00126	.08787
SDev	.00558	.0071	.00355	.00105	.00117
%RSD	24.874	.70827	15.757	83.083	1.3258
#1	.01604	.99644	.01879	.00223	.08653
#2	.02490	1.0082	.02585	.00015	.08862
#3	.02635	1.0092	.02300	.00141	.08846

Method: QUAN61 Sample Name: C5K170005004 Operator: RJG
Run Time: 11/27/95 12:06:20
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00091	5.4604	.03151	.90836	.09744	.00044	185.59
SDev	.00101	.0515	.00914	.00439	.00070	.00011	1.62
%RSD	110.93	.94391	29.005	.48314	.72201	23.727	.87208
#1	-.00179	5.4225	.04009	.90360	.09706	.00039	183.87
#2	-.00113	5.4396	.03254	.90922	.09701	.00057	185.81
#3	.00019	5.5191	.02190	.91225	.09825	.00038	187.09

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00455	.00490	.00770	.02199	16.302	16.180	46.574
SDev	.00093	.00189	.00142	.00138	.106	.004	.227
%RSD	20.520	38.529	18.496	6.2837	.64856	.02253	.48818
#1	.00527	.00708	.00634	.02339	16.190	16.183	46.342
#2	.00349	.00381	.00758	.02195	16.319	16.176	46.582
#3	.00487	.00381	.00918	.02063	16.399	16.182	46.797

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.1899	-.00285	188.22	.01271	.01301	.00182	.03021
SDev	.0200	.00247	.91	.00259	.00834	.00124	.01153
%RSD	.62550	86.603	.48150	20.395	64.085	67.903	38.172
#1	3.1687	-.00143	187.48	.01166	.00649	.00058	.04351
#2	3.1928	-.00570	187.96	.01081	.01014	.00184	.02396
#3	3.2083	-.00143	189.23	.01566	.02241	.00305	.02315

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00038	1.9592	.08845	.00724	.13314
SDev	.00483	.0100	.00992	.00042	.00117
%RSD	1287.0	.50862	11.217	5.8245	.87613
#1	-.00161	1.9498	.09933	.00723	.13200
#2	-.00446	1.9582	.08611	.00682	.13308
#3	.00495	1.9697	.07991	.00766	.13433

Analysis Report Mon 11-27-95 12:13:04 PM page 1

Method: QUAN61 Sample Name: C5K170005005 Operator: RJG
Run Time: 11/27/95 12:09:44
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00005	.25985	.00592	.46492	.02555	.00014	140.74
SDev	.00024	.00665	.01017	.00361	.00032	.00011	.09
%RSD	475.38	2.5600	171.84	.77572	1.2645	77.721	.06118
#1	-.00006	.25220	.00473	.46908	.02589	.00008	140.64
#2	-.00028	.26430	.01663	.46306	.02551	.00008	140.78
#3	.00019	.26304	-.00361	.46263	.02525	.00026	140.80

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00494	.00653	.00097	.00933	.82116	6.8838	31.271
SDev	.00133	.00094	.00161	.00161	.00471	.0718	.093
%RSD	26.832	14.451	166.27	17.299	.57388	1.0435	.29792
#1	.00342	.00544	.00245	.01115	.82658	6.9433	31.376
#2	.00552	.00708	-.00075	.00809	.81885	6.8040	31.239
#3	.00587	.00708	.00121	.00875	.81805	6.9042	31.198

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.1920	.01768	72.266	.02444	.00129	-.00373	.01590
SDev	.0016	.00215	.581	.00191	.00626	.00780	.01124
%RSD	.13237	12.177	.80395	7.8249	484.01	208.99	70.678
#1	1.1934	.01997	72.894	.02429	-.00562	.00150	.02875
#2	1.1924	.01740	72.157	.02261	.00292	-.01269	.01108
#3	1.1903	.01569	71.748	.02643	.00658	.00000	.00788

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00634	.57870	.05625	.00086	.05211
SDev	.01419	.00392	.00429	.00105	.00016
%RSD	223.65	.67722	7.6295	122.49	.31306
#1	.00669	.58286	.05618	.00184	.05193
#2	.02036	.57817	.05199	.00099	.05218
#3	-.00801	.57508	.06057	-.00025	.05223

Method: QUAN61 Sample Name: CCV1-4 Operator: RJG
Run Time: 11/27/95 12:13:09
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0325	2.0067	2.0015	2.0526	1.9730	1.9857	10.378
SDev	.0145	.0190	.0103	.0188	.0188	.0146	.071
%RSD	.71511	.94581	.51564	.91359	.95454	.73552	.68115
#1	2.0158	1.9860	1.9897	2.0331	1.9536	1.9688	10.297
#2	2.0419	2.0233	2.0067	2.0705	1.9911	1.9951	10.417
#3	2.0399	2.0107	2.0083	2.0542	1.9743	1.9931	10.422
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0579	2.0456	2.0125	1.9791	2.0622	9.6838	9.9823
SDev	.0130	.0141	.0181	.0211	.0157	.0973	.0867
%RSD	.63407	.68887	.90023	1.0670	.76035	1.0047	.86819
#1	2.0436	2.0304	1.9921	1.9588	2.0449	9.5811	9.8836
#2	2.0691	2.0582	2.0268	2.0010	2.0754	9.7746	10.046
#3	2.0611	2.0484	2.0186	1.9777	2.0664	9.6957	10.017
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	11.000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000	9.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0137	2.0696	10.003	2.0570	2.0005	2.0124	1.9645
SDev	.0160	.0150	.084	.0120	.0126	.0149	.0234
%RSD	.79438	.72245	.83566	.58321	.62921	.73891	1.1891
#1	1.9953	2.0531	9.9196	2.0467	1.9866	2.0013	1.9617
#2	2.0246	2.0821	10.087	2.0702	2.0112	2.0293	1.9892
#3	2.0211	2.0736	10.002	2.0541	2.0038	2.0067	1.9427
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	11.000	2.2000	2.2000	2.2000	2.2000
Low	1.8000	1.8000	9.0000	1.8000	1.8000	1.8000	1.8000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	1.9643	1.9751	1.9068	2.0868	2.0177
SDev	.0154	.0184	.0455	.0184	.0159
%RSD	.78344	.93271	2.3873	.88383	.78578
#1	1.9795	1.9552	1.8789	2.0662	1.9994
#2	1.9649	1.9915	1.8821	2.1017	2.0273
#3	1.9487	1.9786	1.9593	2.0925	2.0264
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000

Analysis Report Mon 11-27-95 12:19:53 PM page 1

Method: QUAN61 Sample Name: CCB4 Operator: RJG
Run Time: 11/27/95 12:16:34
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00183	.00127	.01406	.00629	.00071	.00086	.01576
SDev	.00045	.00753	.01603	.00108	.00015	.00018	.00261
%RSD	24.556	594.47	114.03	17.141	20.488	21.444	16.550
#1	.00167	-.00341	-.00228	.00644	.00061	.00105	.01785
#2	.00148	-.00275	.02976	.00730	.00088	.00086	.01659
#3	.00233	.00996	.01470	.00515	.00064	.00068	.01283
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00082	-.00000	.00059	.00048	.00157	-.03731	.00463
SDev	.00000	.00094	.00047	.00173	.00030	.02584	.00154
%RSD	.05897	209390.	79.386	358.47	19.029	69.261	33.197
#1	.00082	.00054	.00041	.00077	.00137	-.05958	.00291
#2	.00082	.00054	.00113	-.00137	.00191	-.00897	.00513
#3	.00082	-.00109	.00024	.00204	.00143	-.04338	.00586
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00138	.00057	.03031	.00137	.00122	-.00006	-.01171
SDev	.00000	.00131	.00464	.00067	.00187	.00317	.00561
%RSD	.00000	229.13	15.314	49.192	152.71	5258.8	47.946
#1	.00138	.00200	.02763	.00125	-.00081	-.00358	-.00638
#2	.00138	-.00057	.03567	.00209	.00162	.00082	-.01757
#3	.00138	.00029	.02763	.00076	.00286	.00258	-.01118
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00047	.00094	.00520	.00084	.00275
SDev	.00568	.00015	.00218	.00064	.00024
%RSD	1220.9	15.746	41.932	76.263	8.6643
#1	-.00357	.00103	.00710	.00098	.00289
#2	-.00199	.00103	.00282	.00139	.00247
#3	.00696	.00077	.00567	.00014	.00288
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Analysis Report Mon 11-27-95 12:23:19 PM page 1

Method: QUAN61 Sample Name: C5K180003001 Operator: RJG
Run Time: 11/27/95 12:19:59
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.2439	194.91	.26046	.06040	2.9340	.00698	68.066
SDev	.0217	.88	.04623	.00146	.0093	.00012	.503
%RSD	.66895	.45379	17.751	2.4145	.31681	1.6473	.73922
#1	3.2199	194.01	.27432	.06192	2.9244	.00700	67.486
#2	3.2497	194.95	.20889	.06027	2.9344	.00708	68.339
#3	3.2621	195.77	.29819	.05901	2.9430	.00685	68.374

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02041	.06429	45.523	17.540	167.02	12.442	23.706
SDev	.00121	.00432	.272	.065	.92	.045	.097
%RSD	5.9185	6.7257	.59822	.37287	.55223	.35820	.40752
#1	.02160	.06266	45.213	17.474	165.99	12.493	23.638
#2	.01919	.06919	45.633	17.542	167.30	12.425	23.663
#3	.02045	.06101	45.724	17.605	167.77	12.409	23.817

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.2601	-.00970	13.967	5.0139	1.5321	-.01500	.17365
SDev	.0059	.00131	.058	.0280	.0127	.00861	.03465
%RSD	.47038	13.478	.41387	.55872	.82960	57.404	19.951
#1	1.2533	-.00827	13.917	4.9818	1.5188	-.01340	.13393
#2	1.2626	-.00998	13.954	5.0262	1.5335	-.00731	.19763
#3	1.2643	-.01084	14.030	5.0337	1.5441	-.02431	.18939

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.28269	.49295	.26409	.30505	16.615
SDev	.02969	.00164	.01076	.00071	.105
%RSD	10.504	.33235	4.0735	.23290	.63486
#1	.30545	.49128	.25242	.30505	16.500
#2	.29353	.49301	.26624	.30577	16.639
#3	.24910	.49456	.27361	.30434	16.707

Analysis Report Mon 11-27-95 12:26:43 PM page 1

Method: QUAN61 Sample Name: C5K180003001L Operator: RJG
Run Time: 11/27/95 12:23:24
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.69665	40.234	.06517	.01433	.60291	.00151	14.382
SDev	.00389	.212	.00417	.00020	.00294	.00011	.076
%RSD	.55861	.52610	6.3930	1.4127	.48827	7.5186	.52794
#1	.69220	39.989	.06998	.01427	.59951	.00158	14.298
#2	.69832	40.353	.06276	.01455	.60453	.00138	14.403
#3	.69942	40.359	.06277	.01416	.60469	.00156	14.445

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00427	.01272	9.6721	3.6522	35.456	2.5318	5.0211
SDev	.00134	.00094	.0396	.0238	.137	.0175	.0251
%RSD	31.327	7.4176	.40981	.65266	.38613	.69006	.50037
#1	.00490	.01327	9.6269	3.6260	35.297	2.5418	4.9921
#2	.00518	.01163	9.6886	3.6725	35.538	2.5117	5.0344
#3	.00274	.01327	9.7009	3.6582	35.531	2.5420	5.0367

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.26730	-.00029	2.8923	1.0766	.32044	-.00656	.04303
SDev	.00105	.00261	.0111	.0011	.00400	.00093	.00498
%RSD	.39353	916.52	.38535	.10563	1.2498	14.219	11.578
#1	.26615	.00200	2.8795	1.0757	.32507	-.00682	.04471
#2	.26753	.00029	2.8994	1.0762	.31812	-.00734	.03742
#3	.26822	-.00314	2.8980	1.0778	.31814	-.00553	.04695

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.07096	.10140	.06117	.06443	3.6088
SDev	.00353	.00030	.01597	.00034	.0152
%RSD	4.9751	.29338	26.112	.53372	.42002
#1	.07421	.10106	.07102	.06404	3.5918
#2	.07148	.10157	.04274	.06462	3.6137
#3	.06720	.10157	.06975	.06465	3.6209

Method: QUAN61 Sample Name: C5K180003001S Operator: RJG
Run Time: 11/27/95 12:26:48
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.5327	237.06	2.0809	.06288	4.7462	.05193	114.90
SDev	.0145	1.64	.0579	.00109	.0220	.00059	.78
%RSD	.57151	.69362	2.7832	1.7296	.46364	1.1276	.67970
#1	2.5175	235.26	2.0164	.06223	4.7216	.05128	114.09
#2	2.5345	237.42	2.0977	.06227	4.7530	.05211	114.96
#3	2.5463	238.49	2.1285	.06413	4.7640	.05241	115.64

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.06421	.51649	44.283	17.456	173.95	58.693	71.904
SDev	.00038	.00498	.268	.094	.97	.340	.416
%RSD	.59103	.96516	.60412	.54033	.55850	.57931	.57799
#1	.06392	.51215	44.005	17.353	172.93	58.302	71.482
#2	.06464	.51540	44.305	17.478	174.07	58.857	71.918
#3	.06407	.52194	44.539	17.538	174.86	58.919	72.312

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.7108	-.00799	61.368	5.3378	1.9424	.16890	1.8831
SDev	.0080	.00215	.314	.0324	.0112	.02714	.0278
%RSD	.46653	26.964	.51218	.60779	.57509	16.068	1.4762
#1	1.7023	-.00998	61.022	5.3016	1.9507	.19997	1.9047
#2	1.7119	-.00570	61.446	5.3477	1.9297	.14985	1.8517
#3	1.7181	-.00827	61.636	5.3642	1.9468	.15688	1.8929

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.25876	.49771	1.9792	.80457	16.733
SDev	.00216	.00236	.0506	.00366	.105
%RSD	.83688	.47485	2.5574	.45479	.62666
#1	.26109	.49507	1.9493	.80035	16.621
#2	.25681	.49842	1.9507	.80658	16.748
#3	.25836	.49964	2.0376	.80679	16.829

Method: QUAN61 Sample Name: C5K180003001SD Operator: RJG
Run Time: 11/27/95 12:30:11
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.5830	237.42	2.1011	.07386	4.7586	.05287	115.17
SDev	.0172	.90	.0436	.00096	.0040	.00043	1.21
%RSD	.66502	.37732	2.0731	1.2936	.08356	.81995	1.0479
#1	2.5633	236.39	2.1305	.07402	4.7569	.05237	113.78
#2	2.5910	238.03	2.0510	.07472	4.7631	.05311	115.91
#3	2.5947	237.83	2.1216	.07283	4.7557	.05314	115.83

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.06514	.52904	43.910	17.312	172.32	59.642	72.660
SDev	.00132	.00498	.372	.036	1.21	.022	.317
%RSD	2.0298	.94132	.84692	.20685	.70011	.03676	.43607
#1	.06395	.52361	43.481	17.273	170.94	59.624	72.294
#2	.06656	.53012	44.136	17.344	173.17	59.636	72.837
#3	.06489	.53339	44.113	17.317	172.85	59.666	72.849

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.7085	-.01027	62.229	5.3019	1.9215	.16010	1.8844
SDev	.0128	.00422	.068	.0487	.0174	.00979	.0168
%RSD	.75109	41.107	.10893	.91816	.90724	6.1118	.88912
#1	1.6937	-.00742	62.296	5.2459	1.9023	.16318	1.8744
#2	1.7164	-.00827	62.230	5.3344	1.9362	.16797	1.9038
#3	1.7154	-.01512	62.160	5.3254	1.9262	.14914	1.8752

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.25333	.49389	2.0058	.81176	16.581
SDev	.00825	.00096	.0273	.00572	.176
%RSD	3.2584	.19380	1.3625	.70463	1.0607
#1	.26152	.49296	1.9855	.80519	16.378
#2	.24501	.49487	2.0369	.81445	16.677
#3	.25344	.49384	1.9951	.81563	16.688

Analysis Report Mon 11-27-95 12:38:46 PM page 1

Method: QUAN61 Sample Name: PBS 11-22-1 Operator: RJG
Run Time: 11/27/95 12:35:27
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Cr VOID : suspect carry-over from previous analysis. will rerun. RJG 11-27-95

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00166	.04006	.00393	.00376	.00093	-.00006	.02405
SDev	.00089	.00988	.00793	.00026	.00023	.00000	.00355
%RSD	53.538	24.651	201.79	6.8208	24.305	.66750	14.761
#1	.00231	.04812	.00682	.00391	.00118	-.00007	.02734
#2	.00202	.04302	-.00504	.00390	.00085	-.00006	.02451
#3	.00065	.02905	.01001	.00346	.00075	-.00006	.02029
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00034	.00109	H.01025	.00554	.03574	.00236	.00865
SDev	.00073	.00094	.00202	.00115	.00476	.02483	.00589
%RSD	213.46	86.750	19.717	20.821	13.319	1051.3	68.152
#1	.00011	.00054	H.01250	.00678	.04052	.01167	.00989
#2	-.00024	.00054	.00966	.00533	.03570	-.02577	.01381
#3	.00116	.00218	.00859	.00450	.03100	.02119	.00223
Errors	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00034	-.00057	.03207	.00242	.00086	.01008	-.00818
SDev	.00034	.00148	.00436	.00283	.00071	.00898	.00650
%RSD	100.00	259.81	13.588	117.13	82.943	89.008	79.441
#1	.00069	-.00143	.03123	.00450	.00046	.01221	-.00441
#2	.00034	.00114	.03678	.00356	.00168	.01781	-.00445
#3	-.00000	-.00143	.02818	-.00081	.00044	.00024	-.01569
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.02159	.00021	.00030	.00044	.00486
SDev	.00659	.00007	.00901	.00121	.00046
%RSD	30.527	34.641	3043.9	272.11	9.5045
#1	.02456	.00013	.00548	.00184	.00538
#2	.01403	.00026	.00552	-.00025	.00472
#3	.02617	.00026	-.01010	-.00026	.00449
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Analysis Report Mon 11-27-95 12:42:11 PM page 1

Method: QUAN61 Sample Name: LCSS 11-22-1 (224) Operator: RJG
Run Time: 11/27/95 12:38:52
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.55568	32.144	.86077	.01748	2.0073	1.3108	20.326
SDev	.00733	.259	.01555	.00034	.0053	.0175	.297
%RSD	1.3196	.80537	1.8066	1.9655	.26527	1.3323	1.4622
#1	.54798	31.859	.84366	.01768	2.0014	1.2922	20.020
#2	.55647	32.209	.86462	.01708	2.0116	1.3134	20.345
#3	.56258	32.364	.87404	.01768	2.0090	1.3268	20.613
Errors	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass
High	.95500	54.100	1.2300		3.1100	2.1300	34.000
Low	.29400	15.700	.40400		1.3800	.97200	12.500

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.79566	.88519	1.4150	1.7235	69.729	20.087	20.281
SDev	.01068	.00525	.0163	.0093	.657	.060	.149
%RSD	1.3421	.59341	1.1531	.54055	.94178	.29885	.73545
#1	.78405	.88138	1.3976	1.7129	69.037	20.029	20.119
#2	.79785	.88301	1.4175	1.7305	69.808	20.149	20.310
#3	.80507	.89118	1.4299	1.7271	70.343	20.083	20.413
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1.3000	1.4300	2.3600	2.8400	108.00	30.500	34.100
Low	.51300	.60600	.90300	1.1200	34.800	14.300	14.200

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.1531	.88705	4.3338	1.1261	1.3696	.50327	1.0405
SDev	.0345	.00831	.0135	.0095	.0153	.00646	.0341
%RSD	1.0931	.93690	.31266	.84022	1.1138	1.2839	3.2813
#1	3.1178	.87992	4.3194	1.1157	1.3601	.49651	1.0157
#2	3.1549	.88505	4.3463	1.1285	1.3615	.50939	1.0263
#3	3.1866	.89618	4.3357	1.1341	1.3872	.50390	1.0794
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	4.9600	1.4900	8.8500	1.9700	2.3000	.81800	1.6200
Low	2.4600	.53800	1.1800	.74300	.85800	.14800	.56500

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.05397	.09341	1.1752	.85912	1.6116
SDev	.00424	.00036	.0133	.00905	.0236
%RSD	7.8516	.38940	1.1355	1.0532	1.4622
#1	.05420	.09300	1.1606	.85059	1.5869
#2	.04963	.09366	1.1783	.85815	1.6139
#3	.05809	.09359	1.1867	.86861	1.6339
Errors	NOCHECK	NOCHECK	LC Pass	LC Pass	LC Pass
High			1.9000	1.2300	2.9600

Analysis Report Mon 11-27-95 12:45:35 PM page 1

Method: QUAN61 Sample Name: C5K130002007 Operator: RJG
Run Time: 11/27/95 12:42:16
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00169	.03600	-.00265	.00391	.00302	.00103	.26547
SDev	.00049	.00572	.00443	.00042	.00036	.00032	.00242
%RSD	28.963	15.890	166.93	10.766	11.861	30.908	.90972
#1	.00152	.04172	-.00087	.00350	.00336	.00122	.26326
#2	.00224	.03600	-.00770	.00434	.00305	.00122	.26805
#3	.00130	.03028	.00061	.00390	.00264	.00066	.26511

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00043	.00000	.00290	.00798	.16804	.00843	.07216
SDev	.00105	.00250	.00124	.00285	.01232	.04629	.00587
%RSD	246.84	1412600.	42.893	35.708	7.3292	548.85	8.1322
#1	-.00063	-.00272	.00379	.01085	.18022	.03090	.07687
#2	.00148	.00218	.00343	.00792	.16831	.03920	.07404
#3	.00043	.00054	.00148	.00516	.15560	-.04480	.06559

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.03248	-.00000	.14767	-.00054	.75771	.00239	.01334
SDev	.00020	.00049	.00527	.00225	.01023	.00419	.02369
%RSD	.61204	1273e6	3.5670	419.37	1.3503	175.13	177.64
#1	.03271	.00029	.14240	-.00307	.75121	-.00213	.01932
#2	.03237	.00029	.15294	.00119	.75242	.00316	-.01277
#3	.03237	-.00057	.14767	.00028	.76951	.00615	.03347

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01056	.00099	.04081	.00042	.00881
SDev	.01376	.00007	.00792	.00087	.00033
%RSD	130.33	7.5307	19.413	205.06	3.7720
#1	.01986	.00103	.03226	.00140	.00850
#2	.01705	.00103	.04790	.00015	.00916
#3	-.00525	.00090	.04227	-.00027	.00875

Analysis Report Mon 11-27-95 12:48:59 PM page 1

Method: QUAN61 Sample Name: C5K130002007L Operator: RJG
Run Time: 11/27/95 12:45:40
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00051	.00593	.00136	.00173	.00091	-.00000	.09007
SDev	.00104	.00286	.01051	.00086	.00012	.00011	.00347
%RSD	204.89	48.245	770.30	49.658	13.349	3449.1	3.8469
#1	.00131	.00613	-.00200	.00172	.00102	.00012	.09391
#2	.00089	.00298	.01315	.00258	.00078	-.00006	.08910
#3	-.00067	.00869	-.00705	.00087	.00095	-.00006	.08719

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00036	-.00109	-.00024	.00358	.03472	-.01653	.01871
SDev	.00073	.00163	.00037	.00061	.00109	.01410	.00336
%RSD	203.58	149.96	155.52	17.129	3.1264	85.279	17.945
#1	-.00094	.00054	.00006	.00402	.03525	-.00654	.01788
#2	.00046	-.00109	-.00012	.00288	.03544	-.03266	.01584
#3	-.00059	-.00272	-.00065	.00384	.03347	-.01039	.02240

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00746	-.00086	.04833	.00016	.18312	.00613	-.01086
SDev	.00020	.00178	.00185	.00103	.00614	.00426	.00831
%RSD	2.6647	208.17	3.8193	662.64	3.3530	69.502	76.540
#1	.00723	.00114	.04925	.00118	.17742	.00550	-.01565
#2	.00757	-.00228	.04953	.00016	.18962	.00222	-.00126
#3	.00757	-.00143	.04620	-.00088	.18231	.01067	-.01567

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00811	.00031	.00133	.00055	.00923
SDev	.01811	.00009	.00739	.00042	.00006
%RSD	223.16	30.645	554.62	75.720	.67891
#1	.02752	.00039	.00558	.00097	.00930
#2	.00516	.00020	-.00720	.00055	.00919
#3	-.00834	.00033	.00562	.00014	.00919

Analysis Report Mon 11-27-95 12:52:22 PM page 1

Method: QUAN61 Sample Name: C5K130002007S Operator: RJG
Run Time: 11/27/95 12:49:03
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.04479	.00166	1.7555	.00362	1.8913	.04122	.23589
SDev	.00019	.00529	.0323	.00066	.0090	.00056	.00235
%RSD	.43186	319.48	1.8372	18.122	.47816	1.3699	.99473
#1	.04460	.00758	1.7184	.00434	1.8870	.04061	.23318
#2	.04478	-.00258	1.7706	.00305	1.8853	.04135	.23721
#3	.04498	-.00004	1.7773	.00347	1.9017	.04172	.23727

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.04583	.46034	.18614	.23583	.13100	.02510	.05613
SDev	.00141	.00340	.00187	.00270	.00102	.02077	.00202
%RSD	3.0856	.73884	1.0032	1.1467	.77712	82.756	3.6019
#1	.04606	.45653	.18424	.23763	.13073	.02625	.05427
#2	.04432	.46143	.18798	.23715	.13014	.04527	.05828
#3	.04712	.46306	.18620	.23272	.13212	.00378	.05585

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.48870	-.00086	.16846	.46059	1.1595	.44384	1.8024
SDev	.00557	.00131	.00312	.00676	.0148	.00203	.0154
%RSD	1.1390	152.75	1.8545	1.4678	1.2755	.45808	.85202
#1	.48273	.00029	.16486	.45412	1.1437	.44211	1.8189
#2	.48961	-.00228	.17040	.46005	1.1620	.44334	1.7997
#3	.49374	-.00057	.17012	.46760	1.1729	.44608	1.7885

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.02969	.00096	1.7188	.48088	.43105
SDev	.00305	.00006	.0365	.00361	.00664
%RSD	10.266	6.7159	2.1248	.75020	1.5406
#1	.03309	.00103	1.6776	.47879	.42375
#2	.02876	.00090	1.7317	.47880	.43265
#3	.02721	.00096	1.7472	.48504	.43674

Analysis Report Mon 11-27-95 12:55:45 PM page 1

Method: QUAN61 Sample Name: C5K130002007SD Operator: RJG
Run Time: 11/27/95 12:52:26
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.04431	-.00025	1.7207	.00348	1.8547	.04042	.26699
SDev	.00091	.00384	.0166	.00075	.0120	.00037	.00200
%RSD	2.0509	1522.6	.96592	21.410	.64435	.91465	.75043
#1	.04476	-.00067	1.7016	.00434	1.8481	.04005	.26576
#2	.04326	-.00386	1.7319	.00305	1.8685	.04042	.26590
#3	.04490	.00378	1.7286	.00305	1.8476	.04079	.26930

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.04466	.45435	.18282	.23143	.12986	-.00283	.05119
SDev	.00061	.00378	.00175	.00343	.00161	.02791	.00540
%RSD	1.3594	.83076	.95714	1.4817	1.2421	984.72	10.542
#1	.04431	.44999	.18087	.23175	.12856	-.02820	.05604
#2	.04431	.45653	.18424	.23469	.12935	.02706	.04538
#3	.04537	.45652	.18335	.22786	.13167	-.00735	.05217

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.48101	-.00143	.17299	.45521	1.1465	.43213	1.8205
SDev	.00397	.00086	.00541	.00477	.0058	.00768	.0504
%RSD	.82552	60.000	3.1253	1.0479	.50322	1.7770	2.7675
#1	.47653	-.00228	.17290	.45146	1.1485	.42359	1.7693
#2	.48238	-.00057	.16763	.45360	1.1400	.43847	1.8700
#3	.48410	-.00143	.17844	.46058	1.1510	.43433	1.8221

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01967	.00096	1.7024	.47226	.42070
SDev	.00686	.00006	.0187	.00340	.00565
%RSD	34.863	6.7159	1.0985	.71943	1.3434
#1	.02715	.00103	1.6821	.46837	.41466
#2	.01816	.00096	1.7062	.47379	.42158
#3	.01369	.00090	1.7189	.47462	.42586

Analysis Report Mon 11-27-95 12:59:09 PM page 1

Method: QUAN61 Sample Name: CCV1-5 Operator: RJG
Run Time: 11/27/95 12:55:50
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0941	2.0679	2.0299	2.0985	2.0220	2.0486	10.702
SDev	.0060	.0125	.0213	.0067	.0074	.0046	.027
%RSD	.28584	.60533	1.0501	.32156	.36614	.22585	.25119
#1	2.0924	2.0656	2.0135	2.0998	2.0249	2.0483	10.690
#2	2.0892	2.0567	2.0540	2.0912	2.0136	2.0441	10.683
#3	2.1008	2.0814	2.0221	2.1045	2.0276	2.0533	10.733
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.1198	2.1067	2.0679	2.0261	2.1208	9.8803	10.283
SDev	.0053	.0115	.0046	.0128	.0060	.0810	.046
%RSD	.24967	.54500	.22332	.63054	.28334	.82023	.44633
#1	2.1216	2.0958	2.0652	2.0314	2.1225	9.9188	10.266
#2	2.1139	2.1056	2.0652	2.0116	2.1141	9.7872	10.248
#3	2.1240	2.1186	2.0732	2.0354	2.1258	9.9349	10.335
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	11.000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000	9.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0737	2.1326	10.270	2.1148	2.0666	2.0866	2.0104
SDev	.0051	.0067	.048	.0082	.0141	.0212	.0277
%RSD	.24645	.31337	.46574	.38627	.68040	1.0137	1.3777
#1	2.0724	2.1292	10.294	2.1141	2.0662	2.0809	2.0424
#2	2.0693	2.1284	10.215	2.1071	2.0528	2.0689	1.9944
#3	2.0793	2.1403	10.301	2.1234	2.0809	2.1100	1.9945
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	11.000	2.2000	2.2000	2.2000	2.2000
Low	1.8000	1.8000	9.0000	1.8000	1.8000	1.8000	1.8000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	1.9985	2.0294	2.0090	2.1570	2.0740
SDev	.0061	.0073	.0179	.0052	.0060
%RSD	.30757	.36050	.89017	.24231	.28766
#1	2.0050	2.0332	2.0258	2.1569	2.0733
#2	1.9977	2.0210	1.9902	2.1519	2.0684
#3	1.9928	2.0341	2.0111	2.1623	2.0803
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000

Analysis Report Mon 11-27-95 01:02:34 PM page 1

Method: QUAN61 Sample Name: CCB5 Operator: RJG
Run Time: 11/27/95 12:59:14
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00227	.00232	.00170	.00701	.00134	.00086	.00367
SDev	.00041	.00688	.00521	.00179	.00010	.00000	.00291
%RSD	17.963	296.15	306.60	25.473	7.2169	.02670	79.284
#1	.00254	-.00531	-.00398	.00902	.00145	.00086	.00698
#2	.00180	.00804	.00626	.00558	.00128	.00086	.00252
#3	.00246	.00424	.00283	.00645	.00128	.00086	.00151
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00163	-.00000	.00184	.00098	.00196	-.04102	.00234
SDev	.00073	.00094	.00064	.00051	.00055	.02144	.00461
%RSD	44.565	250050.	34.887	52.326	27.895	52.275	196.94
#1	.00186	.00054	.00201	.00042	.00219	-.05350	.00707
#2	.00221	.00055	.00113	.00108	.00133	-.05330	-.00213
#3	.00082	-.00109	.00237	.00143	.00234	-.01626	.00207
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00138	.00114	.01423	.00114	.00082	.00553	-.00531
SDev	.00000	.00148	.00224	.00128	.00694	.00482	.02024
%RSD	.00000	129.90	15.746	111.37	844.58	87.187	381.25
#1	.00138	.00200	.01460	.00130	.00285	.00143	-.02715
#2	.00138	.00200	.01626	-.00020	-.00690	.00432	.01280
#3	.00138	-.00057	.01183	.00234	.00652	.01084	-.00158
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.00893	.00090	-.00240	.00112	.00269
SDev	.00827	.00013	.00731	.00064	.00034
%RSD	92.658	14.286	304.33	56.926	12.824
#1	-.00059	.00103	.00567	.00098	.00289
#2	.01439	.00090	-.00858	.00056	.00229
#3	.01297	.00077	-.00430	.00181	.00288
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Method: QUAN61 Sample Name: PBS 11-22-1 Cr Rerun Operator: RJG
Run Time: 11/27/95 13:04:24
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00185	.01103	.00349	.00601	.00013	.00018	.01009
SDev	.00093	.00513	.01103	.00114	.00017	.00011	.00312
%RSD	50.076	46.530	315.99	18.908	123.47	57.850	30.909
#1	.00175	.01188	.00291	.00645	.00025	.00012	.01350
#2	.00098	.00553	-.00724	.00472	-.00006	.00031	.00737
#3	.00282	.01569	.01479	.00687	.00021	.00012	.00940
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00058	-.00055	.00213	-.00006	.00428	.00783	.00298
SDev	.00107	.00094	.00125	.00243	.00068	.01433	.00392
%RSD	183.54	173.22	58.527	4180.8	15.962	183.08	131.51
#1	.00082	-.00109	.00344	.00091	.00391	.01410	.00712
#2	-.00058	-.00109	.00095	.00174	.00385	-.00857	.00248
#3	.00151	.00055	.00201	-.00282	.00506	.01795	-.00067
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00034	-.00143	.02698	.00044	-.00121	.00498	-.01328
SDev	.00060	.00086	.00584	.00180	.00509	.00050	.01064
%RSD	173.21	60.000	21.657	409.60	420.21	10.031	80.088
#1	-.00000	-.00143	.02541	.00250	.00286	.00498	-.01595
#2	-.00000	-.00228	.02209	-.00038	-.00692	.00547	-.00156
#3	.00103	-.00057	.03345	-.00080	.00042	.00447	-.02233
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.03744	.00021	-.01617	.00028	.00333
SDev	.01019	.00007	.01321	.00097	.00021
%RSD	27.218	34.641	81.706	342.72	6.3265
#1	.04892	.00026	-.01998	.00140	.00355
#2	.02948	.00013	-.02705	-.00028	.00313
#3	.03391	.00026	-.00147	-.00027	.00332
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Method: QUAN61 Sample Name: H202 Test M157-KPBY Operator: RJG
Run Time: 11/27/95 13:07:48
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00129	.00423	.00060	.00172	.00016	.00012	.00039
SDev	.00180	.00355	.00427	.00075	.00015	.00000	.00315
%RSD	139.23	83.864	715.31	43.356	95.104	.21686	801.46
#1	-.00078	.00105	-.00393	.00215	-.00001	.00012	-.00291
#2	.00229	.00359	.00117	.00086	.00021	.00012	.00073
#3	.00237	.00806	.00455	.00215	.00028	.00012	.00336
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00070	-.00054	.00101	.00076	.00006	-.04757	.00005
SDev	.00112	.00250	.00045	.00232	.00041	.02157	.00221
%RSD	160.72	458.29	44.427	305.57	651.57	45.347	4076.3
#1	-.00198	-.00109	.00095	-.00137	-.00040	-.06869	-.00249
#2	.00012	.00218	.00148	.00323	.00035	-.02557	.00148
#3	-.00023	-.00273	.00059	.00042	.00024	-.04844	.00118
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00011	.00057	.04676	-.00003	.00082	.00566	-.01066
SDev	.00020	.00178	.00508	.00136	.00614	.00869	.00665
%RSD	173.21	312.25	10.868	5391.7	747.61	153.40	62.436
#1	-.00000	.00114	.04232	-.00142	.00164	-.00209	-.00320
#2	.00034	.00200	.04565	.00004	.00652	.00402	-.01278
#3	-.00000	-.00143	.05230	.00130	-.00569	.01506	-.01599
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01745	.00002	-.00712	-.00014	.00260
SDev	.00916	.00009	.00888	.00024	.00047
%RSD	52.497	346.41	124.67	175.25	17.866
#1	.01293	-.00007	-.01707	-.00027	.00223
#2	.01142	.00007	-.00431	-.00027	.00246
#3	.02799	.00007	.00001	.00014	.00313
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

Analysis Report QC Standard Mon 11-27-95 01:14:33 PM page 1

Method: QUAN61 Sample Name: ICSA 188-67-3 Operator: RJG
Run Time: 11/27/95 13:11:13
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00643	525.55	.31174	.00688	.00772	.00008	518.91
SDev	.00100	1.00	.05021	.00209	.00012	.00020	.30
%RSD	15.574	.18998	16.107	30.346	1.4987	258.64	.05753
#1	-.00556	526.35	.35922	.00585	.00786	-.00015	519.12
#2	-.00620	524.43	.31683	.00929	.00764	.00021	519.05
#3	-.00753	525.86	.25918	.00552	.00767	.00018	518.57
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value		500.00					500.00
Range		20.000					20.000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00134	.00436	-.00290	-.00314	190.11	-.02463	502.91
SDev	.00172	.00189	.00078	.00045	.21	.03690	.83
%RSD	127.74	43.304	26.728	14.195	.11167	149.82	.16473
#1	.00076	.00545	-.00238	-.00346	189.97	-.01545	503.63
#2	.00328	.00545	-.00254	-.00333	190.02	-.06524	502.01
#3	-.00001	.00218	-.00379	-.00263	190.36	.00681	503.10
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass
Value					200.00		500.00
Range					20.000		20.000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00608	-.02282	.05397	.00248	.01484	-.01037	.12838
SDev	.00020	.00171	.00408	.00091	.01136	.01906	.07063
%RSD	3.2680	7.5000	7.5673	36.814	76.555	183.70	55.016
#1	.00585	-.02282	.05036	.00240	.00375	.00102	.13547
#2	.00620	-.02453	.05314	.00342	.01431	.00023	.05447
#3	.00620	-.02111	.05840	.00161	.02645	-.03237	.19519
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01599	.01058	.31503	.00343	.00851
SDev	.05258	.00000	.00642	.00042	.00061
%RSD	328.75	.00000	2.0373	12.156	7.1270
#1	.02322	.01058	.30781	.00385	.00887
2	.06458	.01058	.31719	.00343	.00886
#3	-.03982	.01058	.32009	.00302	.00781
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					

Analysis Report QC Standard Mon 11-27-95 01:17:58 PM page 1

Method: QUAN61 Sample Name: ICSAB 188-69-1 Operator: RJG
Run Time: 11/27/95 13:14:39
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.99165	522.23	2.1759	.01821	.48887	.51396	514.86
SDev	.00251	1.74	.0659	.00074	.00148	.00071	.63
%RSD	.25305	.33276	3.0267	4.0684	.30214	.13900	.12263
#1	.99452	520.27	2.1785	.01739	.48731	.51326	514.86
#2	.98986	522.84	2.1089	.01839	.48905	.51469	515.50
#3	.99058	523.58	2.2405	.01884	.49025	.51395	514.23
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass
Value	1.0000	500.00	2.0000		.50000	.50000	500.00
Range	20.000	20.000	20.000		20.000	20.000	20.000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.94479	.48088	.46335	.48636	189.81	-.04500	499.67
SDev	.00336	.00164	.00187	.00489	.33	.06162	1.24
%RSD	.35522	.34011	.40379	1.0061	.17317	136.92	.24744
#1	.94216	.48088	.46135	.48324	189.43	-.00108	498.26
#2	.94857	.48252	.46364	.49200	189.99	-.01849	500.23
#3	.94364	.47925	.46506	.48385	190.01	-.11544	500.53
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	1.0000	.50000	.50000	.50000	200.00		500.00
Range	20.000	20.000	20.000	20.000	20.000		20.000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.47412	-.02111	.03068	.95168	.96316	2.0100	1.9948
SDev	.00091	.00171	.00456	.00220	.00235	.0186	.0363
%RSD	.19213	8.1081	14.875	.23092	.24417	.92667	1.8182
#1	.47309	-.01940	.03345	.95290	.96524	1.9915	1.9592
#2	.47481	-.02111	.03317	.94915	.96364	2.0096	2.0317
#3	.47446	-.02282	.02541	.95300	.96061	2.0288	1.9935
Errors	QC Pass	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000			1.0000	1.0000	2.0000	2.0000
Range	20.000			20.000	20.000	20.000	20.000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.03108	.01062	2.0283	.50048	.96831
SDev	.01334	.00003	.0183	.00127	.00211
%RSD	42.934	.29631	.90179	.25374	.21784
#1	.04641	.01064	2.0340	.50159	.96629
#2	.02202	.01064	2.0079	.50076	.97050
#3	.02482	.01058	2.0431	.49909	.96816
Errors	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value			2.0000	.50000	1.0000

Method: QUAN61 Sample Name: CRI-3 Operator: RJG
Run Time: 11/27/95 13:18:04
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02336	.13802	.00647	.40395	.00022	.01004	.14909
SDev	.00068	.02509	.00679	.00197	.00011	.00021	.02136
%RSD	2.9221	18.182	105.07	.48657	50.157	2.1287	14.329
#1	.02344	.16684	.00566	.40224	.00018	.00992	.17373
#2	.02400	.12613	.01363	.40610	.00035	.00992	.13779
#3	.02264	.12108	.00011	.40351	.00014	.01029	.13574
Errors	LC Pass	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	NOCHECK
High	.03000			.60000		.01500	
Low	.01000			.20000		.00500	

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.01131	.10842	.02012	.04875	.06088	-.06497	.14045
SDev	.00060	.00327	.00108	.00083	.01123	.04319	.02209
%RSD	5.3476	3.0157	5.3776	1.7091	18.445	66.473	15.730
#1	.01166	.10515	.01887	.04945	.07367	-.04095	.16593
#2	.01061	.10842	.02065	.04783	.05628	-.03913	.12872
#3	.01166	.11169	.02083	.04897	.05268	-.11484	.12670
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK
High	.01500	.15000	.03000	.07500			
Low	.00500	.05000	.01000	.02500			

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.02961	.03936	.00924	.08286	.05374	.12974	-.02334
SDev	.00000	.00261	.00796	.00042	.00431	.00686	.02405
%RSD	.00000	6.6414	86.186	.51282	8.0207	5.2860	103.04
#1	.02961	.03879	.00018	.08272	.05783	.13690	-.04880
#2	.02961	.04221	.01516	.08253	.05415	.12909	-.00100
#3	.02961	.03708	.01238	.08334	.04924	.12323	-.02022
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass	NOCHECK
High	.04500	.06000		.12000	.07500	.18000	
Low	.01500	.02000		.04000	.02500	.06000	

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.21508	.10120	.00890	.10576	.04174
SDev	.01625	.00020	.00575	.00064	.00103
%RSD	7.5548	.19688	64.548	.60514	2.4711
#1	.22441	.10098	.00979	.10562	.04055
#2	.22451	.10137	.00276	.10646	.04243
#3	.19632	.10126	.01415	.10520	.04224
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.30000	.15000		.15000	.06000

Method: QUAN61 Sample Name: CCV1-6 Operator: RJG
Run Time: 11/27/95 13:21:29
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0405	2.0373	1.9955	2.0642	1.9930	1.9897	10.410
SDev	.0116	.0224	.0121	.0095	.0143	.0103	.055
%RSD	.56887	1.0994	.60501	.46045	.71650	.52010	.52956
#1	2.0292	2.0126	2.0015	2.0542	1.9768	1.9785	10.347
#2	2.0399	2.0564	1.9816	2.0654	1.9985	1.9920	10.432
#3	2.0524	2.0430	2.0034	2.0731	2.0037	1.9988	10.449
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0750	2.0582	2.0205	1.9833	2.0876	9.7123	10.023
SDev	.0093	.0143	.0108	.0084	.0085	.0604	.051
%RSD	.44924	.69234	.53596	.42283	.40537	.62151	.51348
#1	2.0646	2.0418	2.0081	1.9739	2.0785	9.6694	9.9704
#2	2.0782	2.0647	2.0252	1.9860	2.0891	9.6862	10.026
#3	2.0824	2.0680	2.0282	1.9900	2.0952	9.7813	10.073
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000	11.000	11.000
Low	1.8000	1.8000	1.8000	1.8000	1.8000	9.0000	9.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.0212	2.0813	10.115	2.0708	2.0026	2.0308	1.9594
SDev	.0114	.0141	.073	.0096	.0117	.0134	.0233
%RSD	.56353	.67930	.72482	.46311	.58250	.65932	1.1882
#1	2.0084	2.0650	10.034	2.0601	1.9965	2.0423	1.9364
#2	2.0252	2.0881	10.135	2.0787	1.9953	2.0161	1.9589
#3	2.0301	2.0907	10.177	2.0735	2.0161	2.0340	1.9830
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	11.000	2.2000	2.2000	2.2000	2.2000
Low	1.8000	1.8000	9.0000	1.8000	1.8000	1.8000	1.8000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	1.9533	1.9935	1.9328	2.1113	2.0211
SDev	.0221	.0151	.0018	.0116	.0095
%RSD	1.1311	.75595	.09081	.54718	.46926
#1	1.9713	1.9763	1.9309	2.0983	2.0113
#2	1.9286	1.9993	1.9331	2.1151	2.0218
#3	1.9599	2.0047	1.9344	2.1205	2.0302
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.2000	2.2000	2.2000	2.2000	2.2000

Analysis Report Mon 11-27-95 01:28:13 PM page 1

Method: QUAN61 Sample Name: CCB6 Operator: RJG
Run Time: 11/27/95 13:24:54
Comment: QUANTERRA PITTSBURGH ICP METALS ANALYSIS
Mode: CONC Corr. Factor: 1

Elem	AG	AL	AS	B_	BA	BE	CA
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00190	.01188	-.00324	.00572	.00086	.00080	.00977
SDev	.00122	.00495	.01021	.00138	.00006	.00011	.00122
%RSD	64.581	41.692	315.25	24.171	6.7883	13.366	12.509
#1	.00213	.01442	-.00210	.00730	.00092	.00086	.01096
#2	.00299	.01504	.00636	.00515	.00085	.00086	.00984
#3	.00057	.00617	-.01397	.00472	.00081	.00068	.00852
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.20000	.30000	.15000	.20000	.00500	5.0000
Low	-.01000	-.20000	-.30000	-.15000	-.20000	-.00500	-5.0000

Elem	CD	CO	CR	CU	FE	K_	MG
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00128	.00109	.00083	.00070	.00513	-.02119	.00249
SDev	.00040	.00094	.00080	.00076	.00047	.04122	.00317
%RSD	31.544	86.613	96.691	108.48	9.1517	194.55	126.88
#1	.00151	.00054	.00166	.00042	.00484	.02483	-.00107
#2	.00151	.00218	.00077	.00156	.00567	-.05472	.00497
#3	.00081	.00055	.00006	.00012	.00487	-.03367	.00359
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.05000	.01000	.02500	.10000	5.0000	5.0000
Low	-.00500	-.05000	-.01000	-.02500	-.10000	-5.0000	-5.0000

Elem	MN	MO	NA	NI	PB	SB	SE
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00115	-.00086	.01063	.00037	-.00325	.00280	-.01754
SDev	.00020	.00215	.00765	.00178	.00211	.00541	.00553
%RSD	17.321	251.66	72.027	487.58	64.958	193.04	31.539
#1	.00138	-.00057	.00407	.00215	-.00569	.00338	-.01434
#2	.00103	.00114	.00878	.00035	-.00202	-.00287	-.02392
#3	.00103	-.00314	.01904	-.00141	-.00204	.00790	-.01435
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01500	.05000	5.0000	.04000	.05000	.06000	.30000
Low	-.01500	-.05000	-5.0000	-.04000	-.05000	-.06000	-.30000

Elem	SN	SR	TL	V_	ZN
Units	ppm	ppm	ppm	ppm	ppm
Avge	.01346	.00086	.00089	.00083	.00329
SDev	.01576	.00020	.00643	.00024	.00004
%RSD	117.08	22.913	722.46	28.576	1.2552
#1	.02943	.00103	-.00576	.00098	.00330
2	-.00208	.00090	.00134	.00056	.00324
#3	.01304	.00064	.00708	.00097	.00332
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.10000	.02000	.30000	.05000	.02000

EPA Method 245.1 CLP-M

Quanterra Pittsburgh

Atomic Absorption Data for Mercury

Instr. CV-10(PS200)

Tested by: [illegible]
Digestion Date: 11-22-95
Run Date: 11-22-95
Run Time: 1300
Reviewed by: AJC 11/26/95.

Folder ID: 112295A3

Reagent/Standard Book ID:

276-035-1 276-035-2.
276-100-1. 276-100-2.
276-100-3 to 276-100-13.

Comments: CSK180003 → ~~[illegible]~~ MC 11-22-95
CSK130002

ITAS PT/08-94/0071/245I.PMC

11-22-95

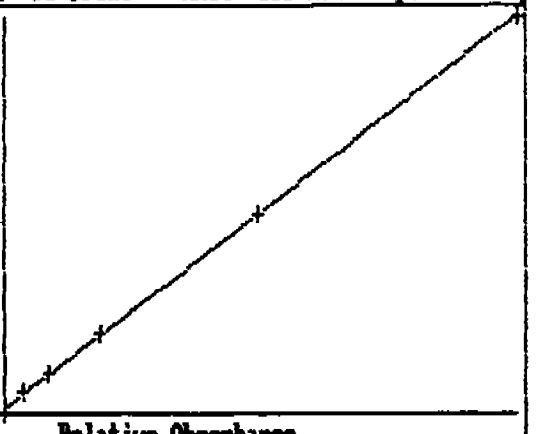
Protocol: PWC_03 QUANTERRA PGH.LAB 11/22/95
Rev: 3.001 Time: 13:19:25 22 Nov 1995
Folder: 11229503 Seq: 7 Print: On
User: PWC Batch: 11229503 Id: Std6Rep1 Cup: 1 03 Gas: 0.30 LPM
State: Idle Macro CBD 46: F3 Print Xmit: Off Autosampler: On

CALIBRATION: Line Calibration

Line: Hg

	Conc.	Calc.	Dev.	Accepted
S1	.0000	.0098	.0098	LiNear
S2	.5000	.4749	-.0251	NtdLinear
S3	1.000	.9543	-.0457	C
S4	2.000	1.957	-.0428	Accept o
S5	5.000	5.022	.0217	n
S6	10.00	10.00	.0022	StdAdd c

A .0000000 r .999911
B 1.64865e-5 C 8.96940e-2



Relative Absorbance

	Mean	%RSD	
S1	4	0	4
S2	23477	0	23477
S3	52697	0	52697
S4	113825	0	113825
S5	300612	0	300612
S6	684183	0	684183

New calibration coefficients stored

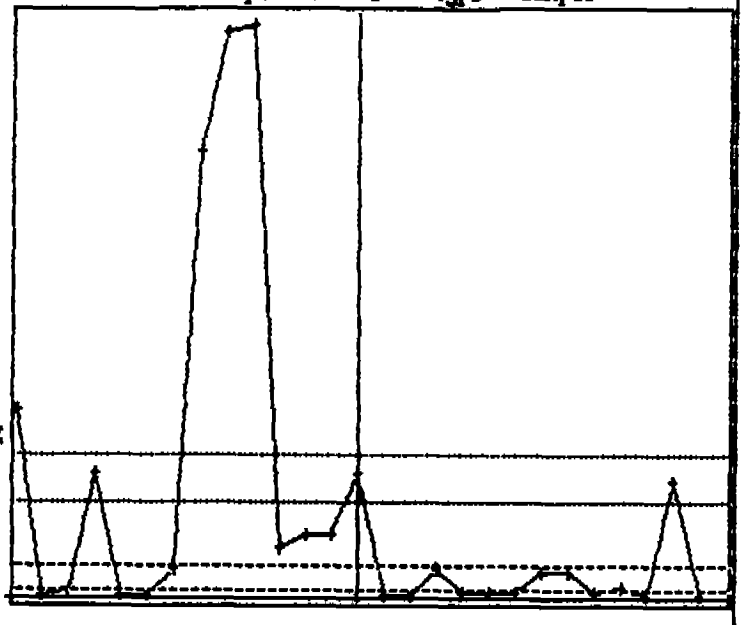
11-22-95

Protocol: PWC_03 QUANTERRA PGH.LAB 11/22/95
Rev: 3.001 Time: 15:03:35 22 Nov 1995
Folder: 112295A3 Seq: 34 Print: On
User: PWC Batch: 112295A3 Id: CC03 Cup: 1 27 Gas: 8.30 LPM
State: Idle Macro TRINA 37: F3 Print Xmit: Off Autosampler: On

REPORT: Plot Seq. 7 to 33 Points plotted = 27 type = Sample

Id: CCV4-2 19.64
Seq: 28
+ Hg 4.178

-- Val1 .2000
-- Val2 1.000
--- Pct 4.000± 20.00%
LiM
meaN
SD
.0000



Select Lines, Zoom, Unzoom, Toggle point, Line toggle

Plot complete

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: ICV-8 112295A3 Seq: 7 13:22:58 22 Nov 1995 HG

Hg 6.354 ppb 381796

*** Sample ID: ICB 112295A3 Seq: 8 13:26:45 22 Nov 1995 HG

Hg .0522 ppb -2288

*** Sample ID: CRA 112295A3 Seq: 9 13:29:44 22 Nov 1995 HG

Hg .2218 ppb 8054

*** Sample ID: CCV4-1 112295A3 Seq: 10 13:32:48 22 Nov 1995 HG

Hg 4.229 ppb 252322

*** Sample ID: CCB1 112295A3 Seq: 11 13:36:32 22 Nov 1995 HG

Hg .0619 ppb -1695

*** Sample ID: PBW-1 112295A3 Seq: 12 13:39:32 22 Nov 1995 HG

Hg .0861 ppb -222

*** Sample ID: LCSW-1 112295A3 Seq: 13 13:42:31 22 Nov 1995 HG

Hg .9623 ppb 53186

*** Sample ID: C5K180003- 112295A3 Seq: 14 13:46:02 22 Nov 1995 HG
UNSPIKED 001
Hg 15.07 H ppb 912819

*** Sample ID: C5K180003- 112295A3 Seq: 15 13:49:52 22 Nov 1995 HG
001 SPIKE
Hg 19.15 H ppb 1161667

*** Sample ID: C5K180003- 112295A3 Seq: 16 13:53:37 22 Nov 1995 HG
001 SPIKE DUP
Hg 19.44 H ppb 1179670

*** Sample ID: C5K180003- 112295A3 Seq: 17 14:04:18 22 Nov 1995 HG
UNSPIKED 001 X 10
Hg 1.649 ppb 95052

*** Sample ID: C5K180003- 112295A3 Seq: 18 14:07:48 22 Nov 1995 HG
001 X 10 SPIKE
Hg 2.091 ppb 121997

Void: Over working range of test. [illegible] 11-22-95

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: C5K180003- 112295A3 Seq: 19 14:11:16 22 Nov 1995 HG
001 X 10 SPIKE DUP
Hg 2.120 ppb 123741

*** Sample ID: CCV4-2 112295A3 Seq: 20 14:14:39 22 Nov 1995 HG

Hg 4.178 ppb 249213

*** Sample ID: CCB2 112295A3 Seq: 21 14:18:19 22 Nov 1995 HG

Hg .0563 ppb -2034

*** Sample ID: PBW-2 112295A3 Seq: 22 14:21:16 22 Nov 1995 HG

Hg .0843 ppb -330

*** Sample ID: LCSW-2 112295A3 Seq: 23 14:24:13 22 Nov 1995 HG

Hg .9477 ppb 52295

*** Sample ID: PBTCLP#1 112295A3 Seq: 24 14:32:30 22 Nov 1995 HG
SOL.#1 11-20-95
Hg .0993 ppb 587

*** Sample ID: PBTCLP#2 112295A3 Seq: 25 14:35:28 22 Nov 1995 HG
SOL.#2 11-20-95
Hg .1036 ppb 847

*** Sample ID: C5K130002- 112295A3 Seq: 26 14:38:27 22 Nov 1995 HG
UNSPIKED 001
Hg .1268 ppb 2260

*** Sample ID: C5K130002- 112295A3 Seq: 27 14:41:26 22 Nov 1995 HG
001 SPIKE
Hg .8800 ppb 48170

*** Sample ID: C5K130002- 112295A3 Seq: 28 14:44:45 22 Nov 1995 HG
001 SPIKE DUP
Hg .8936 ppb 48998

*** Sample ID: C5K130002- 112295A3 Seq: 29 14:50:36 22 Nov 1995 HG
002
Hg .1152 ppb 1553

*** Sample ID: C5K130002- 112295A3 Seq: 30 14:53:32 22 Nov 1995 HG
004
Hg .3191 ppb 13980

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: C5K130002-005 112295A3 Seq: 31 14:56:27 22 Nov 1995 HG

Hg .0391 ppb -3083

*** Sample ID: CCV4-3 112295A3 Seq: 32 14:59:23 22 Nov 1995 HG

Hg 3.899 ppb 232204

*** Sample ID: CCB3 112295A3 Seq: 33 15:03:12 22 Nov 1995 HG

Hg .0628 ppb -1639

End of Analysis.

