LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

CHRONOLOGICAL INDEX

Volume 2 of 13

2009

Bate Stamp Numbers

00071932 - 00072701

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976 – 2009

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 2 of 13

2009

A. Title: Report (continued) – Final Engineering Evaluation/Cost Analysis, Former Pistol Range, LHAAP, Karnack, TX
Author(s): Shaw Environmental, Inc., Houston, Texas
Recipient: All Stakeholders
Date: February 25, 2009
Bate Stamp: 00071932 - 00072255

B. Title: Email – TCEQ Review – Draft Final Addendum to the Final Site Evaluation Report for Soil Associated with LHAAP-35/36 Sumps
Author(s): Fay Duke, TCEQ
Recipient: Praveen Srivastav, Shaw and Rose Zeiler, Army/BRAC Site Manager
Date: March 4, 2009
Bate Stamp: 00072256

C. Title: Letter – LHAAP-02 Vacuum Truck Overnight Parking Lot Final Site Investigation Report, LHAAP TXD6213820529
Author(s): Fay Duke, TCEQ
Recipient: Rose Zeiler, Army/ BRAC Site Manager
Date: March 4, 2009
Bate Stamp: 00072257

D. Title: Report – Final Engineering Evaluation and Cost Analysis, LHAAP-04, Former Pilot Wastewater Treatment Plant, Group 4, LHAAP, Karnack, TX
Author(s): Shaw Environmental, Inc., Houston, Texas
Recipient: All Stakeholders
Date: March 5, 2009
Bate Stamp: 00072258 -00072701

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/10/08

Technical Report for

Shaw E & I, Inc.

Longhorn Army Ammunition Plant

PROJECT #117591

Accutest Job Number: T18781

Sampling Date: 09/07/07

Report to:

Shaw E & I, Inc.

jennifer.hoang@shawgrp.com

ATTN: Jennifer Hoang

Total number of pages in report: 40

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Agnes Vicknair 713-271-4700

Certifications: TX (T104704220-06-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103) UT(7132714700)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Test results relate only to samples analyzed.

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Accutest LabLink@32290 10:54 10-Jul-2008

Sample Summary

Shaw E & I, Inc.

Job No: T18781

Longhorn Army Ammunition Plant
Project No: PROJECT #117591

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T18781-1	09/07/07	15:40 AW	09/08/07	AQ	Water	PRWW01-090707
T18781-1A	09/07/07	15:40 AW	09/08/07	AQ	Water Filtered	PRWW01-090707 - DISSOLVED

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shaw E & I, Inc.	**Job No**	T18781
Site:	Longhorn Army Ammunition Plant	**Report Date**	9/8/2007 7:35:18 PM

2 Samples were collected on 09/07/2007 and were received at Accutest on 09/08/2007 properly preserved, at 1.6 Deg. C and intact. These Samples received an Accutest job number of T18781. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP6550

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T18781-1DUP, T18781-1MS, T18781-1MSD, T18781-1SDL, T18781-1DUP were used as the QC samples for metals.
- RPD(s) for Duplicate for Antimony are outside control limits for sample MP6550-D1. RPD acceptable due to low duplicate and sample concentrations.
- RPD(s) for Serial Dilution for Antimony, Arsenic, Beryllium, Chromium, Cobalt, Lead, Nickel, Selenium, Vanadium, Zinc, Aluminum, Potassium are outside control limits for sample MP6550-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP6550-SD1 for Potassium: Serial dilution indicates possible matrix interference.
- MP6550-SD1 for Aluminum: Serial dilution indicates possible matrix interference.

Metals By Method SW846 7470A

Matrix AQ **Batch ID:** MP6551

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) T18781-1DUP, T18781-1MSD were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Accutest LabLink@32290 10:54 10-Jul-2008

Report of Analysis

Client Sample ID:	PRWW01-090707		
Lab Sample ID:	T18781-1	Date Sampled:	09/07/07
Matrix:	AQ - Water	Date Received:	09/08/07
		Percent Solids:	n/a
Project:	Longhorn Army Ammunition Plant		

Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Aluminum	8360	200	86	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Antimony	2.8 B	5.0	2.7	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Arsenic	2.7 U	5.0	2.7	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Barium	209	200	2.4	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Beryllium	0.27 B	5.0	0.26	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Cadmium	1.8 U	4.0	1.8	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Calcium	26500	5000	170	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Chromium	7.3 B	10	1.5	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Cobalt	9.6 U	50	9.6	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Copper	13.0 B	25	5.9	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Iron	5150	100	24	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Lead	17.2	3.0	2.8	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Magnesium	16900	5000	13	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Manganese	199	15	4.1	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Mercury	0.094 U	0.20	0.094	ug/l	1	09/08/07	09/08/07	NS	SW846 7470A [1]	SW846 7470A [4]
Nickel	4.2 B	40	2.6	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Potassium	4140 B	5000	160	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Selenium	2.3 B	5.0	2.3	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Silver	1.1 U	10	1.1	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Sodium	87200	5000	330	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Thallium	1.5 U	10	1.5	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Vanadium	14.8 B	50	0.94	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Zinc	19.4 B	20	7.5	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA3093
(2) Instrument QC Batch: MA3094
(3) Prep QC Batch: MP6550
(4) Prep QC Batch: MP6551

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
B = Indicates a result >= SDL but < MQL

Accutest LabLink@32290 10:54 10-Jul-2008

Report of Analysis

Client Sample ID:	PRWW01-090707 - DISSOLVED		
Lab Sample ID:	T18781-1A	Date Sampled:	09/07/07
Matrix:	AQ - Water Filtered	Date Received:	09/08/07
		Percent Solids:	n/a
Project:	Longhorn Army Ammunition Plant		

Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	86 U	200	86	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Antimony	2.7 U	5.0	2.7	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Arsenic	2.7 U	5.0	2.7	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Barium	137 B	200	2.4	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Beryllium	0.26 U	5.0	0.26	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Cadmium	1.8 U	4.0	1.8	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Calcium	25000	5000	170	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Chromium	1.5 U	10	1.5	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Cobalt	9.6 U	50	9.6	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Copper	5.9 U	25	5.9	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Iron	25.2 B	100	24	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Lead	2.8 U	3.0	2.8	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Magnesium	15400	5000	13	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Manganese	171	15	4.1	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Mercury	0.094 U	0.20	0.094	ug/l	1	09/08/07	09/08/07	NS	SW846 7470A [1]	SW846 7470A [4]
Nickel	2.6 U	40	2.6	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Potassium	3080 B	5000	160	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Selenium	2.3 U	5.0	2.3	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Silver	1.1 U	10	1.1	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Sodium	87000	5000	330	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Thallium	1.5 U	10	1.5	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Vanadium	0.98 B	50	0.94	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]
Zinc	7.5 U	20	7.5	ug/l	1	09/08/07	09/08/07	NS	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA3093
(2) Instrument QC Batch: MA3094
(3) Prep QC Batch: MP6550
(4) Prep QC Batch: MP6551

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
B = Indicates a result >= SDL but < MQL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

00071940

Shaw® Shaw Environmental, Inc.
3010 Briarpark Drive, Suite 4N
Houston, TX 77042 (713) 996-4400

CHAIN-OF-CUSTODY

T18781

No. 10346

Laboratory Name: ACCUTEST
Address: 10165 HARWIN DRIVE SUITE 150 HOUSTON, TEXAS 77036
Contact: AGNES

Project Name: LHAAP - PISTOL RANGE
Project No.: 117591.0009C400
Project Location: KARNACK, TEXAS
Project Contact: ALLEN WILMORE
Project Telephone No.: (713) 247-9292
Point of contact: LARRY DUTY
Telephone No.: 832 368 0173
Project Manager/Supervisor: PRAVEEN. SRIVASTAV

Analysis and Method Desired (Indicate separate containers)

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	TAL METALS TO BE FILTERED	TAL METALS UNFILTERED w/ HNO3	Remarks
1	PRWW01 - 090707	9/7/07	15:40		✓	W	PRWW01, PISTOL RANGE	2	1	1	PLEASE CALL ALLEN @ 713) 247-9292 SATURDAY 9/7/07
2											
3											
4											*24 hr TAT
5											
6											
7											
8											
9											
10											

Transfers Relinquished By (Signature): [signature] Date/Time: 9/9/07 17:50
Transfers Accepted By (Signature): Date/Time:

Special Instructions:
* PLEASE CALL W/ VERBAL RESULTS ON SAT 9/8/07 (713) 247-9292
** RUSH 24-HOUR TAT ALLEN.WILMORE@SHAWGRP.COM

TAT: 24 hr Standard ____ Rush Due: ✓
Laboratory: Cassie Escotto 9/8/07 10:00
FedEx Airbill No.:
Seals Intact? ____ Y ____ N
Received Good Condition ____ Y ____ N ____ Cold 1.6
Sampler's Signature: [signature]

White - Lab Copy Canary - Field Copy Pink - File Copy

4.1 4

T18781: Chain of Custody
Page 1 of 4

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T18781

DATE/TIME RECEIVED: 9/8/07 10:07

CLIENT: Shaw

INITIALS: CNE

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. Y N Sample received in undamaged condition.
2. Y N Samples received within temp. range.
3. Y N Sample received with proper pH.
4. Y N Sample received in proper containers.
5. Y N Sample volume sufficient for analysis.
6. Y N Sample received with chain of custody.
7. Y N Chain of Custody matches **sample IDs and analysis** on containers.
8. Y NA Samples Headspace acceptable
9. Y N NA Custody seal received intact and tamper not evident on cooler.
10. Y N NA Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1	9/7/07	AQ	P500	2DD	1,2,3,4,5,6	U, <2, >12, NA
↓	2	↓	↓	↓	↓	1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
			CNE 9/8/07			1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: UPS

COOLER TEMP: 1.4 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/06, QAO

00071941

4.1 4

T18781: Chain of Custody

Page 2 of 4

00071942

Shaw® Shaw Environmental, Inc.

3010 Briarpark Drive, Suite 4N
Houston, TX 77042 (713) 996-4400

CHAIN-OF-CUSTODY

T18781

No. 10346

Laboratory Name: ACCUTEST Address: 10165 HARWIN DRIVE SUITE 150 HOUSTON, TEXAS 77036 Contact: AGNES

Project Name: LHAAP - PISTOL RANGE
Project Location: KARNACK, TEXAS
Project No.: 117591.0009C400
Project Contact: ALLEN WILMORE
Project Telephone No.: (713) 247-9292
Point of contact: LARRY DUTY
Telephone No.: 832 368 0173
Project Manager/Supervisor: PRAVEEN. SRIVASTAV

Analysis and Method Desired (Indicate separate containers)

Remarks: PLEASE CALL ALLEN @ (713) 247-9292 SATURDAY 9/7/07

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	TAL METALS TO BE FILTERED	TAL METALS UNFILTERED w/HNO3						Remarks
1	PRWW01-090707	9/7/07	15:40		✓	W	PRWW01, PISTOL RANGE	2	1	1						*24 hr TAT
2																
3																
4																
5																
6																
7																
8																
9																
10																

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
[signature]	9/7/07 17:50		
		Laboratory Cassie Escotto	9/8/07 10:00

Special Instructions
* PLEASE CALL W/ VERBAL RESULTS ON SAT 9/8/07 (713) 247-9292
** RUSH 24-HOUR TAT ALLEN.WILMORE@SHAWGRP.COM

FedEx Airbill No.:

Sampler's Signature [signature]

TAT: 24 hr Standard ____ Rush Due: ✓ Seals Intact? ____ Y ____ N Received Good Condition ____ Y ____ N ____ Cold 1.6

White - Lab Copy Canary - Field Copy Pink - File Copy

4.1 4

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T18781 DATE/TIME RECEIVED: 9/8/07 10:07

CLIENT: Shaw INITIALS: CNE

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. Y N Sample received in undamaged condition.
2. Y N Samples received within temp. range.
3. Y N Sample received with proper pH.
4. Y N Sample received in proper containers.
5. Y N Sample volume sufficient for analysis.
6. Y N Sample received with chain of custody.
7. Y N Chain of Custody matches **sample IDs and analysis** on containers.
8. Y NA Samples Headspace acceptable
9. Y N NA Custody seal received intact and tamper not evident on cooler.
10. Y N NA Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1	9/7/07	AQ	P500	2DD	1,2,3,4,5,6	U, <2, >12, NA
↓	2	↓	↓	↓	↓	1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
			CNE 9/8/07			1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: UPS

COOLER TEMP: 1.4 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/06, QAO

00071943

4.1 4

T18781: Chain of Custody

Page 4 of 4

ACCUTEST. Laboratories

T18781

Appendix A Laboratory Data Package Cover Page

This data package consists of:

- ☐ This signature page, the laboratory review checklist, and the following reportable data:
- ☐ R1 Field chain-of-custody documentation;
- ☐ R2 Sample identification cross-reference;
- ☐ R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- ☐ R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- ☐ R5 Test reports/summary forms for blank samples;
- ☐ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- ☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- ☐ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- ☐ R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ☐ R10 Other problems or anomalies.
- ☐ The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: [ ] This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Ron Martino	Ron Martino	Lab Director	9/8/2007
Name (Printed)	Signature	Official Title (printed)	Date

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: Accutest Laboratories Gulf Coast	LRC Date: 9/8/2007
Project Name: Longhorn	Laboratory Job Number: T18781
Reviewer Name: Ron Martino	Prep Batch Number(s):

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X			2
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: Accutest Laboratories Gulf Coast	LRC Date: 9/8/2007
Project Name: Longhorn	Laboratory Job Number: T18781
Reviewer Name: Ron Martino	Prep Batch Number(s):

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			X		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			2
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S16	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: Accutest Laboratories Gulf Coast	LRC Date: 9/8/2007
Project Name: Longhorn	Laboratory Job Number: T18781
Reviewer Name: Ron Martino	Prep Batch Number(s):

ER #[1]	DESCRIPTION
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL/SDL is reported in the method blank. The SDL/SQL/MDL is defined in the report as the MDL.
2	All anomalies are discussed in the case narrative.
3	All sample analysis were evaluated to the MDL/SDL/SQL as per TRRP-13

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: H20908W1.PRN Date Analyzed: 09/08/07 Methods: EPA 245.1, SW846 7470A
Analyst: NS Run ID: MA3093
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:52	MA3093-STD1	1		STD01REP1
14:55	MA3093-STD2	1		STD02REP1
14:57	MA3093-STD3	1		STD03REP1
15:01	MA3093-STD4	1		STD04REP1
15:03	MA3093-STD5	1		STD05REP1
15:05	MA3093-STD6	1		STD06REP1
15:09	MA3093-ICV1	1		
15:14	MA3093-ICB1	1		
15:19	MA3093-CRI1	1		
15:21	MA3093-CCV1	1		
15:27	MA3093-CCB1	1		
15:29	MP6551-MB1	1		
15:32	MP6551-B1	1		
15:35	T18781-1	1		
15:38	MP6551-D1	1		
15:41	MP6551-S1	1		
15:43	MP6551-S2	1		
15:49	T18781-1A	1		
---------->	Last reportable sample/prep for job T18781			
15:53	MA3093-CRI2	1		
15:55	MA3093-CCV2	1		
16:01	MA3093-CCB2	1		
---------->	Last reportable CCB for job T18781			
16:07	MP6553-MB1	1		
16:09	MP6553-B1	1		
16:14	T18676-1	1		(sample used for QC only; not part of login T18781)
16:17	MP6553-D1	1		
16:19	MP6553-S1	1		
16:22	MP6553-S2	1		
16:28	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:32	ZZZZZZ	1		
16:35	ZZZZZZ	1		
16:37	MA3093-CCV3	1		
16:43	MA3093-CCB3	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: H20908W1.PRN Date Analyzed: 09/08/07 Methods: EPA 245.1, SW846 7470A
Analyst: NS Run ID: MA3093
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:46	ZZZZZZ	1		
16:48	MA3093-CCV4	1		
16:55	MA3093-CCB4	1		
16:58	MP6552-MB1	1		
17:00	MP6552-B1	1		
17:05	T18722-1	1		(sample used for QC only; not part of login T18781)
17:08	MP6552-D1	1		
17:10	MP6552-S1	1		
17:13	MP6552-S2	1		
17:16	ZZZZZZ	1		
17:18	ZZZZZZ	1		
17:22	MA3093-CRI3	1		
17:25	MA3093-CCV5	1		
17:29	MA3093-CCB5	1		

Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: H20908W1.PRN Date Analyzed: 09/08/07 Methods: EPA 245.1, SW846 7470A
QC Limits: result < RL Run ID: MA3093 Units: ug/l

Time:			15:14		15:27		16:01	
Sample ID:			ICB1		CCB1		CCB2	
Metal	RL	IDL	raw	final	raw	final	raw	final
Mercury	0.20	.049	0.014	<0.20	-0.026	<0.20	-0.053	<0.20

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: H20908W1.PRN Date Analyzed: 09/08/07 Methods: EPA 245.1, SW846 7470A
QC Limits: 80 to 120 % Recovery Run ID: MA3093 Units: ug/l

Time:		15:09			15:21			15:55	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	3.1	103.3	3	3.1	103.3	3	3.1	103.3

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: H20908W1.PRN Date Analyzed: 09/08/07 Methods: EPA 245.1, SW846 7470A
QC Limits: to % Recovery Run ID: MA3093 Units: ug/l

Time:			15:19		15:53	
Sample ID:	CRI	CRIA	CRI1		CRI2	
Metal	True	True	Results	% Rec	Results	% Rec
Mercury	0.20		0.15	75.0	0.18	90.0

(*) Outside of QC limits
(anr) Analyte not requested

5.1.3 5

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
Analyst: NS Run ID: MA3094
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	14:33	MA3094-STD1	1		STDA
	14:39	MA3094-STD2	1		STDC
	14:45	MA3094-STD3	1		STDE
	14:50	MA3094-STD4	1		STDB
	14:57	MA3094-STD5	1		STDD
	15:30	MA3094-HSTD1	1		
	15:40	MA3094-ICV1	1		
	15:47	MA3094-ICB1	1		
	15:53	MA3094-CRIB1	1		
	16:00	MA3094-ICSA1	1		
	16:06	MA3094-ICSAB1	1		
	16:14	MA3094-CCV1	1		
	16:21	MA3094-CCB1	1		
	16:27	MP6550-MB1	1		
	16:33	MP6550-B1	1		
	16:40	T18781-1	1		
	16:46	MP6550-D1	1		
	16:53	MP6550-SD1	5		
	16:59	MP6550-S1	1		
	17:06	MP6550-S2	1		
	17:12	T18781-1A	1		
---------->	Last reportable sample/prep for job T18781				
	17:19	MA3094-CCV2	1		
	17:25	MA3094-CCB2	1		
---------->	Last reportable CCB for job T18781				
	17:36	ZZZZZZ	1		
	17:42	ZZZZZZ	1		
	17:49	ZZZZZZ	1		
	17:55	ZZZZZZ	1		
	18:02	ZZZZZZ	1		
	18:08	ZZZZZZ	1		
	18:14	ZZZZZZ	1		
	18:21	ZZZZZZ	1		
	18:27	ZZZZZZ	1		
	18:34	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
Analyst: NS Run ID: MA3094
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:42	MA3094-CCV3	1		
18:50	MA3094-CCB3	1		
18:56	ZZZZZZ	1		
19:03	ZZZZZZ	1		
19:09	ZZZZZZ	1		
19:16	ZZZZZZ	1		
19:24	MA3094-CCV4	1		
19:32	MA3094-CCB4	1		
19:38	MP6545-MB1	1		
19:44	MP6545-B1	1		
19:51	T18703-1	1		(sample used for QC only; not part of login T18781)
19:57	MP6545-D1	1		
20:04	MP6545-SD1	5		
20:10	MP6545-S1	1		
20:17	MP6545-S2	1		
20:23	ZZZZZZ	1		
20:30	ZZZZZZ	1		
20:38	MA3094-CCV5	1		
20:46	MA3094-CCB5	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
Analyst: NS Run ID: MA3094
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1
14:33	MA3094-STD1	30921 R
14:39	MA3094-STD2	31049
14:45	MA3094-STD3	30319
14:50	MA3094-STD4	30909
14:57	MA3094-STD5	30828
15:30	MA3094-HSTD1	30179
15:40	MA3094-ICV1	30804
15:47	MA3094-ICB1	30915
15:53	MA3094-CRIB1	30807
16:00	MA3094-ICSA1	28905
16:06	MA3094-ICSAB1	28857
16:14	MA3094-CCV1	30512
16:21	MA3094-CCB1	30704
16:27	MP6550-MB1	30828
16:33	MP6550-B1	30228
16:40	T18781-1	30399
16:46	MP6550-D1	30409
16:53	MP6550-SD1	30679
16:59	MP6550-S1	30086
17:06	MP6550-S2	30297
17:12	T18781-1A	30609
17:19	MA3094-CCV2	30351
17:25	MA3094-CCB2	30615
17:36	ZZZZZZ	31100
17:42	ZZZZZZ	31264
17:49	ZZZZZZ	30529
17:55	ZZZZZZ	30629
18:02	ZZZZZZ	31337
18:08	ZZZZZZ	31134
18:14	ZZZZZZ	31153
18:21	ZZZZZZ	30934
18:27	ZZZZZZ	31539
18:34	ZZZZZZ	31016

INTERNAL STANDARD SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
Analyst: NS Run ID: MA3094
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1
18:42	MA3094-CCV3	30002
18:50	MA3094-CCB3	30240
18:56	ZZZZZZ	30188
19:03	ZZZZZZ	30992
19:09	ZZZZZZ	30956
19:16	ZZZZZZ	30537
19:24	MA3094-CCV4	29997
19:32	MA3094-CCB4	30390
19:38	MP6545-MB1	29275
19:44	MP6545-B1	29000
19:51	T18703-1	29712
19:57	MP6545-D1	29807
20:04	MP6545-SD1	29883
20:10	MP6545-S1	29669
20:17	MP6545-S2	29872
20:23	ZZZZZZ	29560
20:30	ZZZZZZ	28927
20:38	MA3094-CCV5	29814
20:46	MA3094-CCB5	30201

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
QC Limits: result < RL Run ID: MA3094 Units: ug/l

Time:			15:47		16:21		17:25	
Sample ID:			ICB1		CCB1		CCB2	
Metal	RL	IDL	raw	final	raw	final	raw	final
Aluminum	200	51	1.2	<200	14.4	<200	34.4	<200
Antimony	5.0	1.8	0.83	<5.0	0.79	<5.0	2.2	<5.0
Arsenic	5.0	1.4	0.43	<5.0	0.0	<5.0	0.72	<5.0
Barium	200	.1	0.050	<200	0.11	<200	0.040	<200
Beryllium	5.0	.06	0.060	<5.0	-0.010	<5.0	-0.040	<5.0
Boron	100	1.4						
Cadmium	4.0	.5	0.14	<4.0	0.080	<4.0	0.070	<4.0
Calcium	5000	8	39.7	<5000	-5.4	<5000	-6.3	<5000
Chromium	10	.9	-2.5	<10	-2.6	<10	-2.7	<10
Cobalt	50	.99	0.25	<50	0.36	<50	0.41	<50
Copper	25	1.4	0.0	<25	0.030	<25	-0.20	<25
Iron	100	16	2.1	<100	0.49	<100	1.3	<100
Lead	3.0	.7	-1.5	<3.0	-0.30	<3.0	-0.67	<3.0
Magnesium	5000	8	2.6	<5000	0.46	<5000	0.37	<5000
Manganese	15	.2	0.040	<15	-0.20	<15	-0.22	<15
Molybdenum	10	.45						
Nickel	40	1	-1.7	<40	-1.6	<40	-2.1	<40
Potassium	5000	80	-5.0	<5000	-9.4	<5000	-33	<5000
Selenium	5.0	1.7	0.95	<5.0	1.9	<5.0	1.5	<5.0
Silver	10	.5	0.26	<10	0.28	<10	0.22	<10
Sodium	5000	160	8.5	<5000	5.8	<5000	16.3	<5000
Strontium	20	.5						
Thallium	10	1.5	0.030	<10	-0.90	<10	0.83	<10
Tin	20	1.5						
Titanium	20	.5						
Vanadium	50	.4	0.37	<50	0.43	<50	0.59	<50
Zinc	20	.8	2.9	<20<	-0.72	<20	-0.58	<20

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3094 Units: ug/l

Time:		15:40			16:14			17:19	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	5000	4890	97.8	40000	40200	100.5	40000	40100	100.3
Antimony	1000	969	96.9	2000	1960	98.0	2000	1950	97.5
Arsenic	1000	990	99.0	2000	2000	100.0	2000	1980	99.0
Barium	1000	996	99.6	2000	2030	101.5	2000	2030	101.5
Beryllium	1000	997	99.7	2000	2000	100.0	2000	1970	98.5
Boron									
Cadmium	1000	980	98.0	2000	1950	97.5	2000	1930	96.5
Calcium	5000	4890	97.8	40000	39600	99.0	40000	39300	98.3
Chromium	1000	972	97.2	2000	1970	98.5	2000	1950	97.5
Cobalt	1000	974	97.4	2000	1960	98.0	2000	1930	96.5
Copper	1000	986	98.6	2000	2040	102.0	2000	2040	102.0
Iron	5000	4880	97.6	40000	39600	99.0	40000	39200	98.0
Lead	1000	980	98.0	2000	1980	99.0	2000	1970	98.5
Magnesium	5000	4840	96.8	40000	39800	99.5	40000	39300	98.3
Manganese	1000	980	98.0	2000	1980	99.0	2000	1960	98.0
Molybdenum									
Nickel	1000	972	97.2	2000	1960	98.0	2000	1940	97.0
Potassium	5000	4910	98.2	40000	41400	103.5	40000	41700	104.3
Selenium	1000	994	99.4	2000	2010	100.5	2000	2000	100.0
Silver	500	489	97.8	250	252	100.8	250	251	100.4
Sodium	5000	5290	105.8	40000	40100	100.3	40000	40000	100.0
Strontium									
Thallium	1000	984	98.4	2000	1990	99.5	2000	1990	99.5
Tin									
Titanium									
Vanadium	1000	990	99.0	2000	2000	100.0	2000	1980	99.0
Zinc	1000	1030	103.0	2000	2030	101.5	2000	2020	101.0

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
QC Limits: 95 to 105 % Recovery Run ID: MA3094 Units: ug/l

Time:		15:30	
Sample ID:	HSTD	HSTD1	
Metal	True	Results	% Rec
Aluminum	80000	81700	102.1
Antimony	4000	3920	98.0
Arsenic	4000	3980	99.5
Barium	4000	4040	101.0
Beryllium	4000	3940	98.5
Boron			
Cadmium	4000	3890	97.3
Calcium	80000	79700	99.6
Chromium	4000	3950	98.8
Cobalt	4000	3950	98.8
Copper	4000	4140	103.5
Iron	80000	79700	99.6
Lead	4000	3980	99.5
Magnesium	80000	81000	101.3
Manganese	4000	3970	99.3
Molybdenum			
Nickel	4000	3920	98.0
Potassium	80000	80400	100.5
Selenium	4000	3990	99.8
Silver	500	511	102.2
Sodium	80000	79500	99.4
Strontium			
Thallium	4000	4000	100.0
Tin			
Titanium			
Vanadium	4000	4010	100.3
Zinc	4000	3930	98.3

(*) Outside of QC limits
(anr) Analyte not requested

INITIAL LOW CALIBRATION CHECK STANDARD SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
QC Limits: 80 to 120 % Recovery Run ID: MA3094 Units: ug/l

Time:		15:53	
Sample ID:	CRIB	CRIB1	
Metal	True	Results	% Rec
Aluminum	400	415	103.8
Antimony	10	10.6	106.0
Arsenic	10	11.5	115.0
Barium	400	420	105.0
Beryllium	10	10.9	109.0
Boron	200		
Cadmium	8.0	8.2	102.5
Calcium	5000	5220	104.4
Chromium	20	18.3	91.5
Cobalt	100	109	109.0
Copper	50	52.2	104.4
Iron	200	206	103.0
Lead	6.0	5.3	88.3
Magnesium	5000	5530	110.6
Manganese	30	31.4	104.7
Molybdenum	10		
Nickel	80	79.3	99.1
Potassium	5000	5230	104.6
Selenium	10	11.7	117.0
Silver	20	20.8	104.0
Sodium	5000	5250	105.0
Strontium	20		
Thallium	20	22.6	113.0
Tin	20		
Titanium	20		
Vanadium	100	104	104.0
Zinc	40	48.2	120.5*(a

(*) Outside of QC limits
(anr) Analyte not requested
(a) Within 50-150 % recovery for required for crib.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

File ID: IR090807.ASC Date Analyzed: 09/08/07 Methods: SW846 6010B
QC Limits: 80 to 120 % Recovery Run ID: MA3094 Units: ug/l

Time:			16:00		16:06	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	481000	96.2	487000	97.4
Antimony		1000	0.69		1030	103.0
Arsenic		500	1.2		516	103.2
Barium		500	2.8		541	108.2
Beryllium		500	-0.31		498	99.6
Boron			-61		-59	
Cadmium		1000	-0.11		965	96.5
Calcium	500000	500000	513000	102.6	521000	104.2
Chromium		500	-0.43		511	102.2
Cobalt		500	-0.66		525	105.0
Copper		500	1.7		564	112.8
Iron	200000	200000	195000	97.5	197000	98.5
Lead		500	-0.29		505	101.0
Magnesium	500000	500000	542000	108.4	542000	108.4
Manganese		500	9.1		521	104.2
Molybdenum		500	4.8		497	99.4
Nickel		1000	-1.8		944	94.4
Potassium			755		753	
Selenium		500	-3.4		504	100.8
Silver		1000	-0.25		1070	107.0
Sodium			41.8		13.2	
Strontium			0.14		0.19	
Thallium		500	-1.9		496	99.2
Tin			-15		-15	
Titanium			2.7		2.3	
Vanadium		500	5.5		516	103.2
Zinc		1000	13.0		1050	105.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6550
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/08/07

Metal	RL	IDL	MB raw	final
Aluminum	200	51	15.5	<200
Antimony	5.0	1.8	1.0	<5.0
Arsenic	5.0	1.4	0.31	<5.0
Barium	200	.1	0.030	<200
Beryllium	5.0	.06	-0.020	<5.0
Boron	100	1.4		
Cadmium	4.0	.5	0.0	<4.0
Calcium	5000	8	-2.3	<5000
Chromium	10	.9	-3.0	<10
Cobalt	50	.99	0.25	<50
Copper	25	1.4	-0.12	<25
Iron	100	16	-0.70	<100
Lead	3.0	.7	-0.85	<3.0
Magnesium	5000	8	2.3	<5000
Manganese	15	.2	-0.25	<15
Molybdenum	10	.45		
Nickel	40	1	-1.8	<40
Potassium	5000	80	-16	<5000
Selenium	5.0	1.7	2.4	<5.0
Silver	10	.5	0.12	<10
Sodium	5000	160	19.5	<5000
Strontium	20	.5		
Thallium	10	1.5	1.8	<10
Tin	20	1.5		
Titanium	20	.5		
Vanadium	50	.4	0.27	<50
Zinc	20	.8	-0.66	<20

Associated samples MP6550: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6550
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/08/07 09/08/07

Metal	T18781-1 Original	DUP	RPD	QC Limits	T18781-1 Original	MS	Spikelot MPTW3	% Rec	QC Limits
Aluminum	8360	7210	14.8	0-20	8360	58100	50000	99.5	75-125
Antimony	2.8	0.0	200.0(a)	0-20	2.8	346	400	85.8	75-125
Arsenic	2.2	2.1	4.7	0-20	2.2	368	400	91.5	75-125
Barium	209	204	2.4	0-20	209	597	400	97.0	75-125
Beryllium	0.27	0.28	3.6	0-20	0.27	376	400	93.9	75-125
Boron									
Cadmium	0.0	0.0	NC	0-20	0.0	367	400	91.8	75-125
Calcium	26500	26100	1.5	0-20	26500	76000	50000	99.0	75-125
Chromium	7.3	6.6	10.1	0-20	7.3	387	400	94.9	75-125
Cobalt	2.9	3.3	12.9	0-20	2.9	380	400	94.3	75-125
Copper	13.0	13.6	4.5	0-20	13.0	408	400	98.8	75-125
Iron	5150	5480	6.2	0-20	5150	54500	50000	98.7	75-125
Lead	17.2	15.7	9.1	0-20	17.2	389	400	93.0	75-125
Magnesium	16900	16700	1.2	0-20	16900	70200	50000	106.6	75-125
Manganese	199	198	0.5	0-20	199	582	400	95.8	75-125
Molybdenum									
Nickel	4.2	4.5	6.9	0-20	4.2	371	400	91.7	75-125
Potassium	4140	3960	4.4	0-20	4140	58100	50000	107.9	75-125
Selenium	2.3	2.2	4.4	0-20	2.3	365	400	90.7	75-125
Silver	0.0	0.0	NC	0-20	0.0	379	400	94.8	75-125
Sodium	87200	86500	0.8	0-20	87200	135000	50000	95.6	75-125
Strontium									
Thallium	0.0	0.0	NC	0-20	0.0	372	400	93.0	75-125
Tin									
Titanium									
Vanadium	14.8	13.9	6.3	0-20	14.8	393	400	94.6	75-125
Zinc	19.4	17.6	9.7	0-20	19.4	460	400	110.2	75-125

Associated samples MP6550: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6550
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/08/07

Metal	T18781-1 Original	MSD	Spikelot MPTW3	% Rec	MSD RPD	QC Limit
Aluminum	8360	58500	50000	100.3	0.7	
Antimony	2.8	341	400	84.6	1.5	
Arsenic	2.2	368	400	91.5	0.0	
Barium	209	597	400	97.0	0.0	
Beryllium	0.27	380	400	94.9	1.1	
Boron						
Cadmium	0.0	370	400	92.5	0.8	
Calcium	26500	76700	50000	100.4	0.9	
Chromium	7.3	392	400	96.2	1.3	
Cobalt	2.9	385	400	95.5	1.3	
Copper	13.0	410	400	99.3	0.5	
Iron	5150	56000	50000	101.7	2.7	
Lead	17.2	392	400	93.7	0.8	
Magnesium	16900	70500	50000	107.2	0.4	
Manganese	199	588	400	97.3	1.0	
Molybdenum						
Nickel	4.2	375	400	92.7	1.1	
Potassium	4140	57900	50000	107.5	0.3	
Selenium	2.3	366	400	90.9	0.3	
Silver	0.0	381	400	95.3	0.5	
Sodium	87200	134000	50000	93.6	0.7	
Strontium						
Thallium	0.0	375	400	93.8	0.8	
Tin						
Titanium						
Vanadium	14.8	397	400	95.6	1.0	
Zinc	19.4	465	400	111.4	1.1	

Associated samples MP6550: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6550
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/08/07

Metal	BSP Result	Spikelot MPTW3	% Rec	QC Limits
Aluminum	50900	50000	101.8	80-120
Antimony	376	400	94.0	80-120
Arsenic	372	400	93.0	80-120
Barium	395	400	98.8	80-120
Beryllium	385	400	96.3	80-120
Boron				
Cadmium	377	400	94.3	80-120
Calcium	51500	50000	103.0	80-120
Chromium	386	400	96.5	80-120
Cobalt	387	400	96.8	80-120
Copper	400	400	100.0	80-120
Iron	49900	50000	99.8	80-120
Lead	383	400	95.8	80-120
Magnesium	54100	50000	108.2	80-120
Manganese	393	400	98.3	80-120
Molybdenum				
Nickel	373	400	93.3	80-120
Potassium	52100	50000	104.2	80-120
Selenium	370	400	92.5	80-120
Silver	383	400	95.8	80-120
Sodium	51500	50000	103.0	80-120
Strontium				
Thallium	378	400	94.5	80-120
Tin				
Titanium				
Vanadium	387	400	96.8	80-120
Zinc	459	400	114.8	80-120

Associated samples MP6550: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6550
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/08/07

Metal	T18781-1 Original	SDL 1:5	RPD	QC Limits
Aluminum	8360	9400	12.4*(a)	0-10
Antimony	2.83	0.00	100.0(b)	0-10
Arsenic	2.19	0.00	100.0(b)	0-10
Barium	209	215	2.8	0-10
Beryllium	0.270	0.00	100.0(b)	0-10
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	26500	27100	2.5	0-10
Chromium	7.28	0.00	100.0(b)	0-10
Cobalt	2.92	0.00	100.0(b)	0-10
Copper	13.0	12.6	3.1	0-10
Iron	5150	5460	6.0	0-10
Lead	17.2	13.0	24.2 (b)	0-10
Magnesium	16900	17200	2.0	0-10
Manganese	199	201	1.2	0-10
Molybdenum				
Nickel	4.24	0.00	100.0(b)	0-10
Potassium	4140	3630	12.3*(a)	0-10
Selenium	2.32	0.00	100.0(b)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	87200	95900	9.9	0-10
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Vanadium	14.8	17.1	15.5 (b)	0-10
Zinc	19.4	17.1	11.8 (b)	0-10

Associated samples MP6550: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6551
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/08/07

Metal	RL	IDL	MB raw	final
Mercury	0.20	.049	0.046	<0.20

Associated samples MP6551: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6551
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/08/07 09/08/07

Metal	T18781-1 Original	DUP	RPD	QC Limits	T18781-1 Original	MS	Spikelot HGTXAQ40	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-6.6	0.0	3.6	3	120.0N(a	78-118

Associated samples MP6551: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6551
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/08/07

Metal	T18781-1 Original	MSD	Spikelot HGTXAQ40	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.5	3	116.7	2.8	

Associated samples MP6551: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T18781
Account: ITTXHO - Shaw E & I, Inc.
Project: Longhorn Army Ammunition Plant

QC Batch ID: MP6551
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/08/07

Metal	BSP Result	Spikelot HGTXAQ40	% Rec	QC Limits
Mercury	3.2	3	106.7	80-120

Associated samples MP6551: T18781-1, T18781-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

156 Starlite Drive, Marietta, OH 45750 • TEL 740-373-4071 • FAX 740-373-4835 • http://www.kemron.com

Laboratory Report Number: L0709459

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box bleow at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

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This report was reviewed on September 27, 2007.

Stephanie Mossburg

STEPHANIE MOSSBURG - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

This report was certified on September 27, 2007.

David E. Vandenberg

David Vandenberg - Vice President

FL DOH NELAP ID: E8755
This report contains a total of 117 pages.

Protecting Our Environmental Future

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1.0 Introduction

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

00071975

KEMRON Login No.: L0709459

CHAIN OF CUSTODY: The chain of custody number was 10218.

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 3 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 21-SEP-07

Stephanie Mossburg

Laboratory Data Package Cover Page

00071976

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

MAREN M. BEERY	Maren Beery	Metals Supervisor	September 25, 2007
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00071977

Laboratory Name:	KEMRON
Laboratory Log Number:	L0709459
Project Name:	798-LONGHORN
Method:	6010
Prep Batch Number(s):	WG250654
Reviewer Name:	MAREN M. BEERY
LRC Date:	September 25, 2007

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?			✓		
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?	✓				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

00071978

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00071979

KEMRON Environmental Services
Laboratory Review Checklist

00071980

Laboratory Name:	KEMRON
Laboratory Log Number:	L0709459
Project Name:	798-LONGHORN
Method:	6010
Prep Batch Number(s):	WG250654
Reviewer Name:	MAREN M. BEERY
LRC Date:	September 25, 2007

EXCEPTIONS REPORT
ER# - Description
Footnotes:
(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

Laboratory Data Package Cover Page

00071981

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

MAREN M. BEERY	Maren Beery	Metals Supervisor	September 25, 2007
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00071982

Laboratory Name:	KEMRON
Laboratory Log Number:	L0709459
Project Name:	798-LONGHORN
Method:	6010
Prep Batch Number(s):	WG250653
Reviewer Name:	MAREN M. BEERY
LRC Date:	September 25, 2007

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?			✓		
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?	✓				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

00071983

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00071984

KEMRON Environmental Services
Laboratory Review Checklist

00071985

Laboratory Name:	KEMRON
Laboratory Log Number:	L0709459
Project Name:	798-LONGHORN
Method:	6010
Prep Batch Number(s):	WG250653
Reviewer Name:	MAREN M. BEERY
LRC Date:	September 25, 2007

EXCEPTIONS REPORT
ER# - Description
Footnotes:
(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

Laboratory Data Package Cover Page

00071986

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

MAREN M. BEERY	Maren Beery	Metals Supervisor	September 25, 2007
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00071987

Laboratory Name:	KEMRON
Laboratory Log Number:	L0709459
Project Name:	798-LONGHORN
Method:	6020
Prep Batch Number(s):	WG250665
Reviewer Name:	MAREN M. BEERY
LRC Date:	September 25, 2007

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <RL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <RL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?	✓				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

00071988

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00071989

KEMRON Environmental Services
Laboratory Review Checklist

00071990

Laboratory Name:	KEMRON
Laboratory Log Number:	L0709459
Project Name:	798-LONGHORN
Method:	6020
Prep Batch Number(s):	WG250665
Reviewer Name:	MAREN M. BEERY
LRC Date:	September 25, 2007

EXCEPTIONS REPORT
ER# - Description
Footnotes:
(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

2.1 Metals Data

2.1.1 Metals I C P Data

2.1.1.1 Summary Data

LABORATORY REPORT

L0709459

09/27/07 13:08

00071994

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Biulding
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Account Number: 2773
Work ID:

P.O. Number: 200328

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
PRWW01-091807	L0709459-01	6010B	1	20-SEP-07
PRWW01-091807	L0709459-02	6010B	1	20-SEP-07

Report Number: **L0709459**
Report Date : **September 27, 2007**

00071995

Sample Number: **L0709459-01**
Client ID: **PRWW01-091807**
Matrix: **Water**
Workgroup Number: **WG250688**
Collect Date: **09/18/2007 14:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3005A**
Analytical Method: **6010B**
Analyst: **KHR**
Dilution: **1**
Units: **mg/L**

Instrument: **PE-ICP2**
Prep Date: **09/21/2007 06:55**
Cal Date: **09/24/2007 08:39**
Run Date: **09/24/2007 11:43**
File ID: **P2.092407.114327**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Aluminum, Total	**7429-90-5**	**2.68**		**0.100**	**0.0500**
Iron, Total	**7439-89-6**	**2.32**		**0.100**	**0.0250**

Report Number: **L0709459**
Report Date : **September 27, 2007**

00071996

Sample Number: **L0709459-02**
Client ID: **PRWW01-091807**
Matrix: **Water**
Workgroup Number: **WG250687**
Collect Date: **09/18/2007 14:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3005A**
Analytical Method: **6010B**
Analyst: **KHR**
Dilution: **1**
Units: **mg/L**

Instrument: **PE-ICP2**
Prep Date: **09/21/2007 06:30**
Cal Date: **09/24/2007 08:39**
Run Date: **09/24/2007 15:01**
File ID: **P2.092407.150155**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Iron, Dissolved	7439-89-6	0.129		0.100	0.0250

U Not detected at or above adjusted sample detection limit

2.1.1.2 QC Summary Data

1.0 Initial Calibration (ICAL) Parameters
The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system in ug/mL (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial volume (mL)	50
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/mL (mg/L)	0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (mg/L) (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial weight (g)	1
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/g (mg/kg)	5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	5
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (mg/kg)	6.25

1.0 Initial Calibration (ICAL) Parameters
The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system in ug/mL (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial volume (mL)	50
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/mL (mg/L)	0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (mg/L) (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial weight (g)	1
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/g (mg/kg)	5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	5
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (mg/kg)	6.25

KEMRON ENVIRONMENTAL SERVICES

Metals Digest Log

Analyst(s): [illegible]
Date: 9/21/07
LCS: 5ml STD 21660
MS/MSD: 5ml STD 21660
Witness: M
HNO_3 Lot #: CUD 12526
1:1HNO_3: N/D
HCl Lot #: CUD 12526
H_2O_2 Lot #: N/D
Earliest Sample Due Date: 9/25
Digest Tube Lot #: CUD 12400
Hotblock #: 2
Hotblock Temp - Start: 95.1 0655
Hotblock Temp - End: 95.0 1055

Box: 81
Digestion Work Group: WG 250659

General Digestion
ME401 Revision # 12 - Method 3005A-Water
ME403 Revision # _____ - Method 3050B-Soil

Furnace Digestion
ME402 Revision # _____ - Method 3020A-Water
ME403 Revision # _____ - Method 3050B-Soil

AS/SE Digestion
ME410 Revision # _____ - Method 7060/7740-Water

Relinquished By: [illegible]
Digest Received By: [illegible] Date: 9/21/07

	KEMRON #	Initial WT/Vol	Final Volume	Comments	Due Date
1	ABW	50 ml	50 ml	.02	
2	LCSW			.03	
3	09-413.01			Level 4 pFlex	9/28
4	.02				
5	.03 Ref			.01	
6	.04				
7	.05 MS			.04	
8	.06 MD			.05	
9	.07				
10	09-430.03				9/28
11	.04				
12	.05				
13	.06				
14	.07				
15	.08				
16	09-435.01			Level 4	9/28
17	09-446.02				9/28
18	.03				
19	.04				
20	.06 [illegible]				
21	09-459.01				9/25
22	09-473.02				9/27
23					
24					
25		[illegible] 9/21/07			
26					
27					
28					

Comments:

Primary Review: [illegible] 9/21/07
Secondary Review: [illegible] 9/21/07

KEMRON ENVIRONMENTAL SERVICES

Metals Digest Log

Analyst(s): pat
Date: 9/21/07
LCS: 5ml STD 21660
MS/MSD: 5ml STD 21660
Witness: NO
HNO_3 Lot #: CIP 12522
1:1HNO_3: N/A
HCl Lot #: CIP 12527
H_2O_2 Lot #: NA
Earliest Sample Due Date: 9/25/07
Digest Tube Lot #: CIP 12460
Hotblock #: 6
Hotblock Temp - Start: 94.4 deg 0630
Hotblock Temp - End: 94.9 deg 1030

Box: 46
Digestion Work Group: WG 250653

General Digestion
ME401 Revision # 12 - Method 3005A-Water
ME403 Revision # _____ - Method 3050B-Soil

Furnace Digestion
ME402 Revision # _____ - Method 3020A-Water
ME403 Revision # _____ - Method 3050B-Soil

AS/SE Digestion
ME410 Revision # _____ - Method 7060/7740-Water

Relinquished By: pat
Digest Received By: KN Date: 9/21/07

	KEMRON #	Initial WT/Vol	Final Volume	Comments	Due Date
1	MBW	50ml	50ml	LAB FILTER -02	
2	LCSW			-03	
3	09-372.02			Lead 4 prior	9/28
4	-03				
5	-02			*	
6	-07				
7	09-400.02				9/28
8	-04				
9	09.404.02			NPDES	9/28
10	09.435.02			Lead 4	9/28
11	09-451.02			-01	10/4
12	-02MS			-04	
13	-02MSD			-05	
14	-04				
15	09-455.02				9/25
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					

pat 9/21/07

Comments: * 09.372-06; use caution, sulfur smell *

Primary Review: [signature] 9/21/07
Secondary Review: Vicki Collins 9/21/07

KEMRON Environmental Services

Instrument Run Log

00072002

Instrument: PE-ICP2 Dataset: 092407HR.CSV

Analyst1: KRV Analyst2: N/A

Method: 6010B SOP: ME600E Rev: 6

Maintenance Log ID: 20938

Calibration Std: STD21870 ICV/CCV Std: STD21638 Post Spike: STD21659

ICSA: STD21758 ICSAB: STD21616

Workgroups: 250293, 250382, 250653, 250688

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.092407.081425	WG250856-01	Calibration Point		1		09/24/07 08:14
2	P2.092407.082037	WG250856-02	Calibration Point		1		09/24/07 08:20
3	P2.092407.082653	WG250856-03	Calibration Point		1		09/24/07 08:26
4	P2.092407.083305	WG250856-04	Calibration Point		1		09/24/07 08:33
5	P2.092407.083922	WG250856-05	Calibration Point		1		09/24/07 08:39
6	P2.092407.084448	WG250856-06	Initial Calibration Verification		1		09/24/07 08:44
7	P2.092407.085106	WG250856-07	Initial Calib Blank		1		09/24/07 08:51
8	P2.092407.085720	WG250856-08	Interference Check		1		09/24/07 08:57
9	P2.092407.090247	WG250856-09	Interference Check		1		09/24/07 09:02
10	P2.092407.090809	WG250856-10	CCV		1		09/24/07 09:08
11	P2.092407.091428	WG250856-11	CCB		1		09/24/07 09:14
12	P2.092407.092530	WG250198-01	Fluid Blank		1		09/24/07 09:25
13	P2.092407.093151	L0709312-06	LTL-G-MWL9-DIS	50/50	20		09/24/07 09:31
14	P2.092407.093815	WG250346-01	Reference Sample		20	L0709345-05	09/24/07 09:38
15	P2.092407.094436	WG250346-04	Matrix Spike	50/50	20		09/24/07 09:44
16	P2.092407.095051	WG250346-05	Matrix Spike Duplica	50/50	20		09/24/07 09:50
17	P2.092407.095712	L0709345-01	WWTP HEADWORKS	50/50	5		09/24/07 09:57
18	P2.092407.100332	WG250382-01	Post Digestion Spike		5	L0709345-01	09/24/07 10:03
19	P2.092407.100956	L0709335-02	EOL-01	50/50	20		09/24/07 10:09
20	P2.092407.101627	L0709336-02	OHD-01	50/50	20		09/24/07 10:16
21	P2.092407.102251	L0709336-04	OHD-01D	50/50	20		09/24/07 10:22
22	P2.092407.102915	WG250856-12	CCV		1		09/24/07 10:29
23	P2.092407.103534	WG250856-13	CCB		1		09/24/07 10:35
24	P2.092407.104151	L0709336-06	OHD-02	50/50	20		09/24/07 10:41
25	P2.092407.104809	L0709280-03	PMW92-02-EBT-4	50/50	2		09/24/07 10:48
26	P2.092407.110507	WG250654-02	Method/Prep Blank	50/50	1		09/24/07 11:05
27	P2.092407.111121	WG250654-03	Laboratory Control S	50/50	1		09/24/07 11:11
28	P2.092407.111748	WG250654-01	Reference Sample		1	L0709413-03	09/24/07 11:17
29	P2.092407.112406	WG250654-04	Matrix Spike	50/50	1	L0709413-05	09/24/07 11:24
30	P2.092407.113035	WG250654-05	Matrix Spike Duplica	50/50	1	L0709413-06	09/24/07 11:30
31	P2.092407.113703	L0709413-04	ST105-GW-0516-99	50/50	1		09/24/07 11:37
32	P2.092407.114327	L0709459-01	PRWW01-091807	50/50	1		09/24/07 11:43
33	P2.092407.114950	L0709473-02	EFFLUENT	50/50	1		09/24/07 11:49
34	P2.092407.115611	WG250688-01	Post Digestion Spike		1	L0709473-02	09/24/07 11:56
35	P2.092407.120233	WG250688-02	Serial Dilution		5	L0709473-02	09/24/07 12:02
36	P2.092407.120853	WG250856-16	CCV		1		09/24/07 12:08
37	P2.092407.121512	WG250856-17	CCB		1		09/24/07 12:15

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Approved: September 25, 2007

Maren Berry

KEMRON Environmental Services

Instrument Run Log

00072003

Instrument: PE-ICP2 Dataset: 092407HR.CSV
Analyst1: KRV Analyst2: N/A
Method: 6010B SOP: ME600E Rev: 6
Maintenance Log ID: 20938

Calibration Std: STD21870 ICV/CCV Std: STD21638 Post Spike: STD21659
ICSA: STD21758 ICSAB: STD21616

Workgroups: 250293, 250382, 250653, 250688

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	P2.092407.122128	L0709413-01	ST105-GW-0510-01	50/50	1		09/24/07 12:21
39	P2.092407.122752	L0709413-02	ST105-GW-0517-01	50/50	1		09/24/07 12:27
40	P2.092407.123410	L0709413-07	ST105-GW-0520-01	50/50	1		09/24/07 12:34
41	P2.092407.124034	L0709430-03	OT018-GW-LH2-2	50/50	1		09/24/07 12:40
42	P2.092407.124657	L0709430-04	OT018-GW-MW11	50/50	1		09/24/07 12:46
43	P2.092407.125322	L0709430-05	OT018-GW-MW33	50/50	1	WG250665-01	09/24/07 12:53
44	P2.092407.125936	L0709430-06	OT018-GW-MW13	50/50	1		09/24/07 12:59
45	P2.092407.130556	L0709430-07	OT018-GW-TY10LH	50/50	1		09/24/07 13:05
46	P2.092407.131121	L0709430-08	OT018-GW-DUPE	50/50	1		09/24/07 13:11
47	P2.092407.131739	L0709435-01	PORT \#1	50/50	1		09/24/07 13:17
48	P2.092407.132406	WG250856-18	CCV		1		09/24/07 13:24
49	P2.092407.133036	WG250856-19	CCB		1		09/24/07 13:30
50	P2.092407.133656	L0709446-02	MW-11	50/50	1		09/24/07 13:36
51	P2.092407.134328	L0709446-03	MW-11-LF	50/50	1	WG250659-01	09/24/07 13:43
52	P2.092407.134959	L0709446-04	MW-11-HP	50/50	1		09/24/07 13:49
53	P2.092407.135617	L0709446-06	MW-38	50/50	1		09/24/07 13:56
54	P2.092407.140248	WG250856-20	CCV		1		09/24/07 14:02
55	P2.092407.140907	WG250856-21	CCB		1		09/24/07 14:09
56	P2.092407.141555	WG250653-02	Method/Prep Blank	50/50	1		09/24/07 14:15
57	P2.092407.142221	WG250653-03	Laboratory Control S	50/50	1		09/24/07 14:22
58	P2.092407.142919	WG250653-01	Reference Sample		1	L0709451-02	09/24/07 14:29
59	P2.092407.143615	WG250653-04	Matrix Spike	50/50	1		09/24/07 14:36
60	P2.092407.144245	WG250653-05	Matrix Spike Duplica	50/50	1		09/24/07 14:42
61	P2.092407.144913	L0709451-04	FD-09182007W	50/50	1		09/24/07 14:49
62	P2.092407.145538	L0709435-02	PORT \#1	50/50	1		09/24/07 14:55
63	P2.092407.150155	L0709459-02	PRWW01-091807	50/50	1		09/24/07 15:01
64	P2.092407.150818	WG250687-01	Post Digestion Spike		1	L0709459-02	09/24/07 15:08
65	P2.092407.151440	WG250687-02	Serial Dilution		5	L0709459-02	09/24/07 15:14
66	P2.092407.152101	WG250856-22	CCV		1		09/24/07 15:21
67	P2.092407.152718	WG250856-23	CCB		1		09/24/07 15:27
68	P2.092407.153331	L0709372-02	GOVVWR-W	50/50	1		09/24/07 15:33
69	P2.092407.153954	L0709372-03	450AGEWR-W	50/50	1		09/24/07 15:39
70	P2.092407.154620	L0709372-06	HMS-W	50/50	1		09/24/07 15:46
71	P2.092407.155150	L0709372-07	HBV-W	50/50	1		09/24/07 15:51
72	P2.092407.155709	L0709400-02	47WW06-091307	50/50	1		09/24/07 15:57
73	P2.092407.160333	L0709400-04	47WW07-091307	50/50	1		09/24/07 16:03
74	P2.092407.161000	L0709404-02	C-004	50/50	1		09/24/07 16:10

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Approved: September 25, 2007

Maren Berry

KEMRON Environmental Services

Instrument Run Log

00072004

Instrument: PE-ICP2 Dataset: 092407HR.CSV

Analyst1: KRV Analyst2: N/A

Method: 6010B SOP: ME600E Rev: 6

Maintenance Log ID: 20938

Calibration Std: STD21870 ICV/CCV Std: STD21638 Post Spike: STD21659

ICSA: STD21758 ICSAB: STD21616

Workgroups: 250293, 250382, 250653, 250688

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	P2.092407.161620	WG250856-24	CCV		1		09/24/07 16:16
76	P2.092407.162241	WG250856-25	CCB		1		09/24/07 16:22

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Approved: September 25, 2007

Maren Berry

KEMRON Environmental Services

Instrument Run Log

00072005

Instrument: PE-ICP2 Dataset: 092607HR.CSV
Analyst1: KRV Analyst2: N/A
Method: 6010B SOP: ME600E Rev: 6
Maintenance Log ID: 21009

Calibration Std: STD21870 ICV/CCV Std: STD21884 Post Spike: STD21659
ICSA: STD21758 ICSAB: STD22071

Workgroups: 250687, 251073, 251075, 251133, 250572

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.092607.091357	WG251121-01	Calibration Point		1		09/26/07 09:13
2	P2.092607.092114	WG251121-02	Calibration Point		1		09/26/07 09:21
3	P2.092607.092808	WG251121-03	Calibration Point		1		09/26/07 09:28
4	P2.092607.093554	WG251121-04	Calibration Point		1		09/26/07 09:35
5	P2.092607.094220	WG251121-05	Calibration Point		1		09/26/07 09:42
6	P2.092607.094912	WG251121-06	Initial Calibration Verification		1		09/26/07 09:49
7	P2.092607.095538	WG251121-07	Initial Calib Blank		1		09/26/07 09:55
8	P2.092607.100203	WG251121-08	Interference Check		1		09/26/07 10:02
9	P2.092607.100728	WG251121-09	Interference Check		1		09/26/07 10:07
10	P2.092607.101252	WG251121-10	CCV		1		09/26/07 10:12
11	P2.092607.101918	WG251121-11	CCB		1		09/26/07 10:19
12	P2.092607.104626	WG250653-01	Reference Sample		5	L0709451-02	09/26/07 10:46
13	P2.092607.105240	WG250653-04	Matrix Spike	50/50	5		09/26/07 10:52
14	P2.092607.105858	WG250653-05	Matrix Spike Duplica	50/50	5		09/26/07 10:58
15	P2.092607.110521	L0709372-03	450AGEWR-W	50/50	5		09/26/07 11:05
16	P2.092607.111131	L0709400-02	47WW06-091307	50/50	1		09/26/07 11:11
17	P2.092607.111755	L0709400-02	47WW06-091307	50/50	20		09/26/07 11:17
18	P2.092607.112412	L0709400-04	47WW07-091307	50/50	1		09/26/07 11:24
19	P2.092607.113027	L0709400-04	47WW07-091307	50/50	20		09/26/07 11:30
20	P2.092607.113647	L0709372-06	HMS-W	50/50	1		09/26/07 11:36
21	P2.092607.114213	L0709372-06	HMS-W	50/50	20		09/26/07 11:42
22	P2.092607.114833	WG251121-12	CCV		1		09/26/07 11:48
23	P2.092607.115449	WG251121-13	CCB		1		09/26/07 11:54
24	P2.092607.120104	L0709372-02	GOVVWR-W	50/50	1		09/26/07 12:01
25	P2.092607.120721	L0709372-03	450AGEWR-W	50/50	1		09/26/07 12:07
26	P2.092607.121338	L0709372-07	HBV-W	50/50	1		09/26/07 12:13
27	P2.092607.121859	L0709372-07	HBV-W	50/50	20		09/26/07 12:18
28	P2.092607.122511	WG251121-14	CCV		1		09/26/07 12:25
29	P2.092607.123138	WG251121-15	CCB		1		09/26/07 12:31
30	P2.092607.123753	WG250443-03	Method/Prep Blