35794 sent to K. Yoder 3/1
sent to John George 2/

NUS CORPORATION

INTERNAL CORRESPONDENCE

C-34-12-8-149

TO: JEFF ORIENT DATE: DECEMBER 27, 1988

FROM: HAIA ROFFMAN HKR

SUBJECT: COMPARISON OF REMCOR AND CLP ANALYTICAL CHEMICAL RESULTS BALLY PHASE III RI REPORT

Comparison of the validated analytical chemical data for the split samples collected by REMCOR and REM III for the Bally Phase III RI is provided in Table 1. The REMCOR samples were analyzed by a REMCOR subcontracting laboratory while the REM III samples were analyzed through the EPA CLP program. Both sets of data were validated according to EPA validation guidelines: NUS validated and CRL reviewed the REM III samples, while REMCOR subcontracted the validation task for their samples.

Only volatile compounds were analyzed in the Bally Site soil samples and aqueous samples.

The water sample analyses exhibit excellent agreement between the two sets of split samples. The soil samples exhibit in general very good agreement, considering the soil matrix, the volatile nature of the analyzed compounds and the EPA approved sampling and shipping methodologies for soil samples.

HKR/lmd

S A M P L E N U M B E R

CHEMICAL (ug/l)	MW-001		MW-002	
	REMCOR	NUS-CLP	REMCOR	NUS-CLP
1,1,1-Trichloroethane	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND

CHEMICAL (ug/l)	MW-05S		MW-05D		MW-07I		MW-09I		MW-11S		MW-11I	
	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP
1,1,1-Trichloroethane	ND	ND	ND	1J	47	47	ND	ND	3J	2J	ND	ND
Trichloroethene	ND	ND	ND	ND	15	14	ND	ND	7	5	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	14	9	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	2J	2J	3J	3J	ND	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

CHEMICAL (ug/kg)	SAMPLE								NUMBER					
	SS1-002 2.0-4.0		SS1-003 4.0-6.0		SS2-004 6.0-8.0		SS3-005 7.0-9.5		SS9-001 4.0-6.0		SS9-001A 4.0-6.0		SS11-001 3.8-5.0	
	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	32	ND	ND	8	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	43	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

CHEMICAL (ug/kg)	SS11-002 7.0-9.0		SS12-002 3.0-5.0		SS12-003 5.0-7.0	
	REMCOR	NUS-CLP	REMCOR	NUS-CLP	REMCOR	NUS-CLP
1,1,1-Trichloroethane	13	ND	ND	ND	ND	ND
Trichloroethene	ND	1	ND	ND	ND	ND
Toluene	ND	ND	13	ND	36	ND
Methylene Chloride	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND

AR301012

BALLY SITE

Case #	Laboratory	Analysis	# of Samples
8534	Aquatec	VOA	7

001013
AR301013

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401
(301) 266-9180

DATE : OCT 28 1988

SUBJECT: Region III CLP Data QA Review

FROM : Patricia J. Krantz (3ES23)
Chief, Quality Assurance, Region III

TO : Carla Dempsey (OS-230)
QAO, AOB

Attached is a Region III CLP Data Review done by reviewers under the REM III contract:

Case No.: 8534

Sitename: Bally Area Site

Laboratory: AQUAI

Reviewer: D. Scheib / NUS-Pittsburgh

Attachment

cc: EPA Site RPM
Gareth Pearson, EMSL-LV
Regional DPO: Carol Wood Region I
Jeff Orient

DATA VALIDATION EVALUATION CHECKLIST

Case/SAS Number: 5534 Site Name: BALLY
Assignment #: 79-3635 Revision Number: 1 Analysis Type: ORGANIC (VOA ONLY)
Reviewer: D. SCHEIB Contractor: NUS/FGH SOW #: 787
Analytical Laboratory: AQUATEC
Information request date: _____ _____ Information received date: _____ _____
Date submitted to EPA: _____
EPA DPO: S. DELRE'
EPA RPM: P. TAN
cc: _____

Number of hours spent on review: 10
Number of samples: 7

CRITERIA	YES	NO	COMMENTS
Format according to Region III protocol	✓		
Clarity of report	✓		
Qualifiers applied correctly	✓		
Consistency between narrative, data summary form(s), and DPO report	✓		
Error-free transcription	✓		

EFFICIENCY OF CONTRACTOR	YES	NO	COMMENTS
Approval recommended for current submission	✓		
Time spent on review is reasonable	✓		

ESD OVERSIGHT

DATES	AFC/DPO	MONITOR/ EVALUATOR JVS	ESAT
Received at EPA	OCT 14 1988		
Oversight assigned	OCT 17 1988		
Oversight rec'd by TM		~~OCT 17 1988~~ out 5	Rev'd 10/19/88
Oversight complete		10/21/88	
Feedback given	OCT 28 1988		
Mailed to RPM			

Attachment(s), check if applicable: cover memo ____ phone log ____ comments ____

cc: Patricia J. Krantz

AR301015

301015

revised 08/88

DATA VALIDATION EVALUATION CHECKLIST

Case/SAS Number: 8534 Site Name: BALLY
Revision Number: 0 Analysis Type: ORGANIC (VOA ONLY)
Reviewer/Co.: D. SCHEIB / NUS-PGH SON #: 787
Date submitted to EPA: 6/17/88 Date received at EPA: JUN 21 1988
Information request date: _____ _____
Information received date: _____ _____ # of hours spent on review: 4.0
EPA RPM/DPO: S. DEL RE
Site Project Officer: _____

CRITERIA	YES	NO	COMMENTS
Completeness	✓		Submit copy of DPO Report to Loring P. His.
Format according to Region III protocol	✓		
Clarity of report		✓	See comment below
Qualifiers applied correctly	✓		
Consistency between narrative, data summary form(s), and DPO report		✓	Why do the Data Summary Forms indicate no detection of methylene chloride for CH700 when 45 ppb were reported on Form I? This is also not reported on Table I.
Transcription errors	✓		CORRECTED IN NARRATIVE AND TABLE /

EFFICIENCY OF CONTRACTOR	YES	NO	COMMENTS
Approval recommended for current submission		✓	
Previously noted discrepencies corrected			
Time spent on review is reasonable	✓		

ESD OVERSIGHT

Reviewed by: John Scalera
Date oversight assigned: 7-1-88
Date oversight complete: 9/6/88
Date feedback given: ~~7/1/~~ SEP 9 1988

Attachment(s), check if applicable: phone log ____ letter ____ comments ____

cc: Patricia J. Krantz

NUS CORPORATION
PARK WEST TWO
CLIFF MINE ROAD
PITTSBURGH, PA 15275-1071
(412) 788-1080

September 26, 1988
NUSP/88-0719
No Response Required

Mr. Richard C Evans
Ebasco Services Incorporated
One Oxford Valley
2300 Lincoln Highway, East
Suite 414
Langhorne, PA 19047

SUBJECT: REM III PROGRAM, EPA CONTRACT NO. 68-01-7250
ORGANIC DATA VALIDATION, CASE NO. 8534
BALLY SITE

Dear Mr. Evans:

OVERVIEW

The sample set for Case 8534 contained a total of seven (7) soil matrix samples analyzed for volatile organic (VOA) analysis only. Also included in the sample set are one field blank and one identified duplicate pair. All samples received low-level analysis and were analyzed through the Contract Laboratory Program (CLP) Routine Analytical Services.

SUMMARY

All compounds were successfully analyzed. The findings offered in this report are based upon a general review of all available data, including blank analysis results, duplicate analysis results, target compound matching quality, surrogate and matrix spike recoveries, and chromatograms. Areas of concern with respect to data usability are categorized below.

Minor Issues

- Methylene chloride, acetone and 2-butanone contaminants were found in the blanks. Consequently, the results of these compounds reported in the sample below 10 times the same analyte concentration found in the blank, have been qualified with "B".

- Due to a high percent Difference (%D>25) between initial and continuing calibrations, the Detection Limits (DL) and positive results for chloromethane, methylene chloride, acetone, dibromochloromethane and bromoform

have been qualified as estimated "UJ" and "J", respectively.

Note

All data were reviewed according to the National Functional Guidelines for Evaluating Organic Analyses. The text of this report has been formulated to address only those problem areas affecting data usability.

Sincerely,

Debra A Scheib
Chemist

Approved for submission,

Jeffrey P Orient
Site Manager

DAS/kjb

Attachments:

1. Glossary of data qualifier codes.
2. Table A - Data Summary. This summary includes all positive results for the target analytes with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory for all target analytes.
4. Appendix B - Results of all tentatively identified compounds (TIC), which have been corrected to exclude method artifacts and laboratory contaminants.
5. Appendix C - DPO Report addresses laboratory compliance to the Statement of Work.
6. Appendix D - Support Documentation includes details to support the statements in this report.

cc: G Zimmerman
L Pitts
L Johnson (w/o attachments)
File: Bally (Y798/541)
Daily

TABLE 1

CASE NO. 8534
SUMMARY OF QUALIFIERS ON DATA SUMMARY AFTER DATA VALIDATION
BALLY SITE

Analyte	Samples Affected	Qualifier		Bias	Comments
		Positive Values	Negative Values		
methylene chloride	all samples CM700	B<450 µg/kg J			(1) (2)
acetone	all samples CM700	B<70 µg/kg	UJ		(1) (2)
chloromethane	CM702, CM705, CM706		UJ		(2)
dibromochloromethane	CM702, CM705, CM706		UJ		(2)
bromoform	CM702, CM705, CM706		UJ		(2)

(1) Compounds present in the blank.
(2) Percent Difference (%D >25) in the continuing calibration.

DATA VALIDATION EVALUATION CHECKLIST

Case/SAS Number: 8534 Site Name: BALLY
Assignment #: 79-3635 Revision Number: 1 Analysis Type: ORGANIC (VOA ONLY)
Reviewer: D. SCHEIB Contractor: NUS/PGH SOW #: 787
Analytical Laboratory: AQUATEC
Information request date: _____ Information received date: _____
Date submitted to EPA: _____
EPA DPO: S. DELRE'
EPA RPM: P. TAN
cc: _____
Number of hours spent on review: 10
Number of samples: 7

CRITERIA	YES	NO	COMMENTS
Format according to Region III protocol	___	___	
Clarity of report	___	___	
Qualifiers applied correctly	___	___	
Consistency between narrative, data summary form(s), and DPO report	___	___	
Error-free transcription	___	___	

EFFICIENCY OF CONTRACTOR	YES	NO	COMMENTS
Approval recommended for current submission	___	___	
Time spent on review is reasonable	___	___	

ESD OVERSIGHT

DATES	AFC/DPO	MONITOR/ EVALUATOR _____	ESAT
Received at EPA	_____		
Oversight assigned	_____		
Oversight rec'd by TM		_____	
Oversight complete		_____	
Feedback given	_____		
Mailed to RPM			_____

Attachment(s), check if applicable: cover memo ____ phone log _____ comments _____

cc: Patricia J. Krantz

revised 08/88

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATING TO IDENTIFICATION
(confidence concerning presence or absence of compounds):

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) - Confirmed identification.

B - Not detected substantially above the level reported in laboratory or field blanks.

R - Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N - Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for both positive results and sample quantitation limits):

J - Analyte present. Reported value may not be accurate or precise.

K - Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ - Not detected. Quantitation limit may be inaccurate or imprecise.

UL - Not detected. Quantitation limit is probably higher.

OTHER CODES

Q - No analytical result.

TABLE A - DATA SUMMARY

301022

AR301022

DATA SUMMARY FORM: VOLATILES

Case Number: 8534

Site Name: Ball

Date of Sampling: 4/5 - 4/7/88

SOIL SAMPLES
(ug/Kg)

To calculate sample quantitation limits
(CRQL * Dilution Factor) / ((100 - % Moisture)/100)

SEE GLOSSARY FOR CODE DEFINITIONS

CRQL*	COMPOUND	CM700*		CM701*		CM702*		CM703*		CM704*		CM705*		CM706*	
	Sample No.	CM700*		CM701*		CM702*		CM703*		CM704*		CM705*		CM706*	
	Dilution Factor	1		1		1		1		1		1		1	
	% Moisture	41		14		15		16		15		14		10	
	Location	Field Blank Degreasing Area		SS-3		SS-2		SS-1		SS-1		SS-9		Field Dup. SS-9	
10	Chloromethane						UJ						UJ		UJ
10	Bromomethane														
10	*VINYL CHLORIDE														
10	Chloroethane														
5	Methylene Chloride	45	J	29	B	8	B	22	B	14	B	8	B	8	B
10	Acetone		UJ	10	B	6	B	10	B	7	B	9	B	6	B
5	Carbon Disulfide														
5	*1,1-DICHLOROETHENE														
5	1,1-Dichloroethane														
5	*TOTAL-1,2-DICHLOROETHENE														
5	Chloroform							6							
5	*1,2-DICHLOROETHANE														
10	*2-BUTANONE														
5	*1,1,1-TRICHLOROETHANE														
5	*CARBON TETRACHLORIDE														
10	Vinyl Acetate														
5	Bromodichloromethane														
5	*1,2-DICHLOROPROPANE														
	s-1,3-Dichloropropene														
	ichloroethene											32			
	bromochloromethane						UJ						UJ		UJ
	1,2-Trichloroethane														
	NZENE														
	ans-1,3-Dichloropropene														

CRQL = Contract Required Quantitation Limit

* Action Level Exists

* no tic compounds found

AR301023

DATA SUMMARY FORM: VOLATILES AND BNAs

Case Number: 8534

Site Name: Bally

Date of Sampling: 4/5 - 4/7/88

SOIL SAMPLES
(ug/Kg)

To calculate sample quantitation limits
(CRQL * Dilution Factor) / ((100 - % Moisture)/100)

SEE GLOSSARY FOR CODE DEFINITIONS

	Sample No.	CM700	CM701	CM702	CM703	CM704	CM705	CM706
	Dilution Factor							
	% Moisture							
	Location							
CRQL**	COMPOUND							
5	Bromoform	none detected			UJ		UJ	UJ
10	4-Methyl-2-pentanone							
10	2-Hexanone							
5	*TETRACHLOROETHENE							
5	1,1,2,2-Tetrachloroethane							
5	*TOLUENE							
5	Chlorobenzene							
5	*ETHYLBENZENE							
5	*STYRENE							
5	*TOTAL XYLENES							
330	Phenol							
330	bis(2-Chloroethyl)ether							
330	2-Chlorophenol							
330	*1,3-DICHLOROBENZENE							
330	*1,4-DICHLOROBENZENE							
330	Benzyl Alcohol							
330	1,2-Dichlorobenzene							
330	2-Methylphenol							
	is(2-Chloroisopropyl)ether							
	-Methylphenol							
	-Nitroso-di-n-propylamine							
	exachloroethane							
	itrobenzene							
	sophorone							
	-Nitrophenol							

CRQL = Contract Required Quantitation Limit

* Action Level Exists

301024

APPENDIX A

RESULTS AS REPORTED BY THE LABORATORY FOR ALL TARGET ANALYTES

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CM700

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.3 (g/mL) G Lab File ID: C77530V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec. 41 Date Analyzed: 11/19/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	38	U
74-83-9	Bromomethane	38	U
75-01-4	Vinyl Chloride	38	U
75-00-3	Chloroethane	38	U
75-09-2	Methylene Chloride	45	B
67-64-1	Acetone	38	U
75-15-0	Carbon Disulfide	19	U
75-35-4	1,1-Dichloroethene	19	U
75-34-3	1,1-Dichloroethane	19	U
540-59-0	1,2-Dichloroethene (total)	19	U
67-66-3	Chloroform	19	U
107-06-2	1,2-Dichloroethane	19	U
78-93-3	2-Butanone	38	U
71-55-6	1,1,1-Trichloroethane	19	U
56-23-5	Carbon Tetrachloride	19	U
108-05-4	Vinyl Acetate	38	U
75-27-4	Bromodichloromethane	19	U
78-87-5	1,2-Dichloropropane	19	U
10061-01-5	cis-1,3-Dichloropropene	19	U
79-01-6	Trichloroethene	19	U
124-48-1	Dibromochloromethane	19	U
79-00-5	1,1,2-Trichloroethane	19	U
71-43-2	Benzene	19	U
10061-02-6	trans-1,3-Dichloropropene	19	U
75-25-2	Bromoform	19	U
108-10-1	4-Methyl-2-Pentanone	38	U
591-78-6	2-Hexanone	38	U
127-18-4	Tetrachloroethene	19	U
79-34-5	1,1,2,2-Tetrachloroethane	19	U
108-88-3	Toluene	19	U
108-90-7	Chlorobenzene	19	U
100-41-4	Ethylbenzene	19	U
100-42-5	Styrene	19	U
1330-20-7	Xylene (total)	19	U

AR301026

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CM701

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.2 (g/mL) G Lab File ID: C77531V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.14 Date Analyzed: 11/19/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	26	U
74-83-9	Bromomethane	26	U
75-01-4	Vinyl Chloride	26	U
75-00-3	Chloroethane	26	U
75-09-2	Methylene Chloride	29	B
67-64-1	Acetone	10	BJ
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	26	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
108-05-4	Vinyl Acetate	26	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	26	U
591-78-6	2-Hexanone	26	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (total)	13	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CM702

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.9 (g/mL) G Lab File ID: C77532I2V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.15 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CM703

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.0 (g/mL) G Lab File ID: C77533V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.16 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	29	U
74-83-9	Bromomethane	29	U
75-01-4	Vinyl Chloride	29	U
75-00-3	Chloroethane	29	U
75-09-2	Methylene Chloride	22	B
67-64-1	Acetone	10	BJ
75-15-0	Carbon Disulfide	15	U
75-35-4	1,1-Dichloroethene	15	U
75-34-3	1,1-Dichloroethane	15	U
540-59-0	1,2-Dichloroethene (total)	15	U
67-66-3	Chloroform	6	J
107-06-2	1,2-Dichloroethane	15	U
78-93-3	2-Butanone	29	U
71-55-6	1,1,1-Trichloroethane	15	U
56-23-5	Carbon Tetrachloride	15	U
108-05-4	Vinyl Acetate	29	U
75-27-4	Bromodichloromethane	15	U
78-87-5	1,2-Dichloropropane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
79-01-6	Trichloroethene	15	U
124-48-1	Dibromochloromethane	15	U
79-00-5	1,1,2-Trichloroethane	15	U
71-43-2	Benzene	15	U
10061-02-6	trans-1,3-Dichloropropene	15	U
75-25-2	Bromoform	15	U
108-10-1	4-Methyl-2-Pentanone	29	U
591-78-6	2-Hexanone	29	U
127-18-4	Tetrachloroethene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
108-88-3	Toluene	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
100-42-5	Styrene	15	U
1330-20-7	Xylene (total)	15	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CM704

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.4 (g/mL) G Lab File ID: C77534V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.15 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	24	U
74-83-9	Bromomethane	24	U
75-01-4	Vinyl Chloride	24	U
75-00-3	Chloroethane	24	U
75-09-2	Methylene Chloride	14	B
67-64-1	Acetone	7	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	24	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
108-05-4	Vinyl Acetate	24	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	24	U
591-78-6	2-Hexanone	24	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CM705

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.6 (g/mL) G Lab File ID: C77535V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.14 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	23	U
74-83-9	Bromomethane	23	U
75-01-4	Vinyl Chloride	23	U
75-00-3	Chloroethane	23	U
75-09-2	Methylene Chloride	8	BJ
67-64-1	Acetone	9	BJ
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	32	
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	23	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
108-05-4	Vinyl Acetate	23	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	23	U
591-78-6	2-Hexanone	23	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CM706

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.8 (g/mL) G Lab File ID: C77536V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec. 10 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

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

FORM I VOA

APPENDIX B

RESULTS OF ALL TENTATIVELY IDENTIFIED COMPOUNDS (TIC)

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CM700

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.3 (g/mL) G Lab File ID: C77530V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec. 41 Date Analyzed: 11/19/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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27.				
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30.				

AR301034

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CM701

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.2 (g/mL) G Lab File ID: C77531V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec. 14 Date Analyzed: 11/19/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CM702

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.9 (g/mL) G Lab File ID: C77532I2V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.15 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CM703

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.0 (g/mL) G Lab File ID: C77533V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.16 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
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24.				
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27.				
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29.				
30.				

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CM704

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.4 (g/mL) G Lab File ID: C77534V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec.15 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
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23.				
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26.				
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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CM705

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.6 (g/mL) G Lab File ID: C77535V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec. 14 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
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20.				
21.				
22.				
23.				
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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CM706

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 2.8 (g/mL) G Lab File ID: C77536V

Level: (low/med) LOW Date Received: 11/19/87

% Moisture: not dec. 10 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
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APPENDIX C

DPO REPORT

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 5 (g/mL) G Lab File ID: CQB001BV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec. 0 Date Analyzed: 11/20/87

Column: (pack/cap) PACK Dilution Factor: 1.0000

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

ORGANIC DATA VALIDATION SUMMARY

Date Review Completed 6/3/88
Case No. 8534 SAS No. _____
Site Name Bally
Sample Nos CM700 - CM706

Contract Lab Aquatec
Contract No. 68-01-7426
Lab DPO D. SZARO
Reviewer D. SCHEIB NUS/PGH
from Region III Phone (412) 788-1080
FTS

MATRIX	CONCENTRATION low	med	high	MATRIX RELATED COMMENTS
soil/solid	7			
aqueous				
other				

VOLATILES	OK	FYI	ACTION	COMMENTS
GC/MS tuning--BFB	✓			
Initial Calibration	✓			
Continuing Calibration		✓		some compounds > 25% D
Surrogate Recovery	✓			
Matrix Spikes	✓			
Reagent Blanks		✓		some contaminants
Holding times	✓			

SEMI-VOLATILES	OK	FYI	ACTION	COMMENTS
GC/MS tuning--DFTPP				
Initial Calibration				
Continuing Calibration				N
Surrogate Recovery				
Matrix Spikes				A
Reagent Blanks				
Holding times				

PESTICIDES	OK	FYI	ACTION	COMMENTS
Instrument Performance				
Initial Calibration				
Continuing Calibration				N
Surrogate Recovery				
Matrix Spikes				A
Reagent Blanks				
Holding times				

OVERALL CASE	OK	FYI	ACTION	COMMENTS
Compound Identification	✓			
Data Completeness	✓			

REVIEWER'S COMMENTS:

001043

*DOCUMENTATION ATTACHED (see following pages)

AR301043

APPENDIX D

SUPPORT DOCUMENTATION

AR301044

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

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

Sample wt/vol: 5 (g/mL) G Lab File ID: CQB001AV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec. 0 Date Analyzed: 11/19/87

Column: (pack/cap) PACK Dilution Factor: 1.0000

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

LAB ANALYSIS WORKSHEET

F-0195

Parameter: % SOLIDS

Method No:

Project No: 87500

ETR: 12228

Client/Project: USEPA Case # 8534

Worksheet and Data Filed:

Analyst	Date	Time Hr (0.0)		Analyst	Date	Time Hr (0.0)
DB	11/19/87	0.7			/ /	
	/ /				/ /	
	/ /				/ /	
	/ /				/ /	
	/ /				/ /	
	/ /				/ /	

	By	Date	Time Hr (0.0)
Quality Assurance		/ /	
Transcribed to ETR		/ /	
Transcription Checked		/ /	

Notes: LEVEL III! NEW CONTRACT - 14 DAY TURNAROUND * SDG# CM700 Recvd 1x 4oz jar/sample

Date	Sample Description	Lab No.	dish	dish + soil	dried	% Solids	
11-19-87	Low concn Soil Sample CM700	77530	1.51	10.31	6.66	58.52	
	CM701	77531	1.51	11.84 ~~10.33~~ DB	10.40	86.06	
	CM702	77532	1.53	11.73	10.25	85.49	
	CM703	77533	1.52	10.68	9.26	84.50	
	CM704	77534	1.51	10.20	8.94	85.50	
	CM705	77535	1.49	10.32	9.11	86.30	
	CM706	77536	1.52	10.32	9.40	89.55	

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 8534 SAS No.: _____ SDG No.: CM700

Instrument ID: OWA C Calibration Date: 11/20/87 Time: 0947

Lab File ID: CQ050BHV Init. Calib. Date(s): 11/19/87 11/19/87

Matrix:(soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D	
Chloromethane	#1.738	2.298	32.2	#
Bromomethane	2.357	1.945	17.5	
Vinyl Chloride	*2.431	2.519	3.6	*
Chloroethane	1.324	1.642	24.0	
Methylene Chloride	2.682	3.532	31.7	
Acetone	.533	.735	37.9	
Carbon Disulfide	3.391	3.688	8.8	
1,1-Dichloroethene	*1.283	1.527	19.0	*
1,1-Dichloroethane	#3.829	4.058	6.0	#
1,2-Dichloroethene (total)	1.440	1.704	18.3	
Chloroform	*3.929	3.989	1.5	*
1,2-Dichloroethane	3.769	4.067	7.9	
2-Butanone	.122	.110	9.7	
1,1,1-Trichloroethane	.376	.375	.4	
Carbon Tetrachloride	.388	.345	10.9	
Vinyl Acetate	1.187	1.227	3.3	
Bromodichloromethane	.649	.553	14.8	
1,2-Dichloropropane	* .537	.512	4.7	*
cis-1,3-Dichloropropene	.563	.509	9.5	
Trichloroethene	.465	.407	12.4	
Dibromochloromethane	.692	.486	29.7	
1,1,2-Trichloroethane	.439	.400	9.0	
Benzene	1.167	1.174	.6	
trans-1,3-Dichloropropene	.596	.497	16.5	
Bromoform	# .559	.388	30.6	#
4-Methyl-2-Pentanone	1.510	1.365	9.6	
2-Hexanone	1.430	1.376	3.8	
Tetrachloroethene	.748	.653	12.7	
1,1,2,2-Tetrachloroethane	#1.315	1.109	15.7	#
Toluene	* .903	.845	6.4	*
Chlorobenzene	#1.125	1.052	6.5	
Ethylbenzene	* .587	.519	11.6	*
Styrene	1.275	1.084	14.9	
Xylene (total)	.729	.681	6.7	
Toluene-d8	1.357	1.325	2.3	
Bromofluorobenzene	1.047	1.045	.1	
1,2-Dichloroethane-d4	3.083	3.502	13.6	

CM702
CM705
CM706

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