11-22-95

① 11-22-95

```
Protocol: PMC_#3    MERCURY RUN LOG 11/22/95
                    Rev: 3.001    Time: 15:04:36  22 Nov 1995
Folder: 112295A3    Seq: 34                      Print: On
User: PMC           Batch: 112295A3    Id:            Cup: 1 27 Gas:    0.30 LPM
State: Idle                                           Xmit: Off Autosampler: On
```

```
AUTOSAMPLER:  Rack entry    Rack PMC      Range  1-44 Clear seQ Undo eXit
cup Id        Extended id          Weight Volume Macro checK Help
 1 ICV-8                           1.0000 1.0000
 2 ICB                             1.0000 1.0000
 3 CRA                             1.0000 1.0000
 4 CCV4-1                          1.0000 1.0000
 5 CCB1                            1.0000 1.0000
 6 PBW-1                           1.0000 1.0000
 7 LCSW-1                          1.0000 1.0000
 8 C5K180003- 001                  1.0000 1.0000 U
 9 C5K180003- 001 SPIKE            1.0000 1.0000
10 C5K180003- 001 SPIKE DUP        1.0000 1.0000
11 C5K180003- 001 X 10             1.0000 1.0000 U
12 C5K180003- 001 X 10 SPIKE       1.0000 1.0000
13 C5K180003- 001 X 10 SPIKE DUP   1.0000 1.0000
14 CCV4-2                          1.0000 1.0000
15 CCB2                            1.0000 1.0000
                                                                          PgDn
```

```
                                          Column entry, Ins to switch
```

②

11-22-95

```
Protocol: PMC_#3   MERCURY RUN LOG 11/22/95
                   Rev: 3.001   Time: 15:04:38  22 Nov 1995
Folder: 112295A3   Seq: 34                     Print: On
User: PMC          Batch: 112295A3   Id:            Cup: 1 27 Gas:    0.30 LPM
State: Idle                                         Xmit: Off Autosampler: On
```

```
AUTOSAMPLER:  Rack entry   Rack PMC      Range  1-44 Clear seQ Undo eXit   PgUp
cup Id        Extended id          Weight Volume Macro checK Help
16 PBW-2                           1.0000 1.0000
17 LCSW-2                          1.0000 1.0000
18 PBTCLP#1   SOL.#1 11-20-95      1.0000 1.0000
19 PBTCLP#2   SOL.#2 11-20-95      1.0000 1.0000
20 C5K130002- 001                  1.0000 1.0000 U
21 C5K130002- 001 SPIKE            1.0000 1.0000
22 C5K130002- 001 SPIKE DUP        1.0000 1.0000
23 C5K130002- 002                  1.0000 1.0000
24 C5K130002- 004                  1.0000 1.0000
25 C5K130002- 005                  1.0000 1.0000
26 CCV4-3                          1.0000 1.0000
27 CCB3                            1.0000 1.0000
28                                 1.0000 1.0000
29                                 1.0000 1.0000
30                                 1.0000 1.0000
                                                                          PgDn
```

```
                                                Column entry, Ins to switch
```

Start: 0800
95-MT 285
11-22-95

Hg Digestion Log

Sample	Date Rec'd	Dig Date	Prepared by	Vol/Wt	Sample Type	Run Date	Comments
CS10300 1005	N/A -5	11-22-95	HAD	[illegible]	[illegible]	11/22/95	N/A
CS10300 1006							276-100-4
CS10300 1008							276-100-5
CS10300 [illegible]							276-100-6
CS10300 [illegible] 5							276-100-7
CS10300 [illegible] 5							276-100-8
ICU-8							276-100-3
ICB							N/A
CEA							276-100-12
CCU4-1							276-100-10
CCB							N/A
PBW-1							
ICBW-1							276-100-13
CSK18000 3001	11-18-95						N/A
CSK18000 3001 5							276-100-11
CSK18000 3001 5							276-100-11
PBW-2	N/A						N/A
CSBW-2							276-100-13
FBI CLP-1							11-20-95
FBI CLP-2							
CSK13000 2001	11-22-95						N/A
CSK13000 2001 5							276-100-11
CSK13000 2001 5							276-100-11
CSK13000 2002							N/A
CSK13000 2004							

Reagents	Vol (mL)	Ref. No.	Method
HNO_3	2.5	276-085-4	SW846
H_2SO_4	5.0	276-085-3	H2O
$KMnO_4$	15.0	276-085-9	
$K_2S_2O_8$	8.0	276-085-8	

Hg Digestion Log

Sample	Date Rec'd	Prep Date	Prepared by	Vol/Wt	Sample Type	Run Date	Comments
CSKB0002005	11-22-95	11-22-95	[illegible]	[illegible]	water	[illegible]	N/A
CSKB0002006				100 g			
CSKB0002008				10 ml			10 ml ↑ 100 ml
CSKB0003001				100 g			
CSKB0003001S							Filter 27L-100-11
CSKB0003001S							Filter 27L-100-11
[illegible]							
[illegible]							
[illegible]							
[illegible]							
[illegible]							
[illegible]							
[illegible]							
CSKB0002001	11-22-95						
[illegible]							
[illegible]							
[illegible]							
[illegible]							
[illegible]							
[illegible]							
[illegible]		11-22-95					
[illegible]							
[illegible]							
[illegible]							

Reagent	Vol (ml)	Ref. No.	Method
HNO_3	~~29.25~~	27L-055-4	SW846
H_2O_2	5.0	27L-055-3	H2O
HNO_3	15.0	27L-055-2	
H_2O_2	8.0	27L-055-2	

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH 95-MT-265 Page
METALS PREPARATION LOG

Analyst WAH
Date 11-22-95
Lot No. C5K180008 LITTLE CREEK
C5K170005 ENSR CONS.

Matrix water
Instr. ICP
Method 3010 SW846
Start Time 08:15
SDG, if applicable

Reagents Used
6ml conc. HNO3
10ml 1:1 HCL

Lab Lot # (Book, Page, Line)
35016 EM SCIENCE
185-016-4

W: 185-012-6
CAT: 185-008-7

MS W CAT

Client Name/ID	Lab Sample ID	Initial Wt/Vol grams/ml	Final Volume, ml	Comments	Color Pre	Color Post	Clarity Pre	Clarity Post	Texture Pre	Texture Post	Artifacts
DECON-01	C5K180008-001	100ml	100ml								
DECON-01 MS	C5K180008-001 MS			1/ml sp W CAT							
DECON-01 MSD	C5K180008-001 MSD			1/ml sp W CAT							
MW-21	C5K170005-001										
MW-22	002										
MW-23	003										
MW-24	004										
UNDERDRAIN	005										
PBW 11-22-7	PBW 11-22-7										
LCSW-1 11-22-7	LCSW-1 11-22-7			947-63-1							

WAH 11-22-95

WAH 11-22-95

WAH 11-22-95

HOT PLATE TEMPERATURES

Reviewed by: BF 11/22/95

	1	2	3	4	5	6	7	8	9	10
Initial temp (°C):					95°					
Final temp(°C):					95°					

IT CORPORATION - MONROEVILLE ENGINEERING

DECON-01

WO #: A5V7P
LAB #: C5K180003-001
MATRIX: WATER

DATE SAMPLED: 11/17/95
TIME SAMPLED: 15:00
DATE RECEIVED: 11/18/95

- - - - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.010	mg/L	SW846 7196A	11/18/95	5324019
Cyanide, Total	**0.11**	**0.010**	**mg/L**	**SW846 9012**	**11/20-11/21/95**	**5326004**
Cyanide, amenable	ND	0.010	mg/L	SW846 9012	11/21/95	5326010

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

INTRA-LAB BLANK REPORT

LAB #: C5K200000-019

- - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
Hexavalent Chromium	ND	0.010	mg/L	11/18/95	5324019
Cyanide, Total	ND	0.010	mg/L	11/20-11/21/95	5326004
Cyanide	ND	0.010	mg/L	11/21/95	5326010

NOTE:

ND (NONE DETECTED)

CHECK SAMPLE REPORT

LAB #: C5K180003

- - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Hexavalent Chromium	99	(85-115)	11/18/95	5324019
Cyanide, Total	91	(85-115)	11/20-11/21/95	5326004
Cyanide	87	(85-115)	11/21/95	5326010

MATRIX SPIKE REPORT

Lot #: C5K180003

- - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

COMPOUND	RECOVERY PERCENT MS	MSD	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE	Q/C BATCH
Lab# C5K180003- 1 Matrix: WATER							
Hexavalent Chromium	101	101	(75-125)	0	20	11/18/95	5324019
Cyanide	81	72	(75-125)	11	20	11/21/95	5326010

Batch

5324018
5324019

QUANTERRA ENVIRONMENTAL SERVICES
VISUAL SPEC ANALYSIS WORKSHEET

SHEET NO UVSP511015 PARAMETER CR6 UVSPEC V1.2 04/09/90

SAM NUMBERS
CSK180001
CSK170003

TEST BY GRR DATE 11/18/95
DIST. BY DATE
CHECK BY DATE 11-20-95
MATRIX W

CREATED: 11/20/95
UPDATED: 11/20/95

DISTILLATION:
INIT. VOL 100 ml
FIN. VOL 100 ml

ANALYSIS:
REQ VOL./WT 100 mg/L
DET LIMIT 0.01 mg/L

INSTRUMENT B&L 1001
WAVELENGTH 540 nm

REAGENT/STANDARD BOOK ID
183-100-02 183-068-06 183-091-08 183-079-06

LINEAR REGRESSION SLOPE
Y-Intr.(b) 0.00640 L. R. Slope = 0.00767 Corr. Coef. = 0.9998602351

Concentration (ug)	0	1.00000	5.00000	10.0000	25.0000	50.0000	100.000	200.000
Absorbtion	0	0.00900	0.04100	0.08000	0.20000	0.40200	0.78800	1.53000
		Standard Concentration		Qualifiers (H: +10% ,L: -10%)				
Standard Concentration	-0.8350	0.33900L	4.51100	9.59600	25.2410	51.5770	101.903	198.644

Sample Ident.	Weight/Volume for distil./digest Initial ml	Final ml	Sample Volume ml	Sample Absorb.	Abs. Dil. Fact	Conc. Dir Readout	Calculated Conc. mg/L	Reported Conc. mg/L
ICV 183-100-02			100.000	0.21900	1.00	27.7183	0.277	0.277
ICB			100.000	0.00300	1.00	-0.4434	-0.004	< 0.010
CSK180003-001			100.000	-0.0010	1.00	-0.9649	-0.010	< 0.010
CSK180003-001 MS			100.000	0.78300	1.00	101.2515	1.013	1.013
CSK180003-001 MSD			100.000	0.78300	1.00	101.2515	1.013	1.013
PBS 11/18/95			10.000	0.00300	1.00	-0.4434	-0.044	~~< 0.010~~ 0.100
LCS 183-079-06			0.100	0.72700	1.00	93.9503	939.503	939.503
CSK180001-001			2.000	0	1.00	-0.8346	-0.417	~~< 0.010~~ 0.500
CSK180001-001 D			2.000	-0.0010	1.00	-0.9649	-0.482	~~< 0.010~~ 0.500
CSK180001-001 MS			20.000	-0.0040	1.00	-1.3561	-0.068	< 0.010
CSK180001-001 MS			20.000	-0.0070	1.00	-1.7472	-0.087	< 0.010
CCV 183-100-02			100.000	0.21500	1.00	27.1967	0.272	0.272
CCB			100.000	0.00100	1.00	-0.7042	-0.007	< 0.010
CSK180001-002			2.000	0.00100	1.00	-0.7042	-0.352	~~< 0.010~~ 0.500
CSK180001-003			5.000	0.00200	1.00	-0.5738	-0.115	~~< 0.010~~ 0.200
CSK180001-001 AS			100.000	0.46400	1.00	59.6609	0.597	0.597
CSK180001-001 AS			100.000	0.46800	1.00	60.1824	0.602	0.602
CCV 183-100-02			100.000	0.21700	1.00	27.4575	0.275	0.275
CCB			100.000	0.00200	1.00	-0.5738	-0.006	< 0.010

11-20-95

QUANTERRA ENVIRONMENTAL SERVICES
WET CHEM QA/QC ANALYSIS

SHEET NO QAQC9511188 PARAMETER CR6 gc2 V2.2 01/15/92

CREATED: 11/20/95
UPDATED: 11/20/95
EXPORTED:

TEST BY GRR DATE 11/18/95
CHECK BY [illegible] DATE 11-20-95
UNITS MG/L MATRIX H2O

SAM NUMBER: C5K180001/C5K180003
COMMENTS

DUPLICATE SAMPLE

SAMPLE NUMBER	C5K180001-001	C5K180003-001MS	
Orig Sap Conc	< 0.5000	1.0130	
Dup Sap Conc	< 0.5000	1.0130	
Mean		1.0130	
Range		0.0000	
RPD		0.0000	

INITIAL CALIBRATION VERIFICATION - ICV

ICV NUMBER	True Val	Observed	Recovery (%)
ICV 183-100-02	0.2800	0.2770	98.9286
LCS 183-079-06	1000.0000	939.5030	93.9503

CONTINUING CALIBRATION VERIFICATION - CCV (CONTROL)

CCV NUMBER	True Val	Observed	Recovery (%)
CCV 183-100-02	0.2800	0.2720	97.1429
CCV 183-100-02	0.2800	0.2750	98.2143

ANALYTICAL/MATRIX SPIKE PERCENT RECOVERY

SAMPLE #	C5K180001-001MS	C5K180001-001MS	C5K180001-001AS
Anal/Matrix	M	M	A
Final Spk+Sap	< 0.0100	< 0.0100	0.5970
Spike Conc.	50.0000	50.0000	50.0000
Vol. Spk Added	2.0000	2.0000	2.0000
Vol.Sap Spiked	20.0000	20.0000	20.0000
Fin.vol Spiked	100.0000	100.0000	100.0000
Theo.Spike Val	1.0000	1.0000	1.0000
Sample Result	< 0.0100	< 0.0100	< 0.0100
% Recovery	0.0000	0.0000	59.7000

QUANTERRA ENVIRONMENTAL SERVICES
WET CHEM QA/QC ANALYSIS

SHEET NO QAQC9511189 PARAMETER CR6 gc2 V2.2 01/15/92
CREATED: 11/20/95
TEST BY GRR DATE 11/18/95 UPDATED: 11/20/95
CHECK BY [illegible] DATE 11-20-95 EXPORTED:
UNITS MG/L MATRIX H2O

SAM NUMBER: C5K180001/C5K180003
COMMENTS

DUPLICATE SAMPLE

SAMPLE NUMBER	C5K180001-001	C5K180003-001MS	
Orig Sap Conc	(0.5000	1.0130	
Dup Sap Conc	(0.5000	1.0130	
Mean		1.0130	
Range		0.0000	
RPD		0.0000	

INITIAL CALIBRATION VERIFICATION - ICV

ICV NUMBER	True Val	Observed	Recovery (%)
ICV 183-100-02	0.2000	0.2770	98.9286
LCS 183-079-06	1000.0000	939.5030	93.9503

CONTINUING CALIBRATION VERIFICATION - CCV (CONTROL)

CCV NUMBER	True Val	Observed	Recovery (%)
CCV 183-100-02	0.2000	0.2720	97.1429
CCV 183-100-02	0.2000	0.2750	98.2143

ANALYTICAL/MATRIX SPIKE PERCENT RECOVERY

SAMPLE #	C5K180001-001MS	C5K180003-001MS	C5K180003-001MS
Anal/Matrix	A	M	M
Final Spk+Sap	0.6020	1.0130	1.0130
Spike Conc.	50.0000	50.0000	50.0000
Vol. Spk Added	2.0000	2.0000	2.0000
Vol.Sap Spiked	20.0000	98.0000	98.0000
Fin.vol Spiked	100.0000	100.0000	100.0000
Theo.Spike Val	1.0000	1.0000	1.0000
Sample Result	(0.0100	(0.0100	(0.0100
% Recovery	60.2000	101.3000	101.3000

0
ID# 122 CR6
540.0NM -.000 A

1
ID# 123 CR6
540.0NM .009 A

5
ID# 124 CR6
540.0NM .041 A

10
ID# 125 CR6
540.0NM .080 A

25
ID# 126 CR6
540.0NM .200 F

50
ID# 127 CR6
540.0NM .402 F

100
ID# 128 CR6
540.0NM .788 I

200
ID# 129 CR6
540.0NM 1.530 I

ICV 183-100-02
ID# 130 CR6
540.0NM .219 F

ICB
ID# 131 CR6
540.0NM .003 F

COLOR BLANKS
(19-01) CSK180001-001
ID# 132 CR6
540.0NM .074 F
(19-01 D) CSK180001-001 D
ID# 133 CR6
540.0NM .088 F
(19-01 MS) CSK180001-001 MS
ID# 134 CR6
540.0NM .093 F
(19-01 MSD) CSK180001-001 MS
ID# 135 CR6
540.0NM .103 F
(20-01) CSK180001-002
ID# 136 CR6
540.0NM .051 I
(21-01) CSK180001-003
ID# 137 CR6
540.0NM .021 I
CCV 183-100-02
ID# 138 CR6
540.0NM .220 I
CCB
ID# 139 CR6
540.0NM .002 I
COLOR BLK ANALYTICAL 19-01 MS
ID# 140 CR6
540.0NM .119 I
COLOR BLANK CSK180003-001
ID# 141 CR6
540.0NM .038 F

ID# 142 CR6
540.0NM .038 F

ID# 143 CR6
540.0NM .787 F

ID# 144 CR6
540.0NM .789 A

ID# 145 CR6
540.0NM .006 A

ID# 146 CR6
540.0NM .725 A

ID# 147 CR6
540.0NM .073 A

ID# 148 CR6
540.0NM .089 F

ID# 149 CR6
540.0NM .090 F

ID# 150 CR6
~~540.0NM .183 F~~
CCV 183-100-02
ID# 151 CR6
540.0NM .216 F
CCB
ID# 152 CR6
540.0NM .002 F
CSK180003-001 COLOR BLK
ID# 153 CR6
540.0NM .038 F
CSK180003-001
ID# 154 CR6
540.0NM .037 F
CSK180003-001 MS
ID# 155 CR6
540.0NM .783 F
CSK180003-001 MS
ID# 156 CR6
540.0NM .783 A

PBS
ID# 157 CR6
540.0NM .003 F
LCS 183-019-06
ID# 158 CR6
540.0NM .727 F
(19-01) CSK180001-001
ID# 159 CR6
540.0NM .074 F
(19-01 D) CSK180001-001 D
ID# 160 CR6
540.0NM .087 F
(19-01 MS) CSK180001-001 MS
ID# 161 CR6
540.0NM .089 F
(19-01 MSD) CSK180001-001 MS
ID# 162 CR6
540.0NM .096 A
CCV 183-100-02
ID# 163 CR6
540.0NM .215 A
CCB
ID# 164 CR6
540.0NM .001 A
(20-01) CSK180001-002
ID# 165 CR6
540.0NM .052 I
(21-01) CSK180001-003
ID# 166 CR6
540.0NM .023 F
(19-01 MS) CSK180001-001 MS
ID# 167 CR6
540.0NM .583 F
(19-01 MSD) CSK180001-001 MS
ID# 168 CR6
540.0NM .587 F
CCV 183-100-02
ID# 169 CR6
540.0NM .217 A
CCB
ID# 170 CR6
540.0NM .002 A

D. Ronald Riggin 20-45

Certificate of Analysis

83-1620
11-3-95
SVG

Standard: Hex Chromium

Product Code: 7745

Lot Number: 14620

Preparation Instructions:

Pipet 10ml of the enclosed vial into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water. Sample should be analyzed immediately after dilution.

Parameter	Hexavalent Chromium
Units	mg/L
True Value	0.28
Mean	0.28
Standard Deviation	0.01
Number of Laboratories	13
Average % Recovery	101.11
95% Confidence Limits	0.259 - 0.303
99% Confidence Limits	0.252 - 0.311

Explanation of Terms

True Value: This is the theoretical True Value based upon the method of preparation.

Mean: The average value reported by laboratories participating in the interlaboratory program. These labs tested the Standard as an unknown.

Standard Deviation: The actual Standard Deviation developed in the interlaboratory program.

Number of Laboratories: The number of laboratories whose data was used to develop the Mean and Standard Deviation. Statistical Outliers were removed by the ASTM t Test.

Average % Recovery: The Mean divided by the True Value times 100.

Confidence Limits: These are calculated based upon the Mean and Standard Deviation reported. The USEPA suggest using 95% Confidence for Quality Control limits.

APG The Measure of Quality
Analytical Products Group, Inc.
2730 Washington Blvd., Belpre, OH 45714 1-800-272-4442 614-423-4200

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-068-01	9-15-95	Ig	CN CCV	Cyanide	Fisher	1030714	9-16-95
183-068-02	9-15-95	JDM	$KH(IO_3)_2$	Potassium Biiodate stock	Fisher	930996	3-15-96
183-068-03	9-15-95	JDM	$KH(IO_3)_2$	Potassium Biiodate wiulion	Fisher	183-068-02	3-15-96
183-068-04	9-15-95	JDM	H_2SO_4	1:4 H_2SO_4	EM	35017	3-15-96
183-068-05	9-16-95	Ig	Phenol Alco	Phenol TCV	Alco	15141	10-16-95
183-068-06	9-16-95	Ig	Sulfanyl Carbazide	Ortho Color Reagent	Aldrich	08118MU	1-16-96
183-068-07	9-18-95	DAB	K_2SO_4 Hg SO_4	TKN Reagent	MALLINCKRODT DAKER EM	7148 KCNV 183-026-01	3-18-96
183-068-08	9-18-95	Ig	NO_3 Stock	Lab Reduction Check	Fisher	1450171 2	9-19-95
183-068-09	9-18-95	Ig	Ind NO_3 Stock	High level	Mallinckrodt	1450171 3	
183-068-10	9-18-95	Ig	Ind NO_3 Stock High level TCV/CCV	TCV/CCV Low level TCV/CCV	Fisher Mallinckrodt Fisher	1450171 1 1030607	9-19-95 9-19-95
183-068-11	9-18-95	JDM	Alcl Glycerol NaCl 2-Propanol	Sulfate Conditioning Reagent	Chemprure Baker Fisher EM	MBST KAMC 025330 KVS 751 3422 2441	3-18-96
183-068-12	9-18-95	JDM	HCL	1:1 HCL	Chemprure	MBSI UMPE	3-18-96
183-068-13	9-18-95	JDM	H_2SO_4	1:1 H_2SO_4	EM	35017	3-18-96

1 068-13	9-18-95	JDM	H_2SO_4	1:1 H_2SO_4	EM	35017	3-18-9
183-068-13	9-18-95	HB	APG PHENOL OTD	PHENOL ICV	APG	15161	10-18-95

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

068

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
[illegible]	10.0ppm	2.5ml	250ml	0.100ppm	Super Q 50ml NaOH	— Lab Chem	— 5221-7	[illegible] 9-15-95	9-16-95
183-068-02	—	4.8734	1L	—	Super Q	—	—	[illegible] 9-15-95	
183-068-03	—	250ml	1L	0.0375N	Super Q	—	—	[illegible] 9-15-95	
183-068-04	—	400ml	2L	1:4	Super Q	—	—	[illegible] 9-15-95	
[illegible]	—	5.0ml	500ml	[illegible]	Super Q	—	—	[illegible] 9-16-95	10-16-95
[illegible]	—	2.50g	500ml	—	Acetone	EM	35033	[illegible] 9-16-95	
183-068-07	—	2.12g 50ml	2-L	—	Super Q H_2SO_4	— EM	— 35017	HB 9-16-95	
[illegible]	200ppm	2ml	100ml	4.0ppm	Super Q	—	—	[illegible] 9-18-95	9-19-95
[illegible]	200ppm	2ml	100ml	4.0ppm	Super Q	—	—	[illegible] 9-18-95	9-19-95
[illegible]	4.0ppm	4ml	100ml	160ppm	Super Q	—	—	[illegible] 9-18-95	9-19-95
183-068-11	—	60ml 100ml 150g 600ml	2x100ml	—	Super Q 600ml	—	—	[illegible] 9-18-95	10-9-95
183-068-12	—	500ml	1L	1:1	Super Q	—	—	SW 9-18-95	
183-068-13	—	500ml	1L	1:1	Super Q	—	—	SW 9-18-95	
183-068-14	—	2.5ML	500ML	—	SUPER Q	—	—	RB 9/18/95	[illegible]

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-091-01	10-19-95 RB	RB	Sulfuric ACID	ALPKEM PHENOL BACKGROUND	EM SCIENCE	35017	4-19-95
-02	10-19-95	RB	1000 mg/L PHENOL STANDARD	10 mg/L Phenol Working Stock	183-061-01	—	10-19-95
-03	10-19-95	RB	10 mg/L PHENOL STANDARD	PHENOL CCV-	183-091-02	—	10-19-95
-04	10-19-95	RB	APG PHENOL STD	PHENOL ICV	APG	15281	10-19-95
-05	10-19-95	RB	4-Amino Antipyrene	ALPKEM PHENOL REAGENT	Aldrich	A20832DAZ	10-19-95
183-091-06	10-20-95	SVB	Glucose Glutamic Acid	BOD LCSS	Mallinckrodt	4712KLA 5.95KMJ	10-27-95
183-91-07	10-20-95	KRM	COLOR STD.	COLOR IC, LCS	LAB CHEM INC.	5041-2	10-21-95
183-091-08	10-20-95	JDM	$H_2Cr_2O_7$	Cr+6 Std	Mallinckrodt	6770 KBVC	4-20-96
183-091-09	10-20-95	JDM	H_2SO_4	10% H_2SO_4	EM	34216	4-20-96
183-091-10	10-20-95	RB	$Na_2S \cdot 9H_2O$	Reactive Sulfide Std	Fisher	942788	10-21-95
183-091-11	10-20-95	RB	$Na_2S \cdot 9H_2O$	Sulfide Std	Fisher	942788	10-21-95
183-091-12	10-20-95	JDM	NH_4PO_4	Phosphate Buffer	Baker	11311	4-20-96
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5325	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	0.CON NaOH	[illegible]	[illegible]	[illegible]
183-092-14	10-20-95	3.0M	Calcium Hypochlorite	Bromine	EM	3413 [illegible]	4-20-96

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-091-01	—	4.0ml	2L	—	Super Q	—	—	[illegible]	—
-02	1000mg/L	1.0ml	100ml	10mg/L	183-091-01	—	—	[illegible]	10-17-95
-03	10mg/L	2.5ml	100ml	0.25mg/L	183-091-01	—	—	[illegible]	↓
-04	—	0.5ml	50ml	(.12)	183-091-01	—	—	[illegible]	↓
-05	—	.1625g	250ml	—	Super Q	—	—	[illegible]	↓
183-091-06	—	.015g .015g	100ml	200ppm	Super Q	—	—	[illegible]	—
183-091-07	500pcu	4.0 ml	50ml	40pcu	super Q	—	—	[illegible]	—
183-091-08	—	0.1414	1L	60ppm	Super Q	—	—	[illegible]	—
183-091-09	—	100 ml	1L	10%	Super Q	—	—	[illegible]	—
183-091-10	—	2.0101g	500ml	574ppm	NaOH	EM	3325	JDM 10/30/95	—
183-091-11	—	1.5001g	1000ml	200ppm	NaOH	EM	3325	JDM 10/30/95	—
183-091-12	—	194.0g	2L	0.71M	Super Q	—	—	[illegible]	—
183-091-13	—	40g	1L	0.25N	Super Q	—	—	JDM 10-30-95	—
183-091-14	—	35g	1L	—	Super Q	—	—	[illegible]	—

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

100

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-100-01	11-2-95	RB	4-Aminoazobenzene	ALPKEM PHENOL Reagent-	Aldrich	AZ08320A2	11-2-95
183-100-02	11-3-95	SUG	Hexavalent Chromium Std	APG C.R.6 ICV	APG	14620	5-3-96
183-100-03	11-3-95	SUG	Glucose Glutamic Acid	BOD LCS	Mallinckrodt	4912KBLA 5095KCMB	11-10-95
183-100-04	11-3-95	[illegible]	Total Std	High Level TKN/NH3	Champion	183-01-70	11-4-95
05	↓	↓	↓	↓	↓	↓	↓
06							
183-100-07	11-3-95	[illegible]	High Level TKN/NH3	Low Level TKN/NH3	Champion	183-100-05	11-4-95
183-100-08	11-3-95	RCM	COLOR STD.	COLOR ZVI LCS	LAB CHEM	5041-2	11-4-95
183-100-09	11-3-95	HB	APG PHENOL STD	PHENOL LCS(SOIL)	APG	15162	11/13/95
183-100-10	11-3-95	HB	APG PHENOL STD	PHENOL LCS(W)	APG	15162	11/13/95
183-100-11	10/31/95	HB	APG PHENOL STD	PHENOL LCS (S)	APG	15162	11/13/95
[illegible]	11-3-95	[illegible]	[illegible]	0.1 N [illegible]	HACH	[illegible]	[illegible]
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

100

STANDARD #	ORIG	VOL/WT	[illegible]	[illegible]	[illegible]

			Void RB 11-3-95	Acid Solution	7-11-6.2	933889	

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-100-01	—	.1625g	250ml	—	Super Q	—	—	SWP 11-3-95	11-3-95
183-100-02	—	10ml	1 Liter	.28mg/L	Super Q	—	—	SWP 11-3-95	—
183-100-03	—	.015g .015g	100mL	200mg/L	Super Q	—	—	SWP 11-3-95	—
183-100-04	1000ppm	7.5mL	100mL	75ppm	Super Q	—	—	JC 11-3-95	—
05		2.5mL		25ppm		—	—	JC 11-3-95	—
06		0.8mL		8ppm		—	—	JC 11-3-95	—
183-100-07	25ppm	4mL	100mL	1ppm	Super Q	—	—	JC 11-3-95	—
183-100-08	500pCU	4.0	50ml	40pCU	Super Q	—	—	HG 11/3/95	—
183-100-09	—	1.0 ML	500ML	(2.22) SPIKE 118 NG/L	SUPER Q	—	—	KB 11-3-95	—
183-100-10	—	1.0 ML	500ML	(2.22)	SUPER Q	—	—	KB 11-3-95	—
183-100-11	—	1.0 ML	500ML	(2.22)	SUPER Q	—	—	KB 11-3-95	—
183-100-12	.141N	179mL ~~100mL~~	1L	.0250N	Milliporce	—	—	JK 11-3-95	—
183-100-13	—	3ML	1L	—	Milliporce	—	—	JK 11-3-95	—
Void					Void,	KB 11-3-95			

APG PHENOL STD	PHENOL ICV	APG	15162	10-4-96	

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-079-01	—	.5g .3g .95	250ml	—	Super Q	PH Adjusted to 10.3 w/10N	Fisher NaOH 940217-	JKE 10-2-95	10-7-95
183-079-02	—	.1625g	250ml	—	Super Q	—	—	JKE 10-2-95	9-29-95
↓ -03	—	2.5ml	500ml	—	Super Q ~~Distilled~~	—	—	JKE 10-2-95	—
183-079-04	—	20.0g 30.0g	1liter	—	Super Q	—	—	DMP 10-2-95	—
183-079-05	—	100g	4 Liter	—	super Q	—	—	10-2-95	—
183-079-06	—	2.828g	1liter	1000ppm	Super Q	—	—	10-3-95	—
183-079-07	—	1.5000g	1L	200ppm	NaOH	EA	35020514	JRM 10-3-95	10/3/95
183-079-08	1000ppm	0.5ml	100ml	5ppm	Super Q	—	—	HB 10/3/95	10-5-95
183-079-09	1000ppm	0.5ml	100ml	5ppm	Super Q	—	—	HB 10/3/95	↓
183-079-10	1000ppm	0.5ml	100ml	5ppm	Super Q	—	—	DOP 10-4-95	↓
183-079-11	←	4.0ml	2L	—	Super Q	—	—	DRP 10-4-95	10-4-95
↓ -12	1000mg/L	1.0ml	100ml	RB 10/4/95 10.0mg/L	183-079-11	—	—	DRP 10-4-95	10-4-95
-13	10mg/L	2.5ml	100ml	0.25mg/L	183-079-12			DRP 10-4-95	10-4-95
-14	222mg/L	0.1ml	50ml	(.444)	183-079-13	prepared at 5X Dilution.		DRP 10-4-95	10-4-95

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-079-01	9-29-95	RB	Potassium Ferricyanide Boric Acid Potassium Chloride	Buffered Potassium Ferricyanide	Aldrich Aldrich Fisher	HX02125 DX HX03926 LW 915002	10-6-95
183-079-02	9-29-95	RB	4-Amino Antipyrene	Phenol Reagent	Aldrich	A20832 0AZ	9-29-95
↓ -03	9-29-95	HB	APG Phenol STD	Phenol LCS	APG	15003	RB 9/29/95 9-10-29-95
183-079-04	10-2-95	gec	Alkaline Digestion Sol	NaOH Na_2CO_3	E.M CHEMPURE	35020514 M270 KWEF	11-2-95
183-079-05	10-2-95	DAB	NaOH $Na_2S_2O_3 \cdot 5H_2O$	TKN Digestion Reagent	FM FISHER	35020314 924620C	4-2-96
183-079-06	10-2-95	gec	Potassium Dichromate Stock Solution	$K_2Cr_2O_7$	MALLINCKRODT	6770 KBVC	4-2-96
183-079-07	10/2/95	[illegible]	$Na_2S \cdot 9H_2O$	SULFIDE STD	FISHER	992788	10/3/95
183-079-08	10/3/95	JDM	Cn Spike Solution	Cyanide	Mallinckrodt	183-024-09	10/4/95
183-079-09	10/3/95	JDM	Cn Free LCS solution	Free Cyanide	Fisher	183-034-10	10/4/95
183-079-10	10/4/95	JDM	Cn Spike Solution	Cyanide	Mallinckrodt	183-024-09	10/5/95
RB 10-4-95 183-079-11	10-4-95	RB	Concentrated Sulfuric Acid	ALPKEM Phenol Back Ground	EM Science	35017	4-4-96
-12			1000 mg/L Phenol STANDARD	10 mg/L Phenol Working STOCK	183-061-01	—	10-4-96
-13			10 mg/L Phenol STANDARD	PHENOL CCV	183-079-12	—	10-4-96
↓ -14	↓	↓	APG PHENOL STD	PHENOL ICV	APG	15162	10-4-96

#532L004

QuikChem AE Postrun Report for Tray 95112102.RS
hod: CN METHOD

This report prepared on 11/21/95 16:09
This tray was run on 11/21/95 09:48
Operator: PJ INST#6 Tray Template: CLPAPGW

C5K160008/C5K170004/C5K180003 DIST 11-20-95 JEC RUN 11-21-95 PJ
183-109-10,183-109-11,183-109-09,5174-12 STD CURVE PREP FROM 183-024-09 11-21-95

-- Calibration now in effect (95112101) was done on 11/21/95 09:25

-- Page 1 of report for tray 95112102.RS ----------

Channel No: 1 Channel Name: CN- .5000 TO .0000

Cup#	Sample ID	MG/L
101	ICV 183-102-09	0.7904
102	ICB	0.0007
103	CCV 183-109-14	0.1020
104	CCB	0.0009
105	PBW	0.0007
106	C5K170004-002	0.0068
107	C5K170004-001	0.0433
108	C5K170004-003	0.0056
109	C5K170004-004	0.0036
110	C5K170004-005	0.0208
111	C5K170004-006	0.0084
112	C5K170004-007	0.0079
113	C5K180003-001	0.1074
114	C5K160008-010	0.0011
115	CCV 183-109-14	0.1019
116	CCB	0.0008
117	C5K160008-010 MS	0.0896
118	C5K160008-010 MSD	0.0900
119	CCV 183-109-14	0.1016
120	CCB	0.0007

--------- End of Report for Tray 95112102.RS ----------

REVIEWED BY: DRR
DATE: 11-28-95

QUANTERRA ENVIRONMENTAL SERVICES
WET CHEM QA/QC ANALYSIS

SHEET NO QAQC9511218 PARAMETER CN

qc2 V2.2 01/15/92
CREATED: 11/22/95
UPDATED: 11/22/95
EXPORTED:

TEST BY PJ DATE 11/21/95
CHECK BY DAR DATE 11-28-95
UNITS MG/L MATRIX WATER

SAM NUMBER: C5K160008/C5K170004/C5K180003
COMMENTS

DUPLICATE SAMPLE

SAMPLE NUMBER	C5K160008-010		
Orig Smp Conc	0.0896		
Dup Smp Conc	0.0900		
Mean	0.0898		
Range	-0.0004		
RPD	-0.4454		

INITIAL CALIBRATION VERIFICATION - ICV

ICV NUMBER	True Val	Observed	Recovery (%)
ICV 18310209	0.8700	0.7904	90.8506

CONTINUING CALIBRATION VERIFICATION - CCV (CONTROL)

CCV NUMBER	True Val	Observed	Recovery (%)
CCV 18310914	0.1000	0.1020	102.0000
CCV 18310914	0.1000	0.1019	101.9000
CCV 18310914	0.1000	0.1016	101.6000

ANALYTICAL/MATRIX SPIKE PERCENT RECOVERY

SAMPLE #	C5K160008-010	C5K160008-010	
Anal/Matrix	M	M	
Final Spk+Smp	0.0896	0.0900	
Spike Conc.	5.0000	5.0000	
Vol. Spk Added	5.0000	5.0000	
Vol.Smp Spiked	250.0000	250.0000	
Fin.vol Spiked	250.0000	250.0000	
Theo.Spike Val	0.1000	0.1000	
Sample Result	< 0.0100	< 0.0100	
% Recovery	89.6000	90.0000	

..

==========

uikChem AE Runtime Report for Tray 95112102.RS
thod: CN METHOD

This report and tray were started on 11/21/95 09:26
Operator: Tray Template:
tg 11.21.95

==========

-- Calibration now in effect (95112101) was done on 11/21/95 09:25

-- Page 1 of report for tray 95112102.RS ----------

Cup 101, Sample: ICV 183-102-09 09:28 2.00

Ch. 1: CN- .5000 TO .0000 ; 0.7904MG/L PIF=0.99 Abs= 0.1051

Cup 102, Sample: ICB 09:29 1.00

Ch. 1: CN- .5000 TO .0000 ; 0.0007MG/L PIF=0.02 Abs=-0.0001
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 103, Sample: CCV 183-109-14 09:30 1.00

h. 1: CN- .5000 TO .0000 ; 0.1020MG/L PIF=1.00 Abs= 0.0269

Cup 104, Sample: CCB 09:31 1.00

Ch. 1: CN- .5000 TO .0000 ; 0.0009MG/L PIF=0.00 Abs=-0.0000
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 105, Sample: PBW 09:32 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0014MG/L PIF=0.07 Abs= 0.0001
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 106, Sample: C5K170004-002 09:33 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0068MG/L PIF=0.95 Abs= 0.0034

Cup 107, Sample: C5K170004-001 09:35 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0433MG/L PIF=0.99 Abs= 0.0228

-- Report for tray 95112102.RS continued on next page . . .

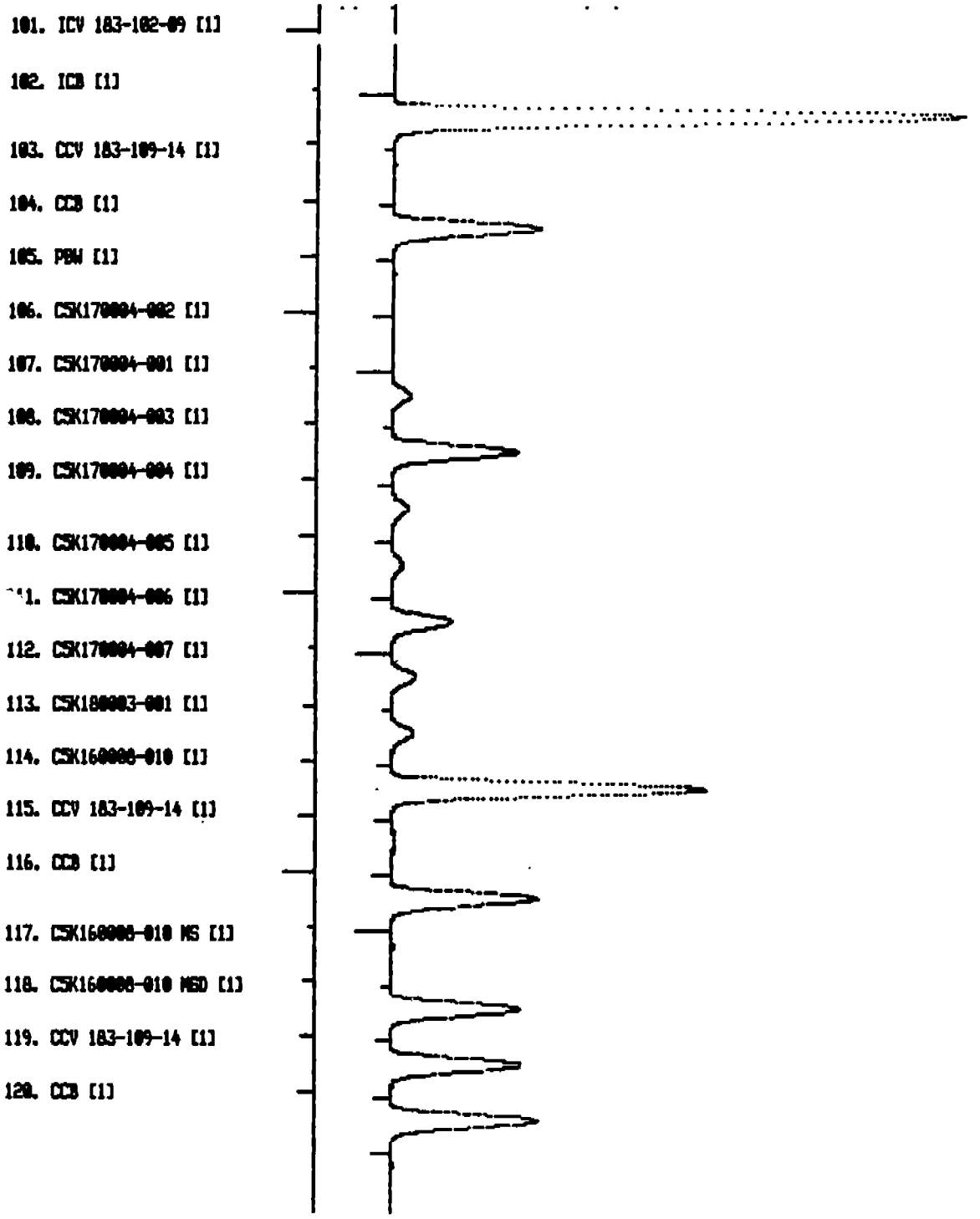
```
 p 108, Sample: C5K170004-003          09:36              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0056MG/L        PIF=0.98 Abs= 0.0027

Cup 109, Sample: C5K170004-004         09:37              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0072MG/L        PIF=0.93 Abs= 0.0017
 *** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 110, Sample: C5K170004-005         09:38              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0208MG/L        PIF=1.00 Abs= 0.0108

Cup 111, Sample: C5K170004-006         09:39              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0084MG/L        PIF=0.98 Abs= 0.0042

Cup 112, Sample: C5K170004-007         09:40              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0079MG/L        PIF=0.97 Abs= 0.0039

Cup 113, Sample: C5K180003-001         09:41              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.1074MG/L        PIF=0.98 Abs= 0.0570

 p 114, Sample: C5K160008-010          09:42              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0021MG/L        PIF=0.80 Abs= 0.0003
 *** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 115, Sample: CCV 183-109-14        09:43              1.00

 Ch. 1: CN- .5000 TO .0000       ;     0.1019MG/L        PIF=0.99 Abs= 0.0269

Cup 116, Sample: CCB                   09:44              1.00

 Ch. 1: CN- .5000 TO .0000       ;     0.0008MG/L        PIF=0.00 Abs=-0.0000
 *** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 117, Sample: C5K160008-010 MS      09:45              1.00

 Ch. 1: CN- .5000 TO .0000       ;     0.0896MG/L        PIF=0.99 Abs= 0.0236
```

-- Report for tray 95112102.RS continued on next page . . .

```
Cup 118, Sample: C5K160008-010 MSD      09:46              1.00

 Ch. 1: CN- .5000 TO .0000      ;      0.0900MG/L        PIF=0.99 Abs= 0.0238

Cup 119, Sample: CCV 183-109-14         09:47              1.00

 Ch. 1: CN- .5000 TO .0000      ;      0.1016MG/L        PIF=0.99 Abs= 0.0268

Cup 120, Sample: CCB                    09:48              1.00

 Ch. 1: CN- .5000 TO .0000      ;      0.0007MG/L        PIF=0.15 Abs=-0.0001
 *** Above conc. is significantly less than the lowest non-zero std's conc.
```

--------- End of Report for Tray 95112102.RS ----------

Rack 1 (Ref: 95112102) 11/21/1995, 09:26 am



QuikChem AE Calibration Report for Calibration 95112101
Method: CN METHOD
This calibration was done on 11/21/95 09:25
This report prepared on 11/21/95 12:49

	Analyte	Units	Average Concentrations Known	Determined	% Residual	Baseline Corrected Average Absorbance	Time
Standard A,	CN- .5000 TO .0000	MG/L	0.5000	0.5006	-0.13	0.1332	
Standard B,	CN- .5000 TO .0000	MG/L	0.4000	0.4004	-0.11	0.1065	
Standard C,	CN- .5000 TO .0000	MG/L	0.2800	0.2795	0.17	0.0743	
Standard D,	CN- .5000 TO .0000	MG/L	0.2000	0.1991	0.45	0.0528	
Standard E,	CN- .5000 TO .0000	MG/L	0.1000	0.0979	2.05	0.0259	
Standard F,	CN- .5000 TO .0000	MG/L	0.0500	0.0500	0.06	0.0131	
Standard G,	CN- .5000 TO .0000	MG/L	0.0250	0.0257	-2.85	0.0066	
Standard H,	CN- .5000 TO .0000	MG/L	0.0100	0.0100	-0.00	0.0026	
Standard I,	CN- .5000 TO .0000	MG/L	0.0000	0.0009	***.**	-0.0000	

End of Calibration Report For Calibration 95112101

Calibration Statistics Report

Cal Ref: 95112101 11/21/95 12:50 pm

hod: CN

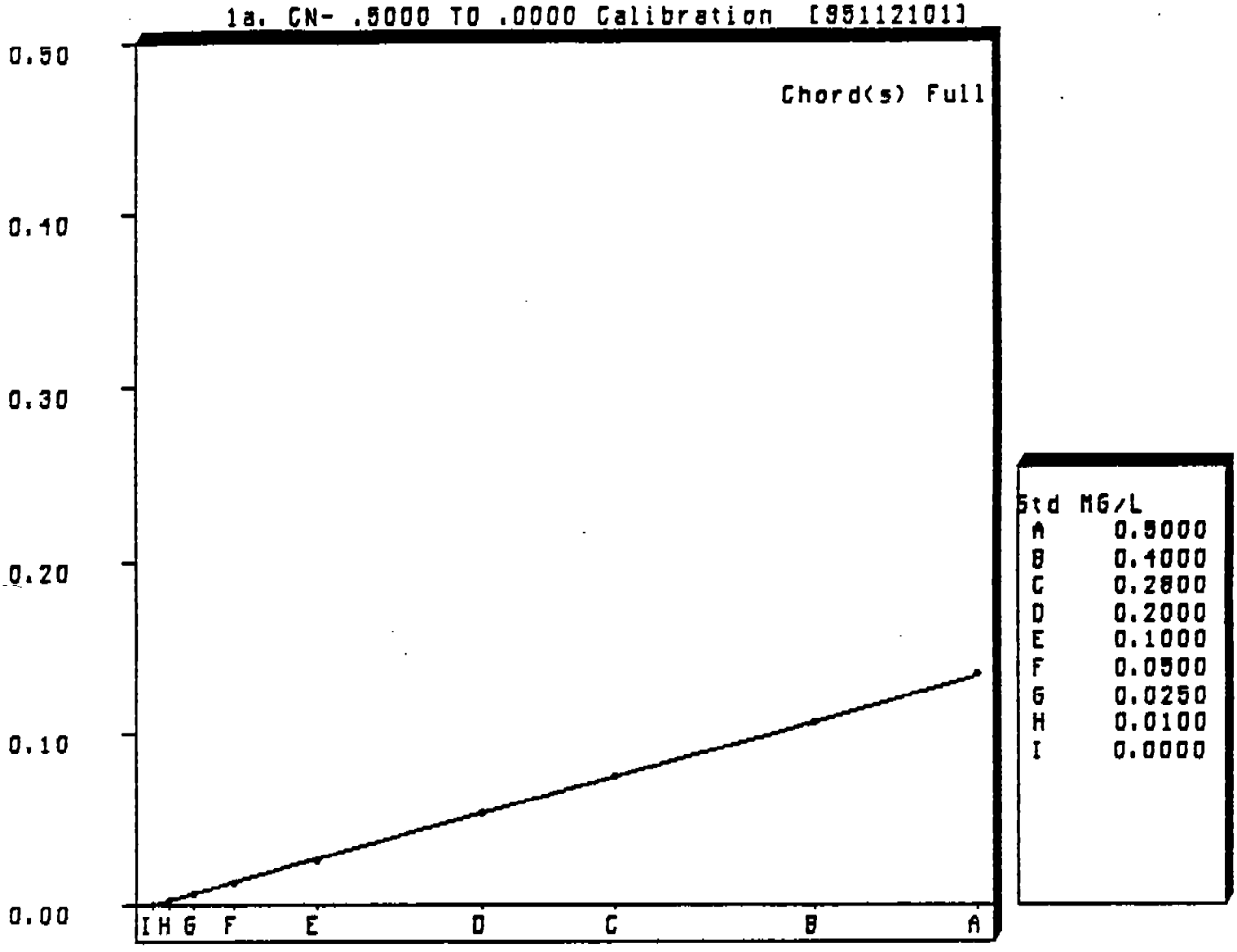
Channel: CN- .5000 TO .0000

Correlation Coefficients

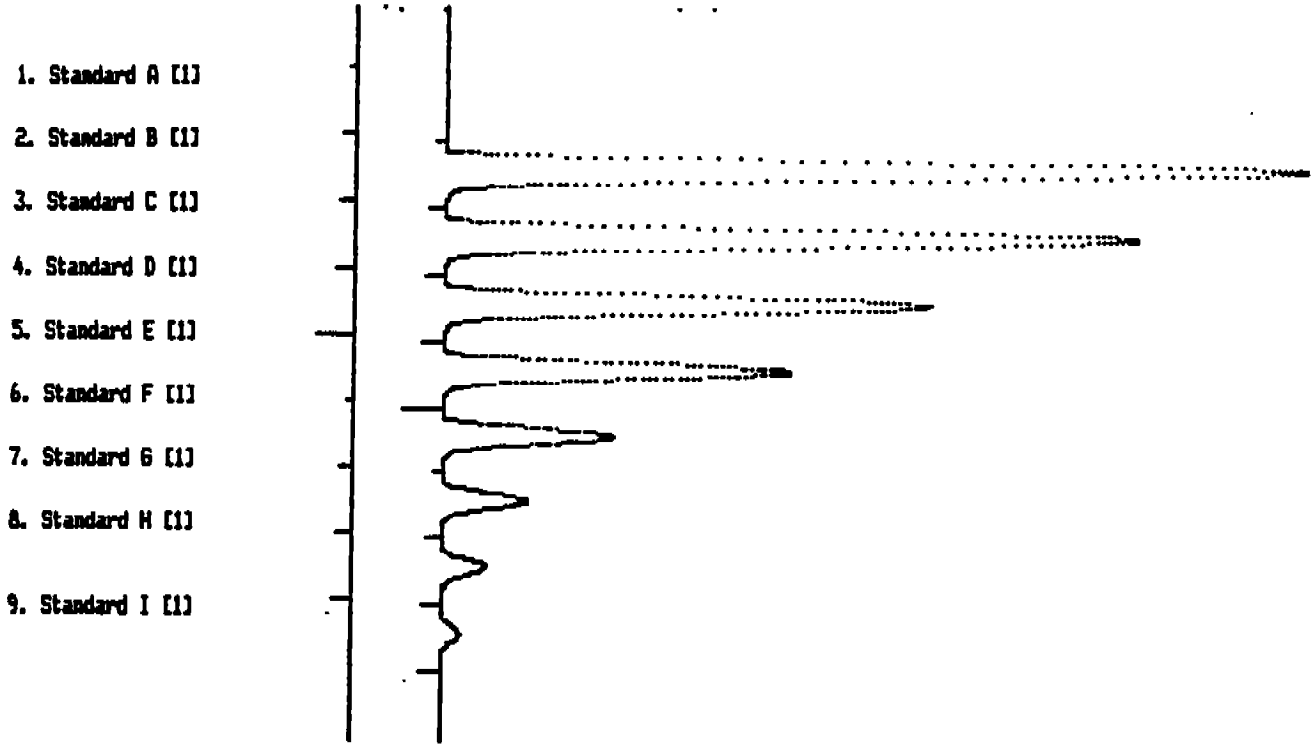
Seg	Stds	Full	Chord 1	Chord 2	Chord 3	Chord 4	Chord 5
1	A-I	1.0000	0.3273 ?	0.9995	1.0000	1.0000	0.9956

Percent Standard Deviation in Slope

1	A-I	0.2	54.2 ?	0.9	0.2	0.2	2.5


1a. CN- .5000 TO .0000 Calibration [95112101]
Chord(s) Full
0.50
0.40
0.30
0.20
0.10
0.00
I H G F E D C B A
Std MG/L
A 0.5000
B 0.4000
C 0.2800
D 0.2000
E 0.1000
F 0.0500
G 0.0250
H 0.0100
I 0.0000

Calibration 11/21/1995, 09:13 am



Quanterra Environmental Services, Pittsburgh

Distillation Worksheet

Parameter Cn Total

Distilled by: [illegible] Date: 11-20-95

SAM Order No.: C5K160008/C5K170004/C5K180003

Required Sample Volume: 500 ml

Reagent/Std. Book ID: 5304-9, 5305-5, 84171

DISTILLED 10:25

Sample ID	Distillation		Dilution Factor	Sample Description	
	Initial	Final		Before Distillation	After Distillation
ICV	125	250	2.0		
ICB			1.0		
CCV			1.0		
CCB			1.0		
PBW	500	750	0.5		
C5K170004-002	500	750	0.5	Colorless & clear	Colorless & clear
C5K170004-001	500	750	0.5	Colorless & clear	Colorless & clear
003	500	750	0.5	Colorless & clear	Colorless & clear
004	500	750	0.5	Colorless & clear	Colorless & clear
005	500	750	0.5	Colorless & clear	Colorless & clear
006	500	750	0.5	Colorless & clear	Colorless & clear
007	500	750	0.5	Colorless & clear	Colorless & clear
C5K180003-001	500	750	0.5	Brown & cloudy	Brown & cloudy
C5K160008-010	500	750	0.5	Colorless & clear	Colorless & clear
CCV			1.0		
CCB			1.0		
C5K160008-010MS	750	750	1.0	Colorless & clear	Colorless & clear
010MSD	750	750	1.0	Colorless & clear	Colorless & clear
CCV			1.0		
CCB			1.0		

Comments:

Cyanide curve prepared from Stock No. 83627-9 by [illegible]. (Date) 11-21-95
Samples are prechecked for oxidizing agents with KI test paper.
Samples are prechecked for sulfide interference with lead acetate paper. [illegible] 11-21-95

Quanterra Pittsburgh
Standardization of Cyanide Stock

1000 ppm stock:

Standard ID: 185-024-09 Manufacturer: Mallinckrodt Lot No.: 6881 KENV

Prep by: JEC Prep Date: 6-5-95 Expiration Date: 12-5-95

Independent
1000 ppm stock:

Standard ID: 185-024-10 Manufacturer: Fisher Lot No.: 901251

Prep by: JEC Prep Date: 6-5-95 Expiration Date: 12-5-95

Blank ▵ 0.01 mL $Agno_3$

Standard ID: 185-024-71 Manufacturer: Fisher. Lot No.: 955974

Prep by: JEC Prep Date: 6-5-95 Expiration Date: 12-5-95

Stock Cyanide Titration Readings

No. 1 2.51 No. 2 2.51 No. 3 2.51

Independent Stock Cyanide Titration Readings

No. 1 2.51 No. 2 2.51 No. 3 2.51

Stock Readings Minus Blank Value

$$\frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000\text{mLs}}{2.50 \text{ mLs}} = \frac{1000 + 1000 + 1000}{3}$$

True Value Stock 1000 ppm stock

Independent Stock Readings Minus Blank Value

$$\frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000\text{mLs}}{2.50 \text{ mLs}} = \frac{1000 + 1000 + 1000}{3}$$

True Value Stock 1000 ppm stock

Week of: November 20, 1995 through November 26, 1995

Standardized by: John E. Campbell Date: November 20, 1995

Checked by: James H. Lahr Date: 11-20-95

Cyanide Standards

I. Stock Cyanide Solution - 1,000 ppm

- 2.51g KCN and 2g KOH in one liter Super-Q Water
- Standardized weekly.

II. Independent Cyanide solution - 1,000 ppm

- 2.51g KCN of different lot and 2g KOH in one liter Super-Q Water
- Standardized weekly.

III. 10 ppm Cyanide Solution for Curve Preparation

- 1 mL of Solution I in 100 mL Super-Q Water.

IV. 10 ppm Independent Cyanide Solution for CCV Preparation

- 1 mL of Solution II in 100 mL Super-Q Water.

V. 5 ppm Cyanide Solution for Spikes

- 0.5 mL of Solution I in 100 mL Super-Q Water.

VI. 0.0900 ppm EPA Reference Standard

- (Using EPA ICV-6 [1191] Cyanide Reference Material 0.09 ppm) add 5 mL of Reference Material to 500 mL Super-Q Water or
- 0.9 mL of Solution I in 100 mL Super-Q Water (non-CLP runs).

VII. 5.62 ppm EPA Reference Material (LCS) for Soil Analysis

- Add 5g of Reference Material to 500 mL Super-Q Water.

VIII. Continuing Calibration Verification (CCV)

- 2.5 mL of Solution II in 197.5 mL Super-Q Water +50 ml 1.25 N. NaOH (0.1 ppm True Value).

Certificate of Analysis

Standard: Cyanide Book # 183-102-09 **Product Code:** 9211

Lot Number: 15283

Preparation Instructions:

In order to prepare samples in the correct range, add two grams of Sodium Hydroxide and 900ml of laboratory grade water to a one (1) Liter volumetric flask; then pipet 10ml of the enclosed vial and dilute to the mark with laboratory grade water.

Parameter	Total Cyanide	Amenable to Chlorination
Units	mg/L	mg/L
True Value	0.87	0.48
Mean	0.81	0.42
Standard Deviation	0.09	0.22
Number of Laboratories	24	2
Average % Recovery	93.06	88.00
95% Confidence Limits	0.626 - 0.989	0.000 - 0.861
99% Confidence Limits	0.569 - 1.046	0.000 - 1.000

Explanation of Terms

True Value: This is the theoretical True Value based upon the method of preparation.

Mean: The average value reported by laboratories participating in the interlaboratory program. These labs tested the Standard as an unknown.

Standard Deviation: The actual Standard Deviation developed in the interlaboratory program.

Number of Laboratories: The number of laboratories whose data was used to develop the Mean and Standard Deviation. Statistical Outliers were removed by the ASTM t Test.

Average % Recovery: The Mean divided by the True Value times 100.

Confidence Limits: These are calculated based upon the Mean and Standard Deviation reported. The USEPA suggest using 95% Confidence for Quality Control limits.

APG The Measure of Quality
Analytical Products Group, Inc.
2730 Washington Blvd., Belpre, OH 45714 800-272-4442 614-423-4200

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-024-01	6-1-95	DRR	ERA 9960	NH_3 DISTILLATION LCS	ERA	9960	6-2-95
183 024-02	6-2-95	DRR	CONC. H_2SO_4	NH_3 BACKGROUND SOLN.	CHEMPURE	M301KMMH	DRR 6-2-95 12-2-95
183-024-03	6-2-95	DRR	ERA 9960	NH_3 ICV	ERA	9960	6-3-95
183-024-04	6-2-95	DRR	NO_3 Stock	Cadmium Reduction Check	Fisher	145097112	6-3-95
183-024-05	6-2-95	DRR	Ind NO_3 Stock	High Level Mallinckrodt		145097113	
			Ind NO_2 Stock	ICV/LCV	Fisher	145097111	6-3-95
183.024.06	6-2-95	DAB	Br	BROMINE WATER	FISHER	925412	12-2-95
183-024-07	6-5-95	DRR	NO_3 Stock	Cadmium Reduction Check	Fisher	145097112	6-6-95
183-024-08	6-5-95	DRR	Ind NO_3 Stock	High Level Mallinckrodt		145097113	
			Ind NO_2 Stock	ICV/LCV	Fisher	145097111	6-6-95
183-024-09	6-5-95	JEC	Cyanide Stock.	KCN	MALLINCKRODT	6881KEHV	
				KOH	FISHER	886912	12-5-95
10			INDEPENDANT Cyanide Stock	KCN	FISHER	901251	
				KOH	FISHER	886912	
11			Silver Nitrate	$AgNO_3$	FISHER	855974	
12			RHODANINE IND.	RHODANINE INDICATOR	ALDRICH	05109MT	
183-024-13	6-5-95	DRR	High Level ICV/LCV	Low Level ICV/LCV	Mallinckrodt Fisher	183024DR	6-6-95
183-024-14	6/5/95	[illegible]	1 hr, 5.9 Hrs	[illegible]	FISHER	110755	6/5/95

183-024-14	6/5/95	[illegible]	Na2S·9.[illegible]	SULFIDE STD	FISHER	940788	6/5/95

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183 024-01	764 ppm	1.25 ml	500 ml	1.91 ppm	Super Q	—	—	JEC 6-2-95	6-2-95
183 024-02	~36 N	4 ml	2 L	~0.0720N	Super Q	—	—	JEC 6-2-95	—
183-024-03	764	0.50 ml	100 ml	3.82 ppm	183-024-02	—	—	JEC 6-2-95	6-3-95
183-024-04	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JEC 6-2-95	6-3-95
183-024-05	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JEC 6-2-95	6-3-95
183-024-06	—	0.8 ml	2 L	—	SUPER-Q	—	—	[illegible] 6-5-95	—
183-024-07	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JEC 6-5-95	6-6-95
183-024-08	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JEC 6-5-95	6-6-95
183-024-09	—	2.61 g 2.00 g	1 liter	1000 ppm	Super Q	—	—	[illegible] 6-5-95	—
10	—	2.61 g 2.00 g	1 liter	1000 ppm	↓	—	—	[illegible] 6-5-95	—
11	—	3.27 g	1 liter	0.192N	↓	—	—	[illegible] 6-5-95	—
12	—	0.02 g	100 ml	—	Acetone	Omni Solv	85605	[illegible] 6-5-95	—
183-024-13	40 ppm	4 ml	100 ml	1.0 ppm	Super Q	—	—	JEC 6-5-95	6-6-95
183-024-14	—	1.5000 g	1 L	200 ppm	NaOH	Chem Pure	MERKMEM	JDM 6-5-95	6/5/95

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183 102-01	11-6-95	RB	Sulfuric Acid	NH3 Back Ground	EM	35017	5-6-96
-02			1000 mg/L NH3 STD	100 mg/L Working Stock	183-040-02	—	11-6-95
-03			100 mg/L STD	NH3 CCV	183-102-02	—	11-6-95
-04			APG Nutrients (183-069-04)	NH3 ICV	APG	14294	11-6-95
-05			PHENOL ~10 N NaOH	ALKALINE PHENOL	Mallinckrodt 183-086-03	0219 KCGT —	11-13-95
-06			Bleach	NH3 Reagent	TopCrest	D5158PAL	11-6-95
183-102-07	11-7-95	RB	NaOH NaNO3	Alkaline Digestion Solution	EM	34277449	11-7-95
183-102-08	11-7-95	gec	Cu Spike Solution	CN	MALLINCKRODT	183-024-04	11-8-95
183-102-09	11-7-95	gec	Cyanide APG	APG	APG	15283	5-7-96
183-102-10	11-7-95	RB	APG NUTRIENTS	APG NUTRIENTS STD	APG	15565	5-7-96
183-102-11	11-8-95	DRR	COLOR (PLATINUM COBALT UNITS) STD.	COLOR ICV/CCV	MALLINCKRODT	H296 KCJ2-P	11-9-96
183-102-12	11-8-95	RB	Sulfuric Acid	NH3 Back Ground	EM	35017	5-8-96
-13			1000 mg/L NH3 STD	100 mg/L NH3 Working Std	183-040-02	—	11-8-95
-14			100 mg/L NH3 STD	NH3 CCV	183-102-13	—	11-8-95

-10 -14	↓	↓	STD 100mg/L NH_3 - 6	NH_3 CCV	183-102-13	—	11-8	5

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-102-01	—	4.0ml	2L	—	Super Q	—	—	11-7-95	11-6-95
-02	1000mg/L	10ml	100ml	100mg/L	183-102-01	—	—	11-7-95	11-7-95
-03	100mg/L	1.5ml	100ml	1.5mg/L	183-102-01	—	—	11-7-95	11-7-95
-04	—	5.0ml	25ml	(17.78)	183-102-01	—	—	11-7-95	11-7-95
-05	~10N	8.3g 9.0ml	100ml	—	Super Q	—	—	11-7-95	—
-06	—	20ml	100ml	—	Super Q	—	—	11-7-95	11-7-95
183-102-07	—	40.00g 60.00g	2L	—	Super Q	—	—	SUG 11-7-95	—
183-102-08	1000 ppm	0.5mL	100 mL	5.0 ppm	Super Q	—	—	11-7-95	—
183-102-09	—	10 mL	1 liter	0.87mg/L	Super Q	—	—	11-7-95	—
183-102-10	—	10ml	1L	NH_3 - 10.17 NO_3 - 7.41 PO_4 - 9.10	Super Q	—	—	11-8-95	—
183-102-11	500 PCU	4 mls	50 mls	40 PCU	Super Q	—	—	RB 11-8-95	11-8-95
183-102-12	—	4.0ml	2L	—	Super Q	—	—	11-9-95	—
-13	1000mg/L	10ml	100ml	100mg/L	183-102-12	—	—	11-9-95	—
-14	100mg/L	1.5ml	100ml	1.5 mg/L	183-102-12	—	—	[illegible]	—

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-109-01	11-17-95 RB	RB	10 mg/L PHENOL WORKING STOCK	ALPKEM PHENOL CCV	183-108-14	—	11-17-95
-02	11-17-95		APG PHENOL STD	ICV	APG	15281	11-17-95
-03			4 AminoAntiPyrene	ALPKEM Phenol Reagent	Aldrich	AZ083201	11-17-95
183-109-04	11-20-95	Pg	H_3PO_4 Sulfanilamide NED	Sulfanilamide	Champion Eno Aldrich	[illegible]	12-20-95
183-109-05	11-20-95	Pg	HCl NH_4OH Na_2EDTA	Ammonium Chloride	Fisher Fisher Aldrich	942937 920020 [illegible]	5-20-96
183-109-06	11-20-95	Pg	Ind NO Stock Ind NO Stock	High Level TCC/CCV	Fisher Baker	183-108-03 183-108-05	11-21-95
183-109-07	11-20-95	Pg	High Level TCC/CCV	Low Level TCC/CCV	Fisher Baker	183-108-04	11-21-95
183-109-08	11-20-95	gec	CN Spike Solution	Cyanide	Mallinckrodt	183-024-09	11-21-95
183-109-09	11-21-95	Pg	KH_2PO_4	Phosphate Buffer	Baker	112157	5-21-96
183-109-10	11-21-95	Pg	Barbituric Acid Pyridine HCl	Pyridine Barbituric Acid	Fisher Champion Fisher	942620 [illegible] 942937	5-21-96
183-109-11	11-21-95	Pg	Chloramine-T	Chloramine-T	Eno	132210	11-22-95
183-109-12	11-21-95	Pg	Cyanide	CN Sol I	Mallinckrodt	183-024-09	11-22-95
13				CN Sol II	Fisher	183-024-10	
14			Cyanide Sol II	CN CCV	Fisher	183-109-13	

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-109-01	10mg/L	2.5ml	100ml	0.25mg/L	183-108-13	—	—	11-20-95 gfc	11-17-95
-02	—	0.5ml	50ml	(.12)	183-108-13	—	—	11-20-95 gfc	
-03	—	.1625g	250ml	—	Super Q	—	—	11-20-95 gfc	
183-109-04	—	100ml 80.00g 2.00g	2L	—	Super Q	—	—	gfc 11-20-95	—
183-109-05	—	40ml 19ml 2.00g	2L	—	Super Q	—	—	gfc 11-20-95	—
183-109-06	200µm 200ppm	2ml 2ml	100ml	40ppm	Super Q	—	—	gfc 11-20-95	—
183-109-07	40ppm	4ml	100ml	1.6ppm	Super Q	—	—	gfc 11-20-95	—
183-109-08	1000 ppm	0.5mL	100 mL	5.0 ppm	Super Q	—	—	SVG 11-20-95	—
183-109-09	—	197.00g 20.00g	2L	0.71mm	Super Q	—	—	SVG 11-21-95	—
183-109-10	—	40ml 2ml	2L	—	Super Q	—	—	SVG 11-21-95	—
183-109-11	—	4.00g	1L	—	Super Q	—	—	SVG 11-21-95	—
183-109-12	1000ppm	1ml	100ml	10ppm	Super Q	—	—	SVG 11-21-95	—
13	1000ppm	1ml	100ml	10ppm	Super Q	—	—	SVG 11-21-95	—
14	100ppm	2.5ml	250ml	[illegible]	Super Q 5.00 NaOH	[illegible]	—	SVG 11-21-95	—

..

==========

QuikChem AE Postrun Report for Tray 95112903.RS
Method: CN METHOD

This report prepared on 11/29/95 09:56
This tray was run on 11/29/95 09:12
Operator: PJ INST#6 Tray Template: CLPAPGW

C5K220013/C5K180003 * (TOTAL VERIFICATION) DIST 11-28-95 RM RUN 11-29-95 PJ
183-109-10, 183-113-05, 183-109-09, 5174-12 STD CURVE PREP FROM 183-02-09 11-29-95

==========

-- Calibration now in effect (95112901) was done on 11/29/95 08:22

-- Page 1 of report for tray 95112903.RS ----------

Channel No: 1 Channel Name: CN- .5000 TO .0000

Cup#	Sample ID	MG/L
201	ICV 183-102-09	0.7460
202	ICB	-0.0002
203	CCV 183-113-08	0.1011
204	CCB	-0.0005
205	PBW	0.0004
206	C5K220013-001	0.0108
207	C5K220013-002	0.0018
208	C5K220013-003	0.0115
209	C5K220013-004	0.0118
210	C5K220013-005	0.1128
211	C5K220013-007	0.0031
212	C5K220013-007 S	0.1031
213	C5K220013-007 D	0.0032
214	CCV 183-113-08	0.1012
215	CCB	0.0000
216	C5K220013-006	0.0566
217	C5K220013-008	0.0005
218	C5K220013-009	0.0037
219	C5K220013-010	0.0033
220	C5K220013-011	0.0007
221	C5K180003-001	0.1056
222	CCV 183-113-08	0.1009
223	CCB	0.0000

--------- End of Report for Tray 95112903.RS ----------

REVIEWED BY: DLR
DATE: 12-1-95

QUANTERRA ENVIRONMENTAL SERVICES
WET CHEM QA/QC ANALYSIS

SHEET NO QAQC9511271 PARAMETER CN qc2 V2.2 01/15/92

CREATED: 11/29/95
UPDATED: 11/29/95
EXPORTED:

TEST BY PJ DATE 11/29/95
CHECK BY DATE
UNITS MG/L MATRIX WATER

SAM NUMBER: C5K220013
COMMENTS

DUPLICATE SAMPLE

SAMPLE NUMBER	C5K220013-007		
Orig Smp Conc	< 0.0100		
Dup Smp Conc	< 0.0100		
Mean			
Range			
RPD			

INITIAL CALIBRATION VERIFICATION - ICV

ICV NUMBER	True Val	Observed	Recovery (%)
ICV 18310209	0.8700	0.7460	85.7471

CONTINUING CALIBRATION VERIFICATION - CCV (CONTROL)

CCV NUMBER	True Val	Observed	Recovery (%)
CCV 18311308	0.1000	0.1011	101.1000
CCV 18311308	0.1000	0.1012	101.2000
CCV 18311308	0.1000	0.1009	100.9000

ANALYTICAL/MATRIX SPIKE PERCENT RECOVERY

SAMPLE #	C5K220013-007		
Anal/Matrix	M	-	-
Final Spk+Smp	0.1031		
Spike Conc.	5.0000		
Vol. Spk Added	10.0000		
Vol.Smp Spiked	500.0000		
Fin.vol Spiked	500.0000		
Theo.Spike Val	0.1000		
Sample Result	< 0.0100		
% Recovery	103.1000		

==========

QuikChem AE Runtime Report for Tray 95112903.RS
Method: CN METHOD

This report and tray were started on 11/29/95 08:46
Operator: 11.29.95 Tray Template:

==========

-- Calibration now in effect (95112901) was done on 11/29/95 08:22

-- Page 1 of report for tray 95112903.RS ----------

Cup 201, Sample: ICV 183-102-09 08:49 2.00

Ch. 1: CN- .5000 TO .0000 ; 0.7460MG/L PIF=0.99 Abs= 0.1017

Cup 202, Sample: ICB 08:50 1.00

Ch. 1: CN- .5000 TO .0000 ; -0.0002MG/L PIF=0.00 Abs=-0.0001
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 203, Sample: CCV 183-113-08 08:51 1.00

Ch. 1: CN- .5000 TO .0000 ; 0.1011MG/L PIF=0.99 Abs= 0.0275

Cup 204, Sample: CCB 08:52 1.00

Ch. 1: CN- .5000 TO .0000 ; -0.0005MG/L PIF=0.09 Abs=-0.0001
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 205, Sample: PBW 08:53 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0008MG/L PIF=0.56 Abs= 0.0002
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 206, Sample: C5K220013-001 08:54 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0108MG/L PIF=0.98 Abs= 0.0059

Cup 207, Sample: C5K220013-002 08:55 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0036MG/L PIF=0.90 Abs= 0.0010
*** Above conc. is significantly less than the lowest non-zero std's conc.

-- Report for tray 95112903.RS continued on next page . . .

```
 p 208, Sample: C5K220013-003          08:56              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0115MG/L        PIF=0.99 Abs= 0.0063

Cup 209, Sample: C5K220013-004         08:57              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0118MG/L        PIF=0.99 Abs= 0.0064

Cup 210, Sample: C5K220013-005         08:58              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.1128MG/L        PIF=0.99 Abs= 0.0614

Cup 211, Sample: C5K220013-007         09:00              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0063MG/L        PIF=0.96 Abs= 0.0017
 *** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 212, Sample: C5K220013-007 S       09:01              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.1031MG/L        PIF=0.99 Abs= 0.0562

Cup 213, Sample: C5K220013-007 D       09:02              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0064MG/L        PIF=0.96 Abs= 0.0017
 *** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 214, Sample: CCV 183-113-08        09:03              1.00

 Ch. 1: CN- .5000 TO .0000       ;     0.1012MG/L        PIF=0.99 Abs= 0.0276

Cup 215, Sample: CCB                   09:04              1.00

 Ch. 1: CN- .5000 TO .0000       ;     0.0000MG/L        PIF=0.00 Abs=-0.0000
 *** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 216, Sample: C5K220013-006         09:05              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0566MG/L        PIF=0.99 Abs= 0.0309

Cup 217, Sample: C5K220013-008         09:06              0.50

 Ch. 1: CN- .5000 TO .0000       ;     0.0010MG/L        PIF=0.77 Abs= 0.0003
 *** Above conc. is significantly less than the lowest non-zero std's conc.
```

-- Report for tray 95112903.RS continued on next page . . .

Cup 218, Sample: C5K220013-009 09:07 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0037MG/L PIF=0.96 Abs= 0.0020

Cup 219, Sample: C5K220013-010 09:08 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0033MG/L PIF=0.94 Abs= 0.0018

Cup 220, Sample: C5K220013-011 09:09 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.0014MG/L PIF=0.61 Abs= 0.0004
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 221, Sample: C5K180003-001 09:10 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.1056MG/L PIF=0.99 Abs= 0.0576

Cup 222, Sample: CCV 183-113-08 09:11 1.00

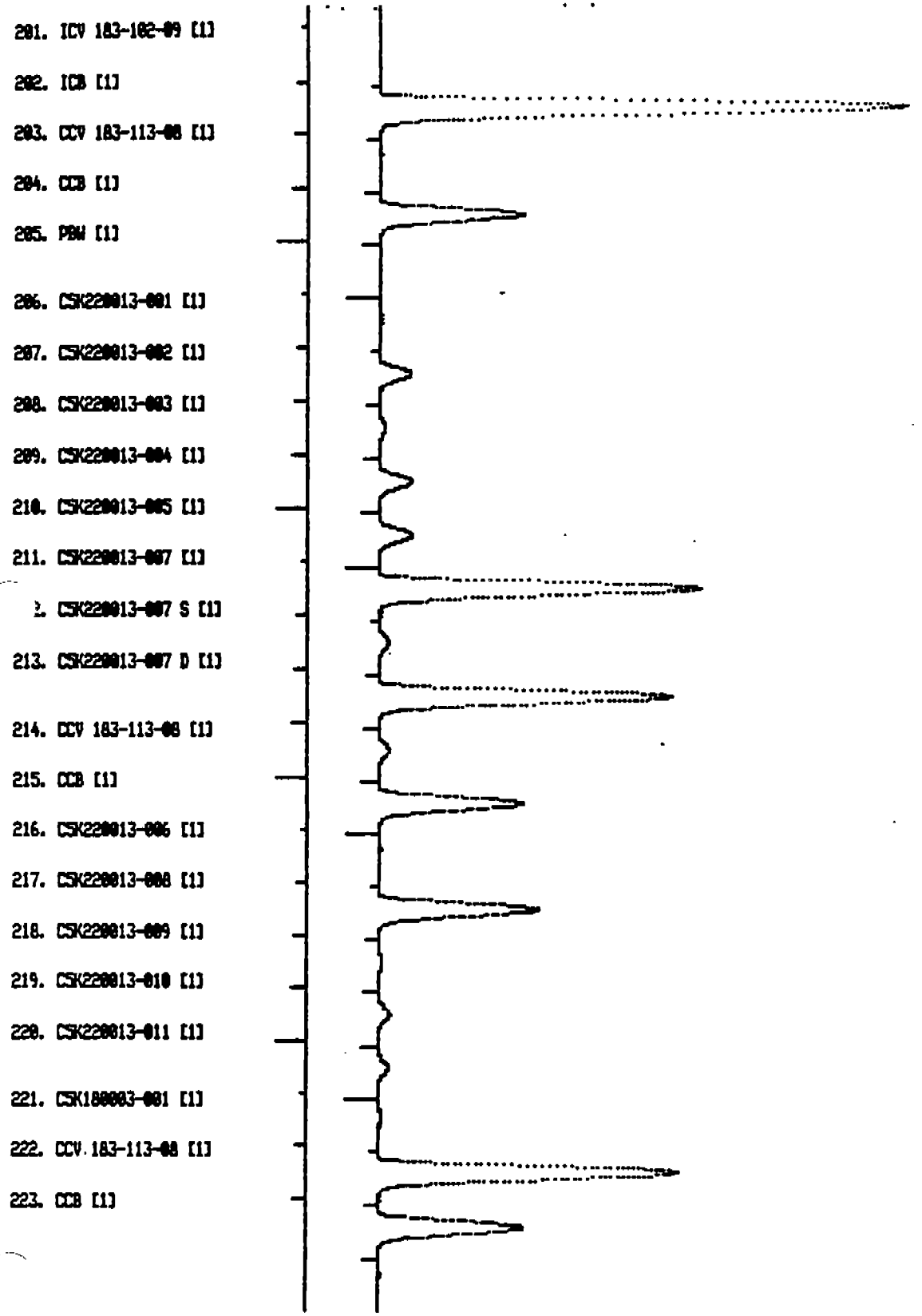
Ch. 1: CN- .5000 TO .0000 ; 0.1009MG/L PIF=0.99 Abs= 0.0275

Cup 223, Sample: CCB 09:12 1.00

Ch. 1: CN- .5000 TO .0000 ; 0.0000MG/L PIF=0.00 Abs= 0.0000
*** Above conc. is significantly less than the lowest non-zero std's conc.

--------- End of Report for Tray 95112903.RS ----------

Rack 2 (Ref: 95112903) 11/29/1995, 08:46 am



QuikChem AE Calibration Report for Calibration 95112901
Method: CN METHOD
This calibration was done on 11/29/95 08:22
This report prepared on 11/29/95 09:50

	Analyte	Units	Average Concentrations Known	Determined	% Residual	Baseline Corrected Average Absorbance	Time
Standard A,	CN- .5000 TO .0000	MG/L	0.5000	0.4985	0.30	0.1359	08:14
Standard B,	CN- .5000 TO .0000	MG/L	0.4000	0.4028	-0.69	0.1098	08:15
Standard C,	CN- .5000 TO .0000	MG/L	0.2000	0.2789	0.41	0.0760	08:16
Standard D,	CN- .5000 TO .0000	MG/L	0.2000	0.1999	0.04	0.0545	08:17
Standard E,	CN- .5000 TO .0000	MG/L	0.1000	0.1001	-0.14	0.0273	08:18
Standard F,	CN- .5000 TO .0000	MG/L	0.0500	0.0491	1.84	0.0134	08:19
Standard G,	CN- .5000 TO .0000	MG/L	0.0250	0.0254	-1.69	0.0069	08:20
Standard H,	CN- .5000 TO .0000	MG/L	0.0100	0.0101	-0.83	0.0027	08:21
Standard I,	CN- .5000 TO .0000	MG/L	0.0000	0.0002	***.**	0.0001	08:22

End of Calibration Report For Calibration 95112901

Calibration Statistics Report

Cal Ref: 95112901 11/29/95 09:51 am

thod: CN

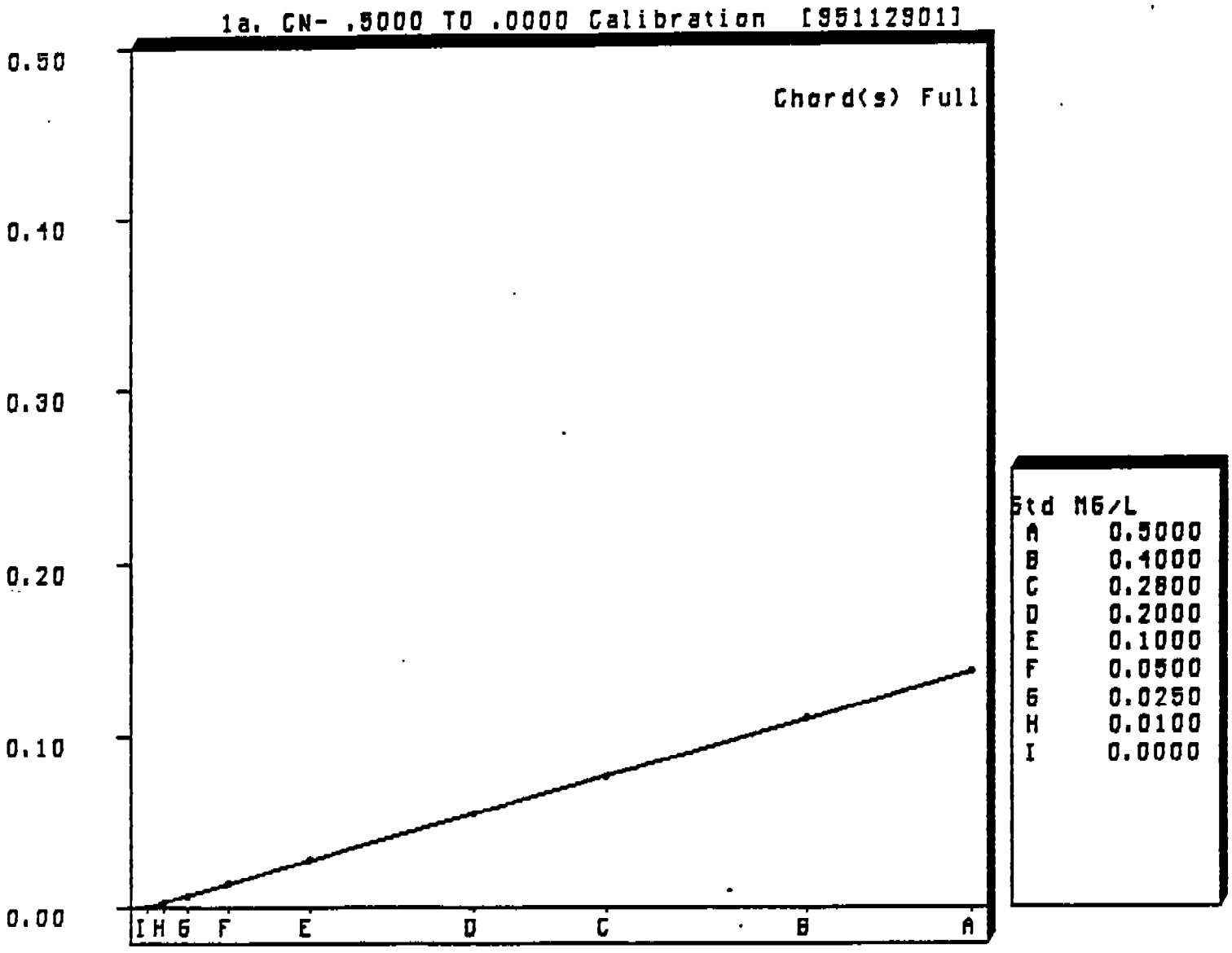
Channel: CN- .5000 TO .0000

Correlation Coefficients

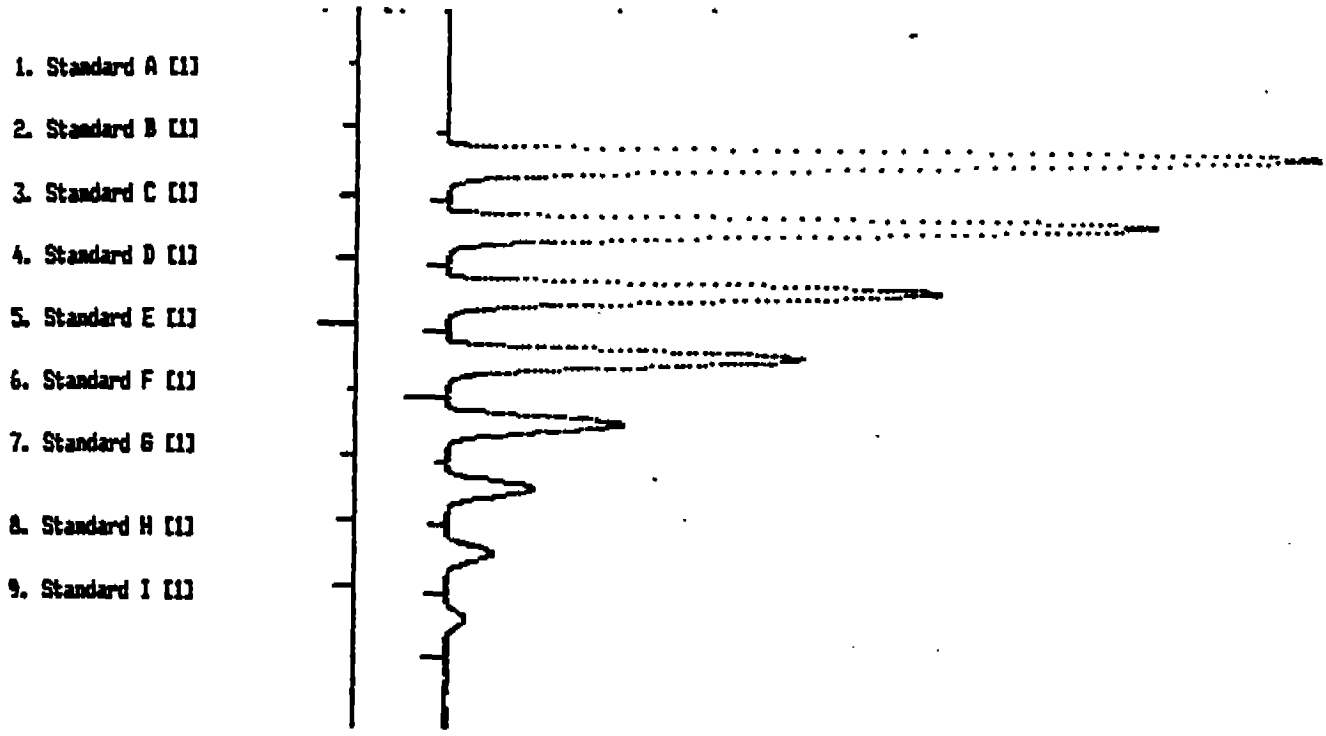
Seg	Stds	Full	Chord 1	Chord 2	Chord 3	Chord 4	Chord 5
1	A-I	1.0000	0.0113 ?	0.9998	0.9999	1.0000	0.9987

Percent Standard Deviation in Slope

1	A-I	0.3	353.3 ?	0.6	0.3	0.2	1.3


1a. CN- .5000 TO .0000 Calibration [951129011]
Chord(s) Full
0.50
0.40
0.30
0.20
0.10
0.00
I H G F E D C B A
Std MG/L
A 0.5000
B 0.4000
C 0.2800
D 0.2000
E 0.1000
F 0.0500
G 0.0250
H 0.0100
I 0.0000

Calibration 11/29/1995, 08:10 am



Quanterra Environmental Services, Pittsburgh

Distillation Worksheet

Parameter CN/TOTAL

Distilled by: RRM Date: 11-29-95

SAM Order No.: CSK220013 / CSK190003

Required Sample Volume: 500ml

Reagent/Std. Book ID: ~~183-34-10~~ 183-102-09 183-112-08
NW 11-29-95

DISTILLED 10:15 AM

Sample ID	Distillation		Dilution Factor	Sample Description	
	Initial	Final		Before Distillation	After Distillation
ICV	125	250	2.00		
ICB			1.00		
CCV			1.00		
CCB			1.00		
PBW	500	250	0.50		
~~LCS (APG)~~	~~500~~	~~250~~	~~0.50~~	~~CLEAR/COLORLESS~~	~~CLEAR/COLORLESS~~
CSK220013-001	500	250	0.50	CLEAR/BROWN SEDIMENT	CLEAR
-002	500	250	0.50	CLEAR/BROWN SEDIMENT	CLEAR
-003	500	250	0.50	SLIGHTLY YELLOW/BROWN SEDIMENT	CLEAR
-004	500	250	0.50	CLEAR/BROWN SEDIMENT	CLEAR
-005	500	250	0.50	CLEAR/BROWN SEDIMENT	CLEAR
-007	500	250	0.50	CLEAR/COLORLESS	CLEAR
MS -007	500	250	0.50	CLEAR/COLORLESS	CLEAR
~~DUP~~ -007	500	250	0.50	CLEAR/COLORLESS	CLEAR
CCV			1.00		
CCB			1.00		
CSK220013-006	500	250	0.50	CLEAR/BROWN SEDIMENT	CLEAR
-008	500	250	0.50	CLEAR/BROWN SEDIMENT	CLEAR
-009	500	250	0.50	CLEAR/BROWN SEDIMENT	CLEAR

Comments:

Cyanide curve prepared from Stock No. 19307409 by [illegible]. (Date) 11-29-95
Samples are prechecked for oxidizing agents with KI test paper. [illegible]
Samples are prechecked for sulfide interference with lead acetate paper. [illegible] 11-29-95

Quanterra Environmental Services, Pittsburgh

Distillation Worksheet

Parameter CN/TOTAL

Distilled by: KRM Date: 11·28·95

SAM Order No.: C5K220013 | C5K180003

Required Sample Volume: 500ml

Reagent/Std. Book ID: ~~183-21-18~~ 183-102·09 RM 11·28·95 183-112-08

Sample ID	Distillation		Dilution Factor	Sample Description	
	Initial	Final		Before Distillation	After Distillation
C5K220013-010	500	250	0.50	clear/Brown sediment	clear
-011	500	250	0.50	clear/colorless	clear
~~CCV~~ ~~012~~ RM 11·28·95					
~~CCB~~ RM 11·28·95					
C5K180003-001	500	250	0.50	DARK Brown/cloudy	DARK Brown/cloudy
CCV			1.00		
CCB			1.00		

[signature] 11·28·95

Comments:

Cyanide curve prepared from Stock No. 183-102-09 by [initials]. (Date) 11·29·95
Samples are prechecked for oxidizing agents with KI test paper.
Samples are prechecked for sulfide interference with lead acetate paper. [initials] 11·29·95

0000020

Quanterra Pittsburgh
Standardization of Cyanide Stock

1000 ppm stock:

Standard ID: 1B3.024.09 Manufacturer: Mallinckrodt Lot No.: 6331KEHV

Prep by: DEC Prep Date: 6.5.95 Expiration Date: 12.5.95

Independent
1000 ppm stock:

Standard ID: 1B3.024.10 Manufacturer: Fisher Lot No.: 901251

Prep by: DEC Prep Date: 6.5.95 Expiration Date: 12.5.95

Blank ▲ 0.01 mL $Agno_3$

Standard ID: 1B3.024.11 Manufacturer: Fisher Lot No.: 855974

Prep by: DEC Prep Date: 6.5.95 Expiration Date: 12.5.95

Stock Cyanide Titration Readings

No. 1 2.51 No. 2 2.51 No. 3 2.51

Independent Stock Cyanide Titration Readings

No. 1 2.51 No. 2 2.51 No. 3 2.51

Stock Readings Minus Blank Value

$$\frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000\text{mLs}}{2.50 \text{ mLs}} = \frac{1000 + 1000 + 1000}{3}$$

True Value Stock 1000 ppm stock

Independent Stock Readings Minus Blank Value

$$\frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000\text{mLs}}{2.50 \text{ mLs}} = \frac{1000 + 1000 + 1000}{3}$$

True Value Stock 1000 ppm stock

Week of: November 27, 1995 through November 3, 1995

Standardized by: L. Johnson Date: November 27, 1995

Checked by: [illegible] Date: 11/27/95

Cyanide Standards

I. Stock Cyanide Solution - 1,000 ppm

- 2.51g KCN and 2g KOH in one liter Super-Q Water
- Standardized weekly.

II. Independent Cyanide solution - 1,000 ppm

- 2.51g KCN of different lot and 2g KOH in one liter Super-Q Water
- Standardized weekly.

III. 10 ppm Cyanide Solution for Curve Preparation

- 1 mL of Solution I in 100 mL Super-Q Water.

IV. 10 ppm Independent Cyanide Solution for CCV Preparation

- 1 mL of Solution II in 100 mL Super-Q Water.

V. 5 ppm Cyanide Solution for Spikes

- 0.5 mL of Solution I in 100 mL Super-Q Water.

VI. 0.0900 ppm EPA Reference Standard

- (Using EPA ICV-6 [1191] Cyanide Reference Material 0.09 ppm) add 5 mL of Reference Material to 500 mL Super-Q Water or
- 0.9 mL of Solution I in 100 mL Super-Q Water (non-CLP runs).

VII. 5.62 ppm EPA Reference Material (LCS) for Soil Analysis

- Add 5g of Reference Material to 500 mL Super-Q Water.

VIII. Continuing Calibration Verification (CCV)

- 2.5 mL of Solution II in 197.5 mL Super-Q Water +50 ml 1.25 N. NaOH (0.1 ppm True Value).

Certificate of Analysis

Standard: Cyanide Book # 113-102-09 Product Code: 9211

Lot Number: 15283

Preparation Instructions:

In order to prepare samples in the correct range, add two grams of Sodium Hydroxide and 900ml of laboratory grade water to a one (1) Liter volumetric flask; then pipet 10ml of the enclosed vial and dilute to the mark with laboratory grade water.

Parameter	Total Cyanide	Amenable to Chlorination
Units	mg/L	mg/L
True Value	0.87	0.48
Mean	0.81	0.42
Standard Deviation	0.09	0.22
Number of Laboratories	24	2
Average % Recovery	93.06	88.00
95% Confidence Limits	0.626 - 0.989	0.000 - 0.861
99% Confidence Limits	0.569 - 1.046	0.000 - 1.000

Explanation of Terms

True Value: This is the theoretical True Value based upon the method of preparation.

Mean: The average value reported by laboratories participating in the interlaboratory program. These labs tested the Standard as an unknown.

Standard Deviation: The actual Standard Deviation developed in the interlaboratory program.

Number of Laboratories: The number of laboratories whose data was used to develop the Mean and Standard Deviation. Statistical Outliers were removed by the ASTM t Test.

Average % Recovery: The Mean divided by the True Value times 100.

Confidence Limits: These are calculated based upon the Mean and Standard Deviation reported. The USEPA suggest using 95% Confidence for Quality Control limits.

APG The Measure of Quality
Analytical Products Group, Inc.
2730 Washington Blvd., Belpre, OH 45714 800-272-4442 614-423-4200

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-024-01	6-1-95	DRR	ERA 9960	NH_3 DISTILLATION LCS	ERA	9960	6-2-95
183-024-02	6-2-95	DRR	CONC. H_2SO_4	NH_3 BACKGROUND SOLN.	CHEMPURE	M301KMMH	DAB 6-2-95 12-2-95
183-024-03	6-2-95	DRR	ERA 9960	NH_3 ICV	ERA	9960	6-3-95
183-024-04	6-3-95	DB	NO_3 Stock	Cadmium Reduction Check	Fisher	145097 12	6-3-95
183-024-05	6-3-95	DB	Ind NO_3 Stock	High Level	Mallinckrodt	145097 13	
183-024-06	6-2-95	DAB	Ind NO_2 Stock	ICV/LCV	Fisher	145097 11	6-3-95
183.024.06	6-2-95	DAB	Br	BROMINE WATER	FISHER	925412	12-2-95
183-024-07	6-5-95	DB	NO_3 Stock	Cadmium Reduction Check	Fisher	145097 12	6-6-95
183-024-08	6-5-95	DB	Ind NO_3 Stock	High Level	Mallinckrodt	145097 13	
183-024-08	6-5-95	DB	Ind NO_2 Stock	ICV/LCV	Fisher	145097 11	6-6-95
183-024-09	6-5-95	DEC	Cyanide Stock.	KCN KOH	MALLINCKRODT FISHER.	6781KEHV 886912	12-5-95
10			Independant Cyanide Stock	KCN KOH	FISHER FISHER	901251 886912	
11			Silver Nitrate	$AgNO_3$	FISHER	855994	
12			Rhodanine Ind.	Rhodanine Indicator	ALDRICH	05109 MT	
183-024-13	6-5-95	DB	High Level ICV/LCV	Low Level ICV/LCV	Mallinckrodt Fisher	183024DP	6-6-95
183-024-14	6/5/95	[illegible]	Alg. 5.9 Hrs	[illegible] STD	FISHER	110755	6/5/95

183-024-14	6/5/95		Na2 S2O	SULFIDE STD	FISHER	942788	6/95

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183 024-01	764 ppm	1.25 ml	500 ml	1.91 ppm	Super Q	—	—	JJC 6-2-95	6-7-95
183 024-02	~36 N	4 ml	2 L	~0.0720N	Super Q	—	—	JJC 6-2-95	—
183-024-03	764	0.50 ml	100 ml	3.82 ppm	183-024-02	—	—	JJC 6-2-95	6-7-95
183-024-04	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JJC 6-2-95	6-7-95
183-024-05	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JJC 6-2-95	6-7-95
183-024-06	—	0.8 ml	2 L	—	SUPER-Q	—	—	DJM 6-5-95	—
183-024-07	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JJC 6-5-95	6-6-95
183-024-08	200 ppm	2 ml	100 ml	4.0 ppm	Super Q	—	—	JJC 6-5-95	6-6-95
183-024-09	—	2.81 g 2.00 g	1 liter	1000 ppm	Super Q	—	—	DJM 6-5-95	—
10	—	2.61 g 2.00 g	1 liter	1000 ppm		—	—	DJM 6-5-95	—
11	—	3.27 g	1 liter	0.192N		—	—	DJM 6-5-95	—
12	—	0.02 g	100 ml	—	Acetone	Omni Solv	65005	DJM 6-5-95	—
183-024-13	4.0 ppm	4 ml	100 ml	1.0 ppm	Super Q	—	—	JJC 6-5-95	6-6-95
183-024-14	—	1.5000 g	1 L	200 ppm	NaOH	Chem Pure	MERAKMEM	DJM 6-5-95	6/5/95

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-102-01	11-6-95	RB	Sulfuric Acid	NH3 Back Gnd	EM	35017	5-6-96
-02			1000 mg/L NH3 STD	100 mg/L Working Std	183-040-02	—	11-6-95
-03			100 mg/L STD	NH3 CCV	183-102-02	—	11-6-95
-04			APG Nutrients (183-069-04)	NH3 ICV	APG	14294	11-6-95
-05			PHENOL ~10 N NaOH	ALKALINE PHENOL	Mallinckrodt 183-086-03	0219 KCGI —	11-13-95
-06			Bleach NaOH	NH3 Reagent	TopCrest	D5158PAL	11-6-95
~~183-102-07~~	~~11-7-95~~	~~RB~~	~~NaNO3~~	~~Alkaline Digestion Solution~~	~~Em~~	~~34477449~~	~~11-7-95~~
183-102-08	11-7-95	RB	Cu Spike Solution	CN	MALLINCKRODT	183-024-04	11-8-95
183-102-09	11-7-95	RB	Cyanide Std	APG	APG	15283	5-7-96
183-102-10	11-7-95	RB	APG NUTRIENTS	APG NUTRIENTS STD	APG	15565	5-7-96
183-102-11	11-8-95	DRR	COLOR (PLATINUM COBALT UNITS) STD.	COLOR ICV/CCV	MALLINCKRODT	H296 KCJZ-P	11-9-96
183-102-12	11-8-95	RB	Sulfuric Acid	NH3 Back Gnd	EM	35017	5-8-96
-13			1000 mg/L NH3 STD	100 mg/L NH3 Working Std	183-040-02	—	11-8-95
-14			100 mg/L NH3 STD	NH3 CCV	183-102-13	—	11-8-95

↓	10 -14	↓	↓	STD 100mg/L	STD	NH3 CCV	183-102-13	—	11 95

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183102-01	—	4.0ml	2L	—	Super Q	—	—	11.7.95	11-6-95
-02	1000mg/L	10ml	100ml	100mg/L	183102-01	—	—	11.7.95	11-7-95
-03	100mg/L	1.5ml	100ml	1.5mg/L	183-102-01	—	—	11.7.95	11-7-95
-04	—	5.0ml	25ml	(17.78)	183-102-01	—	—	11.7.95	11-7-95
-05	~10N	8.3g 9.0ml	100ml	—	Super Q	—	—	11.7.95	—
-06	—	20ml	100ml	—	Super Q	—	—	11.7.95	11-7-95
183-102-07	—	40.00g 60.00g	2L	—	Super Q	—	—	SVG 11-7-95	—
183-102-08	1000 ppm	0.5mL	100 mL	5.0 ppm	Super Q	—	—	11.7.95	—
183-102-09	—	10 mL	1 liter	0.87mg/L NH3 - 10.17 NO3 - 7.91 Ortho - 9.10	Super Q	—	—	JDB 11-7-95	—
183-102-10	—	10ml	1L		Super Q	—	—	DRR 11-8-95	—
183-102-11	500 PCU	4 mls	50 mls	40 PCU	Super Q	—	—	RB 11-8-95	11-8-95
183-102-12	—	4.0ml	2L	—	Super Q	—	—	11-9-95	—
-13	1000mg/L	10ml	100ml	100mg/L	183-102-12	—	—	11-9-95	—
-14	100mg/L	1.5ml	100ml	1.5 mg/L	183-102-12	—	—	[illegible]	—

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-109-01	11-17-95 RB	RB	10 mg/L PHENOL WORKING STOCK	ALPKEM PHENOL CCV	183-108-14	—	11-17-95
-02	11-17-95		APG PHENOL STD	ICV	APG	15281	11-17-95
-03			4 AminoAntiPyrene	ALPKEM Phenol Reagent	Aldrich	AZ08320[illegible]	11-17-95
183-109-04	11-20-95	PG	H_2SO_4 Sulfanilamide NED	Sulfanilamide	Champion EPA Aldrich	[illegible]	11-20-95
183-109-05	11-20-95	PG	HCl NH_4OH Na_2EDTA	Ammonium Chloride	Fisher Fisher Aldrich	[illegible]	5-20-96
183-109-06	11-20-95	PG	Ind NO_3 Stock	High Level	Fisher	183-084-03	
183-109-07	11-20-95	PG	Ind NO_3 Stock High Level	Low Level	Baker Fisher	183-084-05	11-21-95
183-109-08	11-20-95	PG	CN Spike Solution	Cyanide	MALLINCKRODT	183-024-09	11-21-95
183-109-09	11-21-95	PG	KH_2PO_4	Phosphate Buffer	Baker	1121157	5-21-96
183-109-10	11-21-95	PG	Barbituric Acid Pyridine HCl	Pyridine Barbituric Acid	Fisher Champion Fisher	942620 [illegible] 942937	5-21-96
183-109-11	11-21-95	PG	Chloramine T	Chloramine T	Eco	132310	11-22-95
183-109-12	11-21-95	PG	Cyanide	CN Sol I	Mallinckrodt	183024-09	11-22-95
13				CN Sol II	Fisher	183024-10	
14			Cyanide Sol III	CN Sol III	Fisher	183109-13	

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

109

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-109-01	10 mg/L	2.5ml	100ml	0.25 mg/L	183-108-13	—	—	11-20-95 gpc	11-17-95
-02	—	0.5ml	50ml	(.12)	183-108-13	—	—	11-20-95 gpc	11-17-95
-03	—	.1625g	250ml	—	Super Q	—	—	11-20-95 gpc	11-17-95
183-109-04	—	100ml 80.00g 2.00g	2 L	—	Super Q	—	—	JC 11-20-95	—
183-109-05	—	40ml 19.00g 2.00g	2 L	—	Super Q	—	—	JC 11-20-95	—
183-109-06	200 µM 200 ppm	2ml 2ml	100ml	4 ppm	Super Q	—	—	JC 11-20-95	11-21-95
183-109-07	4 ppm	4ml	100ml	1.6 ppm	Super Q	—	—	JC 11-20-95	11-21-95
183-109-08	1000 ppm	0.5ml	100ml	5.0 ppm	Super Q	—	—	SLG 11-20-95	11-21-95
183-109-09	—	19.00g 20.00g	2 L	0.7 µM	Super Q	—	—	SLG 11-21-95	—
183-109-10	—	40ml 20.00g	2 L	—	Super Q	—	—	SLG 11-21-95	—
183-109-11	—	4.00g	1 L	—	Super Q	—	—	SLG 11-21-95	11-22-95
183-109-12	1000 ppm	1ml	100ml	10 ppm	Super Q	—	—	SLG 11-21-95	11-22-95
13	1000 ppm	1ml	100ml	10 ppm	Super Q	—	—	SLG 11-21-95	11-22-95
14	10 ppm	2.5ml	250ml	0.1 ppm	Super Q 50ml NaOH	—	—	SLG 11-21-95	11-22-95

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-113-01	11-28-95	RB	PHENOL 10 N NaOH	ALKALINE PHENOL	Mallinckrodt LAB CHEM	0219KGT 5212-2	12-5-95
-02			Sodium Nitro-Ferricyanide	Sodium Nitroferricyanide Solution	EM SCIENCE	31028532	12-28-95
-03			Bleach	ALPKEM NH_3 Reagent	TopCrest	DS158PA-6	12-29-95
183-113-04	11-29-95	SUG	Glucose Glutamic Acid	BOD LCS	Mallinckrodt	4912 KBLA 5095KMJ	12-6-95
183-113-05	11-29-95	DS	Chloramine T	Chloramine T	EM	33130	11-30-95
183-113-06	11-29-95	DS	CN Solution II	Cyanide Stock	Mallinckrodt	183-112-109	11-30-95
183-113-07	11-29-95	DS	CN Solution II	Cyanide Stock	Fisher	183-112-110	11-30-95
183-113-08	11-29-95	DS	CN LCS	CN Solution II	Fisher	183-113-112	11-30-95
				DS 11-29-95			

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK
113

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-113-01	10N	8.3g 9.0ml	100ml	—	Super Q	—	—	DER 11-28-95	—
-02	—	0.50g	1L	—	Super Q	—	—	DER 11-28-95	—
-03	—	20ml	100ml	—	Super Q	—	—	DER 11-28-95	—
183-113-04	—	.015g .015g	100ml	200ppm	Super Q	—	—	11-29-95	—
183-113-05	—	4.00g	1L	—	Super Q	—	—	SVG 11-29-95	—
183-113-06	1000ppm	1ml	100ml	10ppm	Super Q	—	—	SVG 11-29-95	—
183-113-07	1000ppm	1ml	100ml	10ppm	Super Q	—	—	SVG 11-29-95	—
183-113-08	10ppm	2.5ml	250ml	0.1ppm	Super Q 5ml HNO3	10/Lbem	5221-4	SVG 11-29-95	—
								11-29-95	

..

#5826-010

==========

QuikChem AE Postrun Report for Tray 95112111.RS
thod: CN METHOD

This report prepared on 11/21/95 16:17
This tray was run on 11/21/95 14:50
Operator: PJ INST#6 Template: CLPAPGW

C5K180003 AMENABLE CYANIDE DIST 11-21-95 JEC RUN 11-21-95 PJ
183-109-10,183-109-11,183-109-09,5174-12 STD CURVE PREP FROM 183-024-09 11-21-95

==========

-- Calibration now in effect (95112101) was done on 11/21/95 09:25

-- Page 1 of report for tray 95112111.RS ----------

Channel No: 1 Channel Name: CN- .5000 TO .0000

Cup#	Sample ID		MG/L	
201	ICV 183-102-09		0.7974	
202	ICB		0.0005	
203	CCV 183-109-14		0.1030	
204	CCB		0.0007	
205	PBW		-0.0176	Amenable
206	LCS 183-102-09	.7974 -	0.3808	= 0.4166 SAR 12-1-95
207	C5K180003-001		0.1513	
208	C5K180003-001 MS		0.3059	
209	C5K180003-001 MSD		0.2892	
210	CCV 183-102-09		0.1030	
211	CCB		0.0002	

--------- End of Report for Tray 95112111.RS ----------

REVIEWED BY: SAR
DATE: 11-28-95

25K18003 #5326010

otal Cyanide -	Amenable Cyanide =	Cn Amenable To Chlorination
K18003-001 0.1074	0.1512	-0.0439 (Nydoi)

JEC 11-21-95

==========

QuikChem AE Runtime Report for Tray 95112111.RS
thod: CN METHOD

This report and tray were started on 11/21/95 14:36
Operator: Tray Template:
Pg 11.21.95

==========

-- Calibration now in effect (95112101) was done on 11/21/95 09:25

-- Page 1 of report for tray 95112111.RS ----------

Cup 201, Sample: ICV 183-102-09 14:39 2.00

Ch. 1: CN- .5000 TO .0000 ; 0.7974MG/L PIF=0.96 Abs= 0.1061

Cup 202, Sample: ICB 14:40 1.00

Ch. 1: CN- .5000 TO .0000 ; 0.0005MG/L PIF=0.24 Abs=-0.0001
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 203, Sample: CCV 183-109-14 14:41 1.00

Ch. 1: CN- .5000 TO .0000 ; 0.1030MG/L PIF=0.97 Abs= 0.0272

Cup 204, Sample: CCB 14:42 1.00

Ch. 1: CN- .5000 TO .0000 ; 0.0007MG/L PIF=0.05 Abs=-0.0001
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 205, Sample: PBW 14:43 0.50

Ch. 1: CN- .5000 TO .0000 ; -0.0352MG/L PIF=0.09 Abs=-0.0096
*** Above conc. is significantly less than the lowest non-zero std's conc.

Cup 206, Sample: LCS 183-102-09 14:44 2.00

Ch. 1: CN- .5000 TO .0000 ; 0.3808MG/L PIF=0.96 Abs= 0.0505

Cup 207, Sample: C5K180003-001 14:45 0.50

Ch. 1: CN- .5000 TO .0000 ; 0.1513MG/L PIF=0.96 Abs= 0.0805

-- Report for tray 95112111.RS continued on next page . . .

QUANTERRA ENVIRONMENTAL SERVICES
WET CHEM QA/QC ANALYSIS

SHEET NO QAQC9511224 PARAMETER CN AMEN qc2 V2.2 01/15/92
CREATED: 11/22/95
TEST BY PJ DATE 11/21/95 UPDATED: 11/22/95
CHECK BY [illegible] DATE 11-28-95 EXPORTED:
UNITS MG/L MATRIX WATER

SAM NUMBER: C5K180003
COMMENTS

DUPLICATE SAMPLE

SAMPLE NUMBER	C5K180003-001		
Orig Smp Conc	0.3059		
Dup Smp Conc	0.2892		
Mean	0.2976		
Range	0.0167		
RPD	5.6116		

INITIAL CALIBRATION VERIFICATION - ICV

ICV NUMBER	True Val	Observed	Recovery (%)
ICV 18310209	0.8700	0.7974	91.6552
LCS 18310209	0.4800	0.3808	79.3333

CONTINUING CALIBRATION VERIFICATION - CCV (CONTROL)

CCV NUMBER	True Val	Observed	Recovery (%)
CCV 18310209	0.1000	0.1030	103.0000
CCV 18310209	0.1000	0.1030	103.0000

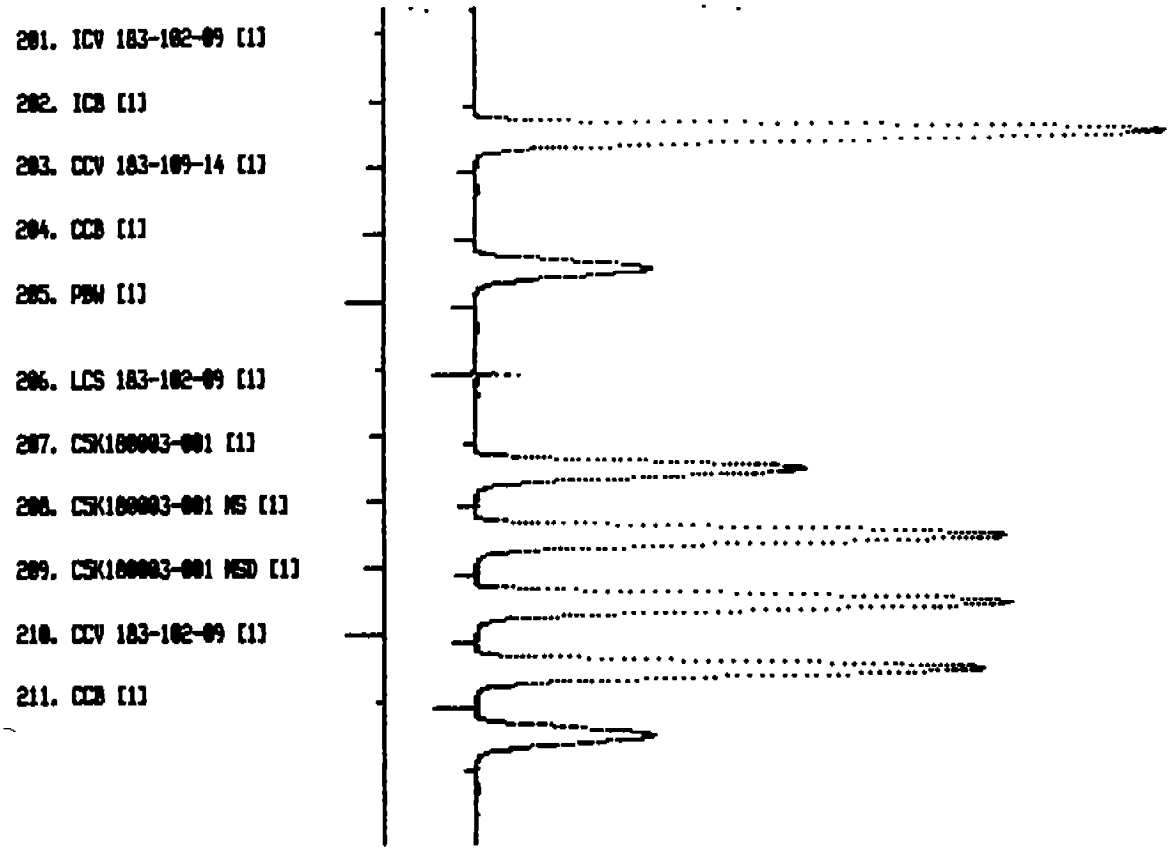
ANALYTICAL/MATRIX SPIKE PERCENT RECOVERY

SAMPLE #	C5K180003-001	C5K180003-001	
Anal/Matrix	M	M	
Final Spk+Smp	0.3059	0.2892	
Spike Conc.	0.4800	0.4800	
Vol. Spk Added	100.0000	100.0000	
Vol.Smp Spiked	250.0000	250.0000	
Fin.vol Spiked	250.0000	250.0000	
Theo.Spike Val	0.1920	0.1920	
Sample Result	0.1513	0.1513	
% Recovery	80.5208	71.8229	

```
 ) 208, Sample: C5K180003-001 MS      14:46              1.00

 Ch. 1: CN- .5000 TO .0000      ;     0.3059MG/L        PIF=0.96 Abs= 0.0813

Cup 209, Sample: C5K180003-001 MSD    14:47              1.00

 Ch. 1: CN- .5000 TO .0000      ;     0.2892MG/L        PIF=0.96 Abs= 0.0769

Cup 210, Sample: CCV 183-102-09       14:48              1.00

 Ch. 1: CN- .5000 TO .0000      ;     0.1030MG/L        PIF=0.96 Abs= 0.0272

Cup 211, Sample: CCB                  14:50              1.00

 Ch. 1: CN- .5000 TO .0000      ;     0.0002MG/L        PIF=0.40 Abs=-0.0002
 *** Above conc. is significantly less than the lowest non-zero std's conc.
```

--------- End of Report for Tray 95112111.RS ----------

Rack 2 (Ref: 95112111) 11/21/1995, 02:36 pm



QuikChem AE Calibration Report for Calibration 95112101
Method: CN METHOD
This calibration was done on 11/21/95 09:25
This report prepared on 11/21/95 12:49

	Analyte	Units	Average Concentrations Known	Determined	% Residual	Baseline Corrected Average Absorbance	Time
Standard A,	CN- .5000 TO .0000	MG/L	0.5000	0.5006	-0.13	0.1332	
Standard B,	CN- .5000 TO .0000	MG/L	0.4000	0.4004	-0.11	0.1065	
Standard C,	CN- .5000 TO .0000	MG/L	0.2800	0.2795	0.17	0.0743	
Standard D,	CN- .5000 TO .0000	MG/L	0.2000	0.1991	0.45	0.0528	
Standard E,	CN- .5000 TO .0000	MG/L	0.1000	0.0979	2.05	0.0259	
Standard F,	CN- .5000 TO .0000	MG/L	0.0500	0.0500	0.06	0.0131	
Standard G,	CN- .5000 TO .0000	MG/L	0.0250	0.0257	-2.85	0.0066	
Standard H,	CN- .5000 TO .0000	MG/L	0.0100	0.0100	-0.00	0.0026	
Standard I,	CN- .5000 TO .0000	MG/L	0.0000	0.0009	***.**	-0.0000	

End of Calibration Report For Calibration 95112101

Calibration Statistics Report

Cal Ref: 95112101 11/21/95 12:50 pm

Method: CN

Channel: CN- .5000 TO .0000

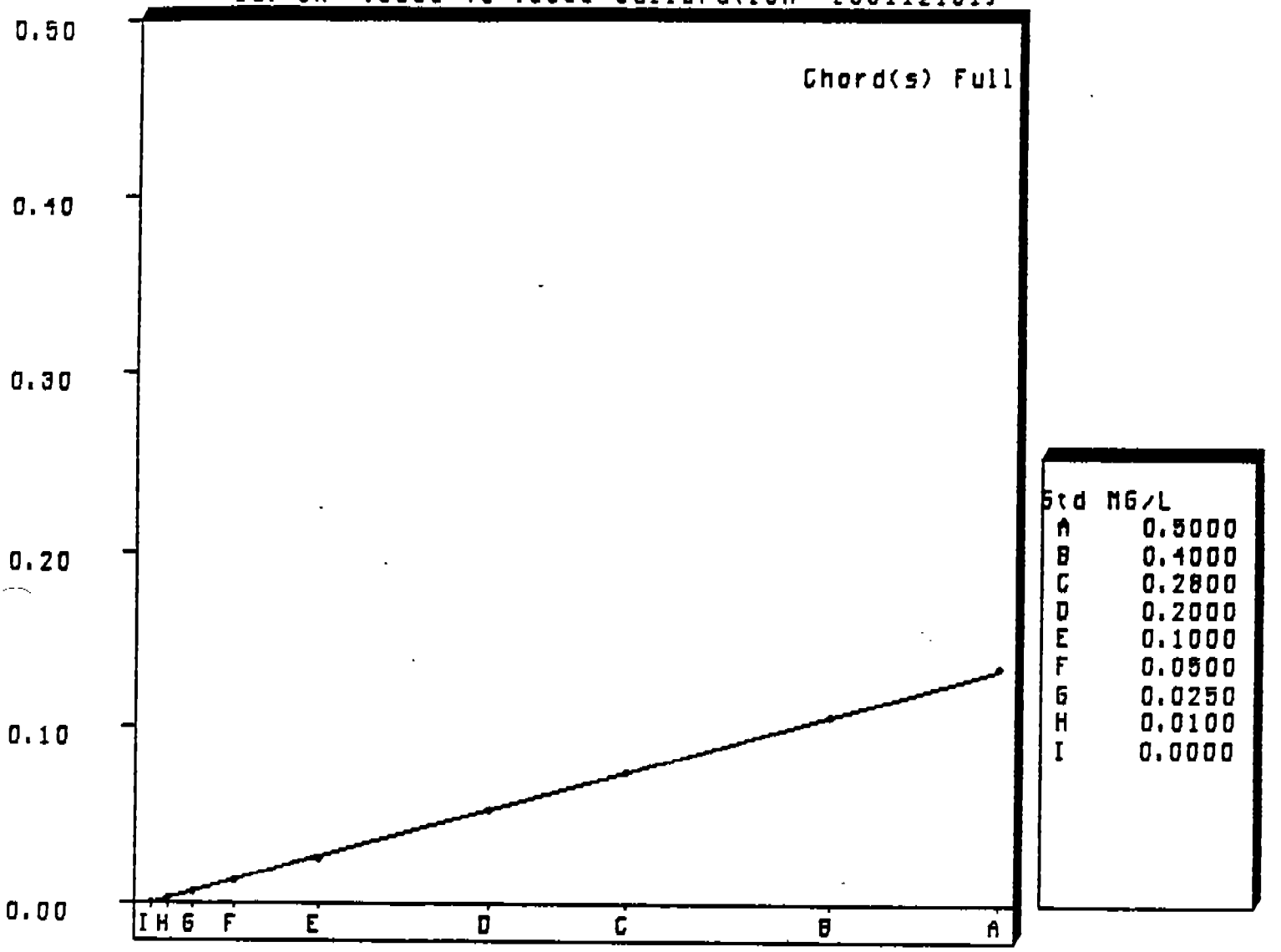
Correlation Coefficients

Seg	Stds	Full	Chord 1	Chord 2	Chord 3	Chord 4	Chord 5
1	A-I	1.0000	0.3273 ?	0.9995	1.0000	1.0000	0.9956

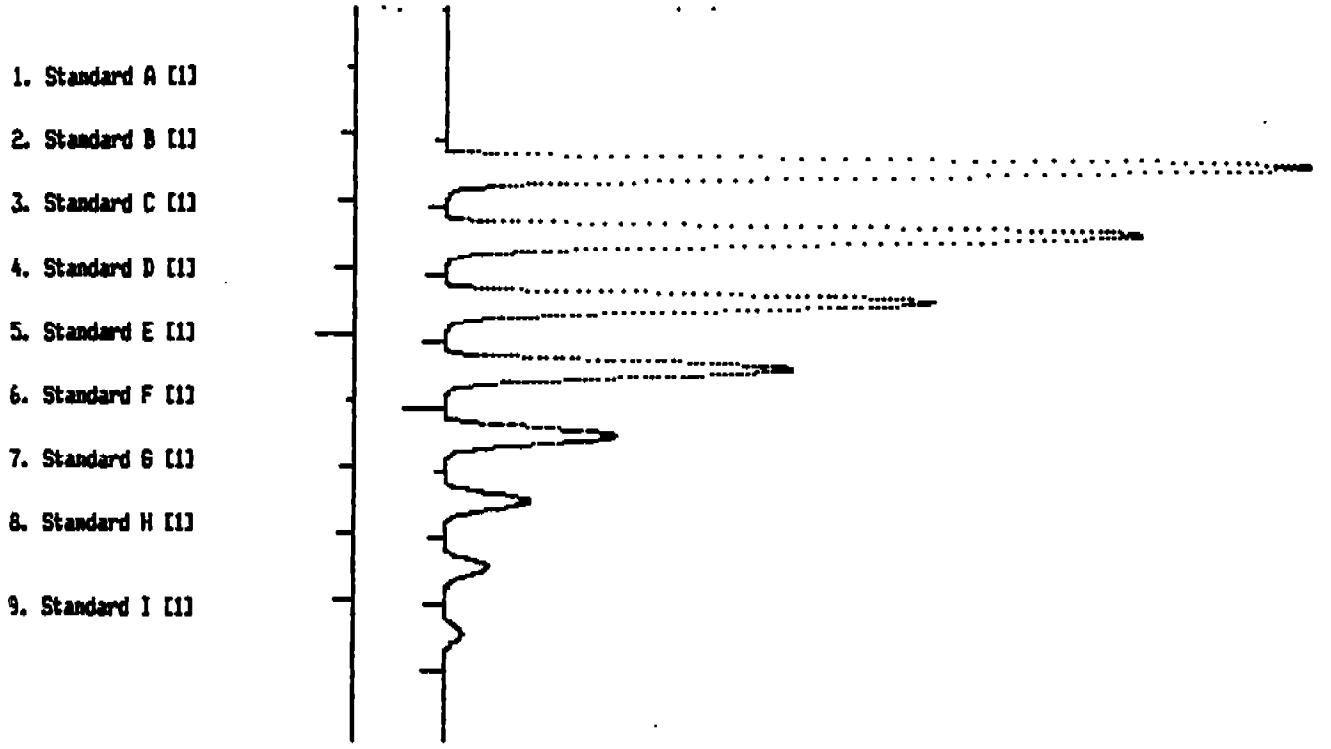
Percent Standard Deviation in Slope

1	A-I	0.2	54.2 ?	0.9	0.2	0.2	2.5

1a. CN- .5000 TO .0000 Calibration [95112101]



Calibration 11/21/1995, 09:13 am



Parameter Cn [illegible]

Distilled by: [illegible] Date: 11-21-95

SAM Order No.: C5K160113

Required Sample Volume: 500 mL

Reagent/Std. Book ID: 5361-9, 5365-5, 34171

DISTILLED - 12:45

Sample ID	Distillation		Dilution Factor	Sample Description	
	Initial	Final		Before Distillation	After Distillation
ICV	125	250	2.0		
ICB			1.0		
CCV			1.0		
CCB			1.0		
PBW	500	250	0.5		
LCS (AFE)	125	250	2.0		
C5K160113-001	500	250	0.5	Brown & cloudy	Brown & cloudy
001mS	250	250	1.0	Brown & cloudy	Brown & cloudy
001mSD	250	250	1.0	Brown & cloudy	Brown & cloudy
CCV			1.0		
CCB			1.0		
			11-21-95		

Comments: Spiked with 100 mL AFE.

Cyanide curve prepared from Stock No. 1B1074-9 by [illegible]. (Date) 11-21-95
Samples are prechecked for oxidizing agents with KI test paper.
Samples are prechecked for sulfide interference with lead acetate paper. [illegible] 11-21-95

Quanterra PTE/07-94/0128/Distill.JL

00000013

Quanterra Pittsburgh
Standardization of Cyanide Stock

1000 ppm stock:

Standard ID: 185-024-09 Manufacturer: MALLINCKRODT Lot No.: 6881 KENV

Prep by: JEC Prep Date: 6-5-95 Expiration Date: 12-5-95

Independent
1000 ppm stock:

Standard ID: 185-024-10 Manufacturer: FISHER Lot No.: 901251

Prep by: JEC Prep Date: 6-5-95 Expiration Date: 12-5-95

Blank ▵ 0.01 mL $Agno_3$

Standard ID: 185-024-71 Manufacturer: FISHER. Lot No.: 855974

Prep by: JEC Prep Date: 6-5-95 Expiration Date: 12-5-95

Stock Cyanide Titration Readings

No. 1 2.51 No. 2 2.51 No. 3 2.51

Independent Stock Cyanide Titration Readings

No. 1 2.51 No. 2 2.51 No. 3 2.51

Stock Readings Minus Blank Value

$$\frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000\text{mLs}}{2.50 \text{ mLs}} = \frac{1000 + 1000 + 1000}{3}$$

True Value Stock 1000 ppm stock

Independent Stock Readings Minus Blank Value

$$\frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000 \text{ mLs}}{2.50 \text{ mLs}} + \frac{2.50 \text{ X } 1000\text{mLs}}{2.50 \text{ mLs}} = \frac{1000 + 1000 + 1000}{3}$$

True Value Stock 1000 ppm stock

Week of: November 20, 1995 through November 26, 1995

Standardized by: John E. Campbell Date: November 20, 1995

Checked by: James H. Lahr Date: 11-20-95

Cyanide Standards

I. Stock Cyanide Solution - 1,000 ppm

- 2.51g KCN and 2g KOH in one liter Super-Q Water
- Standardized weekly.

II. Independent Cyanide solution - 1,000 ppm

- 2.51g KCN of different lot and 2g KOH in one liter Super-Q Water
- Standardized weekly.

III. 10 ppm Cyanide Solution for Curve Preparation

- 1 mL of Solution I in 100 mL Super-Q Water.

IV. 10 ppm Independent Cyanide Solution for CCV Preparation

- 1 mL of Solution II in 100 mL Super-Q Water.

V. 5 ppm Cyanide Solution for Spikes

- 0.5 mL of Solution I in 100 mL Super-Q Water.

VI. 0.0900 ppm EPA Reference Standard

- (Using EPA ICV-6 [1191] Cyanide Reference Material 0.09 ppm) add 5 mL of Reference Material to 500 mL Super-Q Water or
- 0.9 mL of Solution I in 100 mL Super-Q Water (non-CLP runs).

VII. 5.62 ppm EPA Reference Material (LCS) for Soil Analysis

- Add 5g of Reference Material to 500 mL Super-Q Water.

VIII. Continuing Calibration Verification (CCV)

- 2.5 mL of Solution II in 197.5 mL Super-Q Water +50 ml 1.25 N. NaOH (0.1 ppm True Value).

Certificate of Analysis

Standard: Cyanide Book # 183-102-09 **Product Code:** 9211

Lot Number: 15283

Preparation Instructions:

In order to prepare samples in the correct range, add two grams of Sodium Hydroxide and 900ml of laboratory grade water to a one (1) Liter volumetric flask; then pipet 10ml of the enclosed vial and dilute to the mark with laboratory grade water.

Parameter	Total Cyanide	Amenable to Chlorination
Units	mg/L	mg/L
True Value	0.87	0.48
Mean	0.81	0.42
Standard Deviation	0.09	0.22
Number of Laboratories	24	2
Average % Recovery	93.06	88.00
95% Confidence Limits	0.626 - 0.989	0.000 - 0.861
99% Confidence Limits	0.569 - 1.046	0.000 - 1.000

Explanation of Terms

True Value: This is the theoretical True Value based upon the method of preparation.

Mean: The average value reported by laboratories participating in the interlaboratory program. These labs tested the Standard as an unknown.

Standard Deviation: The actual Standard Deviation developed in the interlaboratory program.

Number of Laboratories: The number of laboratories whose data was used to develop the Mean and Standard Deviation. Statistical Outliers were removed by the ASTM t Test.

Average % Recovery: The Mean divided by the True Value times 100.

Confidence Limits: These are calculated based upon the Mean and Standard Deviation reported. The USEPA suggest using 95% Confidence for Quality Control limits.

APG The Measure of Quality
Analytical Products Group, Inc.
2730 Washington Blvd., Belpre, OH 45714 800-272-4442 614-423-4200

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-024-01	6-1-95	DRR	ERA 9960	NH_3 DISTILLATION LCS	ERA	9960	6-2-95
183 024-02	6-2-95	DRR	CONC. H_2SO_4	NH_3 BACKGROUND SOLN.	CHEMPURE	M301KMMH	DRR 6-2-95 12-2-95
183-024-03	6-2-95	DRR	ERA 9960	NH_3 ICV	ERA	9960	6-3-95
183.024.04	6-2-95	DRR	NO_3 Stock	Cadmium Reduction Check	Fisher	145097 12	6-3-95
183.024.05	6-2-95	DRR	Ind NO_3 Stock	High Level	Mallinckrodt	145097 13	
			Ind NO_2 Stock	TCV/LCV	Fisher	145097 11	6-3-95
183.024.06	6-2-95	DAB	Br	BROMINE WATER	FISHER	925412	12-2-95
183.024.07	6-5-95	DRR	NO_3 Stock	Cadmium Reduction Check	Fisher	145097 12	6-6-95
183.024.08	6-5-95	DRR	Ind NO_3 Stock	High Level	Mallinckrodt	145097 13	
			Ind NO_2 Stock	TCV/LCV	Fisher	145097 11	6-6-95
183.024.09	6-5-95	JEC	Cyanide Stock.	KCN	MALLINCKRODT	6781 KEHV	
				KOH	FISHER	886912	12-5-95
10			INDEPENDANT Cyanide Stock	KCN	FISHER	901251	
				KOH	FISHER	886912	
11			Silver Nitrate	$AgNO_3$	FISHER	855974	
12			RHODANINE IND.	RHODANINE INDICATOR	ALDRICH	05109MT	
183.024.13	6-5-95	DRR	High Level TCV/LCV	Low Level TCV/LCV	Mallinckrodt Fisher	183024.08	6-6-95
183-024-14	6/5/95	[illegible]	1 Mg/5 gHCl	[illegible]	FISHER	110755	6/5/95

183-024-14	6/5/95		Na2S·1H2O	SULFIDE STD	FISHER	942788	6/5/95

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183 024-01	764 ppm	1.25 ml	500 ml	1.91 ppm	Super Q	—	—	JPC 6-2-95	6-3-95
183 024-02	~36 N	4 ml	2 L	~0.0720N	Super Q	—	—	JPC 6-2-95	—
183-024-03	764	0.50 ml	100 ml	3.82 ppm	183-024-02	—	—	JPC 6-2-95	6-3-95
~~183-024-04~~	~~200 ppm~~	~~2 ml~~	~~100 ml~~	~~4.0 ppm~~	~~Super Q~~	—	—	~~JPC 6-2-95~~	~~6-3-95~~
~~183-024-05~~	~~200 ppm~~	~~2 ml~~	~~100 ml~~	~~4.0 ppm~~	~~Super Q~~	—	—	~~JPC 6-2-95~~	~~6-3-95~~
183-024-06	—	0.8 ml	2 L	—	SUPER-Q	—	—	~~JPC 6-5-95~~	—
~~183-024-07~~	~~200 ppm~~	~~2 ml~~	~~100 ml~~	~~4.0 ppm~~	~~Super Q~~	—	—	~~JPC 6-5-95~~	~~6-6-95~~
~~183-024-08~~	~~200 ppm~~	~~2 ml~~	~~100 ml~~	~~4.0 ppm~~	~~Super Q~~	—	—	~~JPC 6-5-95~~	~~6-6-95~~
183-024-09	—	2.81 g 2.00 g	1 liter	1000 ppm	Super Q	—	—	~~JPC 6-5-95~~	—
10	—	2.61 g 2.00 g	1 liter	1000 ppm	↓	—	—	~~JPC 6-5-95~~	—
11	—	3.27 g	1 liter	0.192N	↓	—	—	~~JPC 6-5-95~~	—
12	—	0.02 g	100 ml	—	ACETONE	OMNI SOLV	85C05	~~JPC 6-5-95~~	—
~~183-024-13~~	~~4.0 ppm~~	~~4 ml~~	~~100 ml~~	~~0.4 ppm~~	~~Super Q~~	—	—	~~JPC 6-5-95~~	~~6-6-95~~
183-024-14	—	1.5000 g	1 L	200 ppm	NaOH	CHEM PURE	MALLINCKRODT	JDM 6-5-95	6/5/95

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183 102-01	11-6-95	RB	Sulfuric Acid	NH3 Back Ground	EM	35017	5-6-96
-02			1000 mg/L NH3 STD	100 mg/L Working Stock	183-040-02	—	11-6-95
-03			100 mg/L STD	NH3 CCV	183-102-02	—	11-6-95
-04			APG Nutrients (183-069-04)	NH3 ICV	APG	14294	11-6-95
-05			PHENOL ~10 N NaOH	ALKALINE PHENOL	Mallinckrodt 183-086-03	0219 KCGI —	11-13-95
-06			Bleach	NH3 Reagent	TopCrest	D5158PAL	11-6-95
183-102-07	11-7-95	RB	NaOH NaHCO3	Alkaline Digestion Solution	EM Chemicals	34277449 347HKM11	11-7-95
183-102-08	11-7-95	gec	CN Spike Solution	CN	MALLINCKRODT	183-024-04	11-8-95
183-102-09	11-7-95	gec	Cyanide APG	APG	APG	15283	5-7-96
183-102-10	11-7-95	RB	APG NUTRIENTS	APG NUTRIENTS STD	APG	15565	5-7-96
183-102-11	11-8-95	DRR	COLOR (PLATINUM COBALT UNITS) STD.	COLOR ICV/CCV	MALLINCKRODT	H296 KCJZ-P	11-9-96
183-102-12	11-8-95	RB	Sulfuric Acid	NH3 Back Ground	EM	35017	5-8-96
-13			1000 mg/L NH3 STD	100 mg/L NH3 Working Stock	183-040-02	—	11-9-95
-14			100 mg/L NH3 STD	NH3 CCV	183-102-13	—	11-9-95

10 -14	↓	↓	↓	STD 100mg/L NH3 STD	NH3 CCV	183-102-13	—	11- 95

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183102-01	—	4.0ml	2L	—	Super Q	—	—	11.7.95	11-6-95
-02	1000mg/L	10ml	100ml	100mg/L	183102-01	—	—	11.7.95	11-7-95
-03	100mg/L	1.5ml	100ml	1.5mg/L	183-102-01	—	—	11.7.95	11-7-95
-04	—	5.0ml	25ml	(17.78)	183-102-01	—	—	11.7.95	11-7-95
-05	~10N	8.3g 9.0ml	100ml	—	Super Q	—	—	11.7.95	—
-06	—	20ml	100ml	—	Super Q	—	—	11.7.95	11-7-95
183-102-07	—	10.00g 10.00g	2L	—	Super Q	—	—	11.7.95 SVG 11-7-95	—
183-102-08	1000 ppm	0.5mL	100 mL	5.0 ppm	Super Q	—	—	11.7.95	—
183-102-09	—	10 mL	1 liter	0.87mg/L	Super Q	—	—	11-7-95	—
183-102-10	—	10ml	1L	NH_3 - 10.17 NO_3 - 7.41 PO_4 - 9.10	Super Q	—	—	DRR 11-8-95	—
183-102-11	500 PCU	4 mls	50 mls	40 PCU	Super Q	—	—	RB 11-8-95	11-8-95
183-102-12	—	4.0ml	2L	—	Super Q	—	—	JRC 11-9-95	—
-13	1000mg/L	10ml	100ml	100mg/L	183-102-12	—	—	JRC 11-9-95	—
-14	100mg/L	1.5ml	100ml	1.5 mg/L	183-102-12	—	—	[illegible]	—

STANDARD ID	PREP DATE	PREP BY	COMPOUND ELEMENT CHEMICAL	STD/REAGT. DESCRIP.	MANUF./LOT #		EXP. DATE
183-109-01	11-17-95 RB	RB	10 mg/L PHENOL WORKING STOCK	ALPKEM PHENOL CCV	183-108-14	—	11-17-95
-02	11-17-95		APG PHENOL STD	ICV	APG	15281	11-17-95
-03			4 Amino Anti Pyrene	ALPKEM Phenol Reagent	Aldrich	A2083 2015	11-17-95
183-109-04	11-20-95	PG	H_3IO_4 Sulfanilamide N-1	Sulfanilamide	Champion / Aldrich	[illegible]	12-20-95
183-109-05	11-20-95	PG	HCl NH_4OH Na_2EDTA	Ammonium Chloride	Fisher / Fisher / Aldrich	944937 / 920020 / 08102	5-20-96
183-109-06	11-20-95	PG	Ind NO_3 Stock	High Level	Fisher	183-08-03	
			Ind NO_3 Stock	ICV/ICB	Baker	183-08-05	11-21-95
183-109-07	11-20-95	PG	High Level ICV/ICB	Low Level ICV/ICB	Fisher / Baker	183-09-04	11-21-95
183-109-08	11-20-95	gec	CN Spike Solution	Cyanide	Mallinckrodt	183-024-09	11-21-95
183-109-09	11-21-95	PG	KH_2PO_4	Phosphate Buffer	Baker	112157	5-21-96
183-109-10	11-21-95	PG	Barbituric Acid Pyridine	Pyridine. Barbituric Acid	Fisher / Champion / Fisher	944620 / M15LKM1KB / 944937	5-21-96
183-109-11	11-21-95	PG	Chloramine-T	Chloramine-T	Eco	13230	11-23-95
183-109-12	11-21-95	PG	Cyanide	CN Sol I	Mallinckrodt	183024-09	11-23-95
13				CN Sol II	Fisher	183024-10	
14			Cyanide Sol II	CN ICV	Fisher	183109-13	

QUANTERRA ENVIRONMENTAL SERVICES, PITTSBURGH LAB
STANDARD/REAGENT LOG BOOK

STANDARD ID (Cont.)	ORIG. CONC.	VOL/WT USED	FINAL VOL	FINAL CONC.	SOLV./ACID USED	MANUF./LOT #		CHECKED BY/ DATE	DISPOSAL DATE
183-109-01	10mg/L	2.5ml	100ml	0.25mg/L	183-108-13	—	—	11-20-95 gpc	11-17-95
-02	—	0.5ml	50ml	(.12)	183-108-13	—	—	11-20-95 gpc	
-03	—	.1625g	250ml	—	Super Q	—	—	11-20-95 gpc	
183-109-04	—	200ml 80.00g 2.00g	2L	—	Super Q	—	—	JFC 11-20-95	—
183-109-05	—	40ml 10ml 2.00g	2L	—	Super Q	—	—	JFC 11-20-95	—
183-109-06	200µm 200ppm	2ml 2ml	100ml	40ppm	Super Q	—	—	gpc 11-20-95	—
183-109-07	40ppm	4ml	100ml	1.6ppm	Super Q	—	—	JFC 11-20-95	—
183-109-08	1000 ppm	0.5 mL	100 mL	5.0 ppm	Super Q	—	—	SVG 11-20-95	—
183-109-09	—	197.00g	2L	0.7µm	Super Q	—	—	SVG 11-21-95	—
183-109-10	—	30.00g 150ml 50ml	2L	—	Super Q	—	—	SVG 11-21-95	—
183-109-11	—	4.00g	1L	—	Super Q	—	—	SVG 11-21-95	—
183-109-12	1000ppm	1ml	100ml	10ppm	Super Q	—	—	SVG 11-21-95	—
-13	1000ppm	1ml	100ml	10ppm	Super Q	—	—	SVG 11-21-95	—
-14	1000ppm	2.5ml	250ml	0.1ppm	Super Q	—	—	SVG 11-21-95	—

Chain of Custody Record

QUA-4124-1

Quanterra Environmental Services

Client: N.A.B.-LITTLE CREEK	Project Manager: HARRY DRAVECKY C/O I.T. CORP.	Date: 11-17-95	Chain Of Custody Number: 43538
Address: 1450 GATOR BLVD	Telephone Number (Area Code)/Fax Number: 412/372-7701 / 412/343-7135	Lab Number:	Page 1 of 1
City: NORFOLK; State: VA; Zip Code: 23521	Site Contact: WALTER WEICK	Lab Contact: VERONICA BERTOL	
Project Name: NAB-LITTLE CREEK	Carrier/Waybill Number: FED. EXP.#		
Contract/Purchase Order/Quote No.: 7471			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH		PCB-8080-TCLP	VOC: 8240-TCLP	Analysis (Attach list if more space is needed):									Special Instructions/ Conditions of Receipt
DECON-01	11-17-95	1500	✓				3			6	4			✓	✓	✓	✓	✓							

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☑ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

1. Relinquished By: Walter Weick - I.T. Corp.	Date: 11-17-95	Time: 1600	1. Received By: [signature]	Date: 11/18/95	Time: 10 30A
2. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:
3. Relinquished By:	Date:	Time:	3. Received By:	Date:	Time:

Comments:

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Conv

APPENDIX E

TOPSOIL SAMPLING ANALYTICAL LABORATORY REPORT

Quanterra
Environmental Services

Quanterra Incorporated
450 William Pitt Way
Pittsburgh, Pennsylvania 15238

412 826-5477 Telephone
412 826-5571 Fax

ANALYTICAL REPORT

PROJECT NO. 305951

NAB LITTLE CREEK-IT

HARRY DRAVECKY

IT CORPORATION - MONROEVILLE ENGINEERING

QUANTERRA INCORPORATED

Adrinnia S. Washington

Adrinnia Washington
Project Manager

March 4, 1996

Quanterra
Environmental Services

NARRATIVE

The following report contains the analytical results for samples submitted to Quanterra Incorporated. The samples were received into the laboratory in accordance with documented sample acceptance procedures.

Quanterra utilizes USEPA approved methods and instrumentation in all analytical work. The methods used for the analyses presented in this study can be found on the following pages.

A Quality Control Section, containing a summary of QA/QC data for these analyses, is included at the end of the report.

The following codes are utilized in various analyses of this report:

ND	(None Detected)
DIL	(Diluted Out)
MI	(Matrix Interference)
NEG	(Negative)
J	(Detected, but below quantitation limit; estimated value)
B	(Compounds detected in method blank associated with this sample)
W	(Post digestion spike recovery fell between 40 - 85 %)
S	(Sample result determined by the Method of Standard Additions)
+	(Sample result determined by the Method of Standard Additions and the correlation coefficient was less than 0.995)

Quanterra
Environmental Services

ANALYTICAL METHODS SUMMARY

Parameters	Methods
TCLP Extraction	SW846 1311
TCLP Pesticides	SW846 8080
TCLP HERBICIDES	SW846 8150A
TCLP Volatile Organics	SW846 8240A
TCLP Semivolatile Organics	SW846 8270A
Flash Point Closed Cup	SW846 1010
Silver	SW846 6010A
Arsenic	SW846 6010A
Barium	SW846 6010A
Cadmium	SW846 6010A
Chromium	SW846 6010A
Lead	SW846 6010A
Selenium	SW846 6010A
Mercury	SW846 7470
pH Non-Aqueous	SW846 9045
Reactive Cyanide	SW846 7.3.3.2
Sulfide Reactive	SW846 7.3.4.2

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September, 1986 and subsequent revisions

Quanterra
Environmental Services

SAMPLE SUMMARY

The analytical results of the samples listed below are presented on the following pages.

WO #	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME SAMPLED
A62V3	C6B150013-001	TOPSOIL-01	2/14/96 14:00

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TOPSOIL-01

WO #: A62V310A
LAB #: C6B150013-001
MATRIX: SOLID
DILUTION FACTOR: 1.00

DATE SAMPLED: 2/14/96
TIME SAMPLED: 14:00
DATE RECEIVED: 2/15/96
TCLP EXTRACTION DATE: 2/20/96

GC/MS Volatiles

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Benzene	ND	0.0050	SW846 8240A	02/27/96	6051002
Methyl ethyl ketone	ND	0.050	SW846 8240A	02/27/96	6051002
Carbon tetrachloride	ND	0.0050	SW846 8240A	02/27/96	6051002
Chlorobenzene	ND	0.0050	SW846 8240A	02/27/96	6051002
Chloroform	ND	0.0050	SW846 8240A	02/27/96	6051002
1,2-Dichloroethane	ND	0.0050	SW846 8240A	02/27/96	6051002
1,1-Dichloroethylene	ND	0.0050	SW846 8240A	02/27/96	6051002
Tetrachloroethylene	ND	0.0050	SW846 8240A	02/27/96	6051002
Trichloroethylene	ND	0.0050	SW846 8240A	02/27/96	6051002
Vinyl chloride	ND	0.010	SW846 8240A	02/27/96	6051002

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	109	(76 - 114)
Toluene-d8	95	(88 - 110)
4-Bromofluorobenzene	96	(86 - 115)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TOPSOIL-01

WO #: A62V310C
LAB #: C6B150013-001
MATRIX: SOLID
DILUTION FACTOR: 5.00

DATE SAMPLED: 2/14/96
TIME SAMPLED: 14:00
DATE RECEIVED: 2/15/96
TCLP EXTRACTION DATE: 2/19/96

GC/MS Semi-Volatiles

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,4-Dichlorobenzene	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
2,4-Dinitrotoluene	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
Hexachlorobenzene	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
Hexachlorobutadiene	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
Hexachloroethane	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
Nitrobenzene	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
Pentachlorophenol	ND	0.25	SW846 8270A	02/23-02/26/96	6054023
Pyridine	ND	0.10	SW846 8270A	02/23-02/26/96	6054023
2,4,5-Trichlorophenol	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
2,4,6-Trichlorophenol	ND	0.050	SW846 8270A	02/23-02/26/96	6054023
Cresols, Total	ND	0.050	SW846 8270A	02/23-02/26/96	6054023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	82	(35 - 114)
2-Fluorobiphenyl	77	(43 - 116)
Terphenyl-d14	85	(33 - 141)
2-Fluorophenol	75	(21 - 100)
Phenol-d5	82	(10 - 94)
2,4,6-Tribromophenol	83	(10 - 123)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TOPSOIL-01

WO #: A62V3109
LAB #: C6B150013-001
MATRIX: SOLID
DILUTION FACTOR: 1.00

DATE SAMPLED: 2/14/96
TIME SAMPLED: 14:00
DATE RECEIVED: 2/15/96
TCLP EXTRACTION DATE: 2/19/96

- **GC Semi-Volatiles** -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
gamma-BHC (Lindane)	ND	0.00050	SW846 8080	02/26-03/01/96	6059017
Chlordane	ND	0.0050	SW846 8080	02/26-03/01/96	6059017
Endrin	ND	0.00050	SW846 8080	02/26-03/01/96	6059017
Heptachlor	ND	0.00050	SW846 8080	02/26-03/01/96	6059017
Heptachlor epoxide	ND	0.00050	SW846 8080	02/26-03/01/96	6059017
Methoxychlor	ND	0.0050	SW846 8080	02/26-03/01/96	6059017
Toxaphene	ND	0.010	SW846 8080	02/26-03/01/96	6059017

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Decachlorobiphenyl	105	(50 - 150)
Tetrachlorometaxylene	84	(50 - 150)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TOPSOIL-01

WO #: A62V310H
LAB #: C6B150013-001
MATRIX: SOLID
DILUTION FACTOR: 1.00

DATE SAMPLED: 2/14/96
TIME SAMPLED: 14:00
DATE RECEIVED: 2/15/96
TCLP EXTRACTION DATE: 2/19/96

- **GC Semi-Volatiles** -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
2,4-D	ND	0.0050	SW846 8150A	02/23-02/28/96	6059024
2,4,5-TP(Silvex)	ND	0.0050	SW846 8150A	02/23-02/28/96	6059024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
DCAA	97	(17 - 140)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TOPSOIL-01

WO #: A62V3
LAB #: C6B150013-001
MATRIX: SOLID

DATE SAMPLED: 2/14/96
TIME SAMPLED: 14:00
DATE RECEIVED: 2/15/96
TCLP EXTRACTION DATE: 2/19/96

- - - - - - - - - - - - - - - - - - REQUESTED METALS - - - - - - - - - - - - - - - - - -

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311 (55 FR 26986)

PARAMETER	RESULT mg/L	REPORTING LIMIT	DILUTION FACTOR	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
- - TCLP METALS - -						
Silver	ND	0.010	1.00	SW846 6010A	2/21- 2/22/96	6057008
Arsenic	ND	0.30	1.00	SW846 6010A	2/21- 2/22/96	6057008
Barium	**0.95**	**0.20**	**1.00**	**SW846 6010A**	**2/21- 2/22/96**	**6057008**
Cadmium	ND	0.0050	1.00	SW846 6010A	2/21- 2/22/96	6057008
Chromium	ND	0.010	1.00	SW846 6010A	2/21- 2/22/96	6057008
Lead	ND	0.050	1.00	SW846 6010A	2/21- 2/22/96	6057008
Selenium	ND	0.30	1.00	SW846 6010A	2/21- 2/22/96	6057008
Mercury	ND	0.00020	1.00	SW846 7470	2/21/96	6057002

NOTE: AS RECEIVED
ND **NOT DETECTED AT THE STATED REPORTING LIMIT**

Quanterra
Environmental Services

IT CORPORATION - MONROEVILLE ENGINEERING

TOPSOIL-01

WO #: A62V3
LAB #: C6B150013-001
MATRIX: SOLID

DATE SAMPLED: 2/14/96
TIME SAMPLED: 14:00
DATE RECEIVED: 2/15/96

- - - - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
Flash Point Closed Cup	**>200**		**deg F**	**SW846 1010**	**2/29/96**	**6061004**
pH Non-Aqueous	**7.6**		**su**	**SW846 9045**	**2/15/96**	**6047002**
Reactive Cyanide	ND	250	mg/kg	SW846 7.3.3.2	2/23/96	6054021
Sulfide Reactive	ND	500	mg/kg	SW846 7.3.4.2	2/23/96	6057013

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

QUALITY CONTROL SECTION

Quanterra
Environmental Services

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM SUMMARY

Quanterra Incorporated considers continuous analytical performance evaluations to be an integral portion of the data package, and routinely includes the pertinent QA/QC data associated with various analytical reports. Brief discussions of the various QA/QC procedures utilized to measure acceptable method and matrix performance follow.

SURROGATE SPIKE RECOVERY EVALUATIONS

Known concentrations of designated surrogate spikes, consisting of a number of similar, non-method compounds or method compounds analogues, are added, as appropriate, to routine GC and GC/MS sample fractions prior to extraction and analysis. The percent recoveries calculated from the subsequent spike recovery data is displayed alongside acceptable analytical method performance limits at the bottom of each applicable analytical result report sheet.

NOTE: Acceptable method performance for Base/Neutral Acid extractables is indicated by two (2) of three (3) surrogates for each fraction with a minimum recovery of ten percent (10%) each. For Pesticides, one (1) of two (2) surrogates meeting performance criteria is acceptable.

LABORATORY ANALYTICAL METHOD BLANK EVALUATIONS

Laboratory analytical method blanks are systematically prepared and analyzed in order to continuously evaluate the system interferences and background contamination levels associated with each analytical method. These method blanks include all aspects of actual laboratory method analysis (chemical reagents, glassware, etc.) substituting laboratory reagent water or solid for actual sample. The method blank must not contain any analytes above the reported detection limit. The following common laboratory contaminants are exceptions to this rule, provided they are not present at a greater than five times the detection limit.

Volatiles	Semi-volatiles
Methylene chloride	Dimethyl phthalate
2-Butanone	Diethyl phthalate
Acetone	Di-n-butyl phthalate
	Butyl benzyl phthalate
	Bis (2-ethylhexyl) phthalate

A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method blanks.

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM SUMMARY (CONT)

LABORATORY ANALYTICAL METHOD CHECK SAMPLE EVALUATIONS

Known concentrations of designated matrix spikes (actual analytical method compounds) are added to a laboratory reagent blank prior to extraction and analysis. Percent recovery determinations demonstrate the performance of the analytical method. Failure of a check sample to meet established laboratory recovery criteria is cause to stop the analysis until the problem is resolved. All compounds must meet laboratory recovery criteria. A minimum of five percent (5%) of all laboratory analyses are laboratory analytical method check samples.

MATRIX SPIKE(MS)/MATRIX SPIKE DUPLICATE(MSD) RECOVERY EVALUATION

Known concentration of designated matrix spikes (actual analytical method compounds) are added to two of three separate aliquots of a sequentially predetermined sample prior to extraction and analysis. Percent recovery determinations are calculated from both of the spiked samples by comparison to the actual values generated from the unspiked sample. These percent recovery determinations indicate the accuracy of the analysis at recovering actual analytical method compounds from the matrix. Actual percent recovery data is displayed alongside the acceptable analytical method performance limits in the QA/QC section of the report. The MS/MSD are considered in control when the associated check sample has been found to be acceptable. A minimum of ten percent (10%) of all analyses are MS/MSD quality control samples.

EXAMPLE

COMPOUND	SAMPLE CONCENTRATION	MS % RECOVERY	MSD % RECOVERY	QC LIMITS[1] RECOVERY
4-4'-DDT	0	95	112	(66-119)
Benzene	10	86	93	(39-150)
compound name	sample result	1st % recovery	2nd % recovery	acceptable method limits

[1]QC limits are statistically derived from historical laboratory data. Where insufficient data exists to statistically derive these limits, they will be labelled "advisory". In this case, they are based on the best available technical information.

For metals analyses, the recoveries of the MS/MSD must be within the range of 80-120%. If they do not meet this criteria, but the RPD of the two results is <20% OR the absolute difference is less than 10% when the recoveries are below 50%, no corrective action is required. If these criteria are not met, the sample with its MS/MSD is reprepared and reanalyzed once more.

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6B200000-002

TCLP EXTRACTION DATE: 2/20/96

GC/MS Volatiles

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
Benzene	ND	0.0050	2/19- 2/27/96	6051002
Methyl ethyl ketone	ND	0.050	2/19- 2/27/96	6051002
Carbon tetrachloride	ND	0.0050	2/19- 2/27/96	6051002
Chlorobenzene	ND	0.0050	2/19- 2/27/96	6051002
Chloroform	ND	0.0050	2/19- 2/27/96	6051002
1,2-Dichloroethane	ND	0.0050	2/19- 2/27/96	6051002
1,1-Dichloroethylene	ND	0.0050	2/19- 2/27/96	6051002
Tetrachloroethylene	ND	0.0050	2/19- 2/27/96	6051002
Trichloroethylene	ND	0.0050	2/19- 2/27/96	6051002
Vinyl chloride	ND	0.010	2/19- 2/27/96	6051002

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
1,2-Dichloroethane-d4	102	(76 - 114)
Toluene-d8	89	(88 - 110)
4-Bromofluorobenzene	93	(86 - 115)

NOTE:

ND (NONE DETECTED)

Quanterra Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6B230000-023

TCLP EXTRACTION DATE: 2/19/96

- - - - - - - - - - - - - - - - - - **GC/MS Semi-Volatiles** - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
1,4-Dichlorobenzene	ND	0.010	2/23- 2/26/96	6054023
2,4-Dinitrotoluene	ND	0.010	2/23- 2/26/96	6054023
Hexachlorobenzene	ND	0.010	2/23- 2/26/96	6054023
Hexachlorobutadiene	ND	0.010	2/23- 2/26/96	6054023
Hexachloroethane	ND	0.010	2/23- 2/26/96	6054023
Nitrobenzene	ND	0.010	2/23- 2/26/96	6054023
Pentachlorophenol	ND	0.050	2/23- 2/26/96	6054023
Pyridine	ND	0.020	2/23- 2/26/96	6054023
2,4,5-Trichlorophenol	ND	0.010	2/23- 2/26/96	6054023
2,4,6-Trichlorophenol	ND	0.010	2/23- 2/26/96	6054023
Cresols, Total	ND	0.010	2/23- 2/26/96	6054023

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	83	(35 - 114)
2-Fluorobiphenyl	77	(43 - 116)
Terphenyl-d14	89	(33 - 141)
2-Fluorophenol	75	(21 - 100)
Phenol-d5	75	(10 - 94)
2,4,6-Tribromophenol	79	(10 - 123)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6B280000-017

TCLP EXTRACTION DATE: 2/19/96

- **GC Semi-Volatiles** -

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
gamma-BHC (Lindane)	ND	0.00050	2/26- 2/29/96	6059017
Chlordane	ND	0.0050	2/26- 2/29/96	6059017
Endrin	ND	0.00050	2/26- 2/29/96	6059017
Heptachlor	ND	0.00050	2/26- 2/29/96	6059017
Heptachlor epoxide	ND	0.00050	2/26- 2/29/96	6059017
Methoxychlor	ND	0.0050	2/26- 2/29/96	6059017
Toxaphene	ND	0.010	2/26- 2/29/96	6059017

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Decachlorobiphenyl	111	(50 - 150)
Tetrachlorometaxylene	98	(50 - 150)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6B280000-024

TCLP EXTRACTION DATE: 2/19/96

- **GC Semi-Volatiles** -

PARAMETER	RESULT (mg/L)	REPORTING LIMIT	PREPARATION - ANALYSIS DATE	QC BATCH
2,4-D	ND	0.0050	2/23- 2/28/96	6059024
2,4,5-TP(Silvex)	ND	0.0050	2/23- 2/28/96	6059024

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
DCAA	98	(17 - 140)

NOTE:

ND (NONE DETECTED)

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6B150013

*** TCLP ***

TCLP EXTRACTION DATE: 2/19/96

- **METALS** -

PARAMETER	RESULT mg/L	REPORTING LIMIT	DIL FACTOR	METHOD	PREPARATION - ANALYSIS DATE
		BATCH:6057002			
Mercury	ND	0.00020	1.00	SW846 7470	2/21/96
		BATCH:6057008			
Silver	ND	0.010	1.00	SW846 6010A	2/21- 2/22/96
Arsenic	ND	0.30	1.00	SW846 6010A	2/21- 2/22/96
Barium	ND	0.20	1.00	SW846 6010A	2/21- 2/22/96
Cadmium	ND	0.0050	1.00	SW846 6010A	2/21- 2/22/96
Chromium	ND	0.010	1.00	SW846 6010A	2/21- 2/22/96
Lead	ND	0.050	1.00	SW846 6010A	2/21- 2/22/96
Selenium	ND	0.30	1.00	SW846 6010A	2/21- 2/22/96

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

INTRA-LAB BLANK REPORT

LAB #: C6B150013

- - - - - - - - - - - - - - - - **INORGANIC ANALYTICAL REPORT** - - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	PREPARATION - ANALYSIS DATE	QC BATCH
pH Non-Aqueous	**5.4**		**su**	**2/15/96**	**6047002**
Reactive Cyanide	ND	250	mg/kg	2/23/96	6054021
Sulfide Reactive	ND	500	mg/kg	2/23/96	6057013

NOTE:

ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6051002
LAB #: C6B200000-002 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 2/19/96
DATE ANALYZED: 2/27/96
TCLP EXTRACTION DATE: 2/20/96

- **GC/MS Volatiles** -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
Chloromethane	68	(69-129)
Bromomethane	86	(75-117)
Vinyl chloride	78	(63-120)
Chloroethane	89	(72-125)
Methylene chloride	84	(75-110)
Acetone	140	(47-135)
Carbon disulfide	89	(75-112)
1,1-Dichloroethene	78	(71-117)
1,1-Dichloroethane	100	(75-116)
1,2-Dichloroethene, Total	93	(75-119)
Chloroform	103	(75-119)
1,2-Dichloroethane	106	(75-118)
2-Butanone	122	(59-144)
1,1,1-Trichloroethane	93	(75-123)
Carbon tetrachloride	96	(75-118)
Vinyl acetate	99	(50-153)
Bromodichloromethane	110	(75-119)
1,2-Dichloropropane	100	(75-111)
cis-1,3-Dichloropropene	114	(75-116)
Trichloroethene	105	(75-113)
Dibromochloromethane	128	(75-116)
1,1,2-Trichloroethane	115	(75-117)
Benzene	100	(75-114)
trans-1,3-Dichloropropene	122	(24-159)
Bromoform	144	(75-122)
4-Methyl-2-pentanone	92	(75-143)
2-Hexanone	123	(68-131)
Tetrachloroethene	97	(75-119)
1,1,2,2-Tetrachloroethane	105	(75-122)
Toluene	91	(78-120)
Chlorobenzene	100	(75-119)
Ethylbenzene	108	(75-126)
Styrene	108	(75-120)
m-Xylene & p-Xylene	105	(75-124)
cis-1,2-Dichloroethene	96	(75-119)
2-Chloroethyl vinyl ether	114	(49-151)
o-Xylene	109	(75-119)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6054023
LAB #: C6B230000-023 C
DILUTION FACTOR: 5.00

PREPARATION DATE: 2/23/96
DATE ANALYZED: 2/26/96
TCLP EXTRACTION DATE: 2/19/96

GC/MS Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
Pyridine	129	(15-136)
1,4-Dichlorobenzene	51	(40-115)
2-Methylphenol	72	(50-114)
3-Methylphenol & 4-Methylphenol	67	(52-110)
Hexachloroethane	44	(38-112)
Nitrobenzene	70	(45-120)
Hexachlorobutadiene	56	(41-112)
2,4,6-Trichlorophenol	76	(54-118)
2,4,5-Trichlorophenol	80	(46-123)
2,4-Dinitrotoluene	85	(54-110)
Hexachlorobenzene	81	(54-133)
Pentachlorophenol	83	(40-144)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6059017
LAB #: C6B280000-017 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 2/26/96
DATE ANALYZED: 2/29/96
TCLP EXTRACTION DATE: 2/19/96

- - - - - - - - - - - - - - - - - - - GC Semi-Volatiles - - - - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
gamma-BHC (Lindane)	121	(47-131)
Heptachlor	112	(39-155)
Endrin	128	(57-147)
Methoxychlor	125	(65-135)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6059024
LAB #: C6B280000-024 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 2/23/96
DATE ANALYZED: 2/28/96
TCLP EXTRACTION DATE: 2/19/96

GC Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
2,4-D	124	(9.0-164)
2,4,5-TP(Silvex)	107	(8.0-136)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

LAB #: C6B150013

*** TCLP ***

TCLP EXTRACTION DATE: 2/19/96

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS	PREPARATION - ANALYSIS DATE	DILUTION FACTOR
	BATCH:6057002			
Mercury	95	(53-150)	2/21/96	1.00
	BATCH:6057008			
Silver	94	(80-120)	2/21- 2/22/96	1.00
Arsenic	92	(80-120)	2/21- 2/22/96	1.00
Barium	98	(80-120)	2/21- 2/22/96	1.00
Cadmium	95	(80-120)	2/21- 2/22/96	1.00
Chromium	95	(80-120)	2/21- 2/22/96	1.00
Lead	97	(80-120)	2/21- 2/22/96	1.00
Selenium	99	(80-120)	2/21- 2/22/96	1.00

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6047002
LAB #: C6B160000-002 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 2/15/96
DATE ANALYZED: 2/15/96

- **pH - CLP** -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
pH - CLP	100	(85-115)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6057013
LAB #: C6B260000-013 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 2/23/96
DATE ANALYZED: 2/23/96

- **Sulfide Reactive** -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
Sulfide Reactive	105	(85-115)

Quanterra
Environmental Services

CHECK SAMPLE REPORT

QC BATCH: 6061004
LAB #: C6C010000-004 C
DILUTION FACTOR: 1.00

PREPARATION DATE: 2/29/96
DATE ANALYZED: 2/29/96

- - - - - - - - - - - - - - - - **Flash Point - Pensky Martens** - - - - - - - - - - - - - - -

COMPOUND	SPIKE PERCENT RECOVERY	Q/C LIMITS
Flash Point - Pensky Martens	100	(85-115)

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6051002
LAB #: C6B150013-001 S
MATRIX: SOLID
DILUTION FACTOR: 1.00

WO #: A62V3
PREPARATION DATE: 2/27/96
DATE ANALYZED: 2/27/96
TCLP EXTRACTION DATE: 2/20/96

GC/MS Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMIT
Benzene	104	100	(75-117)	4.2	(0-15)
Methyl ethyl ketone	86	105	(31-129)	20	(0-79)
Carbon tetrachloride	98	90	(75-116)	8.6	(0-19)
Chlorobenzene	99	100	(74-123)	0.95	(0-15)
Chloroform	111	106	(75-110)	4.1	(0-15)
1,2-Dichloroethane	104	110	(75-111)	5.3	(0-15)
1,1-Dichloroethylene	90	71	(70-110)	24	(0-28)
Tetrachloroethylene	96	98	(75-110)	2.1	(0-15)
Trichloroethylene	109	104	(75-110)	4.2	(0-15)
Vinyl chloride	90	74	(75-110)	19	(0-15)

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6054023
LAB #: C6B160005-006 S
MATRIX: SOLID
DILUTION FACTOR: 5.00

WO #: A62WN
PREPARATION DATE: 2/23/96
DATE ANALYZED: 2/26/96
TCLP EXTRACTION DATE: 2/19/96

GC/MS Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMIT
Pyridine	139	128	(12-122)	8.7	(0-61)
1,4-Dichlorobenzene	54	50	(37-119)	7.0	(0-21)
2-Methylphenol	76	74	(40-110)	2.9	(0-28)
3-Methylphenol & 4-Methylphenol	71	71	(38-124)	0.28	(0-41)
Hexachloroethane	47	41	(37-114)	13	(0-18)
Nitrobenzene	76	74	(41-116)	1.6	(0-22)
Hexachlorobutadiene	59	55	(34-115)	7.0	(0-28)
2,4,6-Trichlorophenol	78	85	(22-124)	8.8	(0-30)
2,4,5-Trichlorophenol	82	85	(22-119)	3.6	(0-33)
2,4-Dinitrotoluene	86	88	(52-120)	2.3	(0-18)
Hexachlorobenzene	86	86	(43-128)	0.46	(0-13)
Pentachlorophenol	86	89	(18-140)	2.5	(0-24)

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6059017
LAB #: C6B160005-006 S
MATRIX: SOLID
DILUTION FACTOR: 1.00

WO #: A62WN
PREPARATION DATE: 2/26/96
DATE ANALYZED: 2/29/96
TCLP EXTRACTION DATE: 2/19/96

GC Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMIT
gamma-BHC (Lindane)	119	112	(54-140)	5.7	(0-27)
Heptachlor	109	105	(31-135)	4.1	(0-28)
Endrin	124	120	(51-149)	3.3	(0-30)
Methoxychlor	122	115	(52-142)	5.9	(0-29)

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

QC BATCH: 6059024
LAB #: C6B150013-001 S
MATRIX: SOLID
DILUTION FACTOR: 1.00

WO #: A62V3
PREPARATION DATE: 2/23/96
DATE ANALYZED: 2/28/96
TCLP EXTRACTION DATE: 2/19/96

GC Semi-Volatiles

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMIT
2,4-D	91	87	(67-115)	4.3	(0-19)
2,4,5-TP(Silvex)	86	82	(44-121)	5.0	(0-11)

Calculations are performed before rounding to avoid round-off errors in calculated results

Quanterra
Environmental Services

MATRIX SPIKE REPORT

LAB #: C6B150013-001

*** TCLP *** **TCLP EXTRACTION DATE:** 2/19/96

- METALS -

COMPOUND	SPIKE PERCENT RECOVERY	SPIKE/DUP PERCENT RECOVERY	Q/C LIMITS	RPD	RPD LIMITS	PREPARATION - ANALYSIS DATE	DILUTION FACTOR
		BATCH:6057002 MATRIX:		SOLID			
Mercury	93	83	(80-120)	11	(0-20)	2/21/96	.00

NOTE:

Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody Record

QUA-4124-1

Quanterra Environmental Services

Client: I.T. CORPORATION	Project Manager: HARRY DRAVECKY	Date:	Chain Of Custody Number: 37763
Address: 2790 MOSSIDE BLVD.	Telephone Number (Area Code)/Fax Number: 412-372-7701 / 412-373-7135	Lab Number:	Page 1 of 1
City: MONROEVILLE; State: PA; Zip Code: 15146	Site Contact: WALTER WERCK	Lab Contact: C. GAMBER	
Project Name: NAB - LITTLE CREEK	Carrier/Waybill Number: HAND DELIVERED.		
Contract/Purchase Order/Quote No.: #305951			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		VOC - TCLP	MS4PACS - TCLP	TCLP BNA (PESTS/HERBS)	FLASH PT.	CORR.	REACTIVITY							Special Instructions/ Conditions of Receipt
TOPSOIL - 01	02-14-96	@ 1400			✓		6							✓	✓	✓	✓	✓	✓							
(K.L. HUDDLE ENTERPRISES VA. BEACH, VA. 804-499-1757)																										

Analysis (Attach list if more space is needed)

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other NORMAL

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Walter Werck - I.T. Corp.	02-15-96	@ 14:32	1. Received By: [signature]	2/15/96	1422
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments:

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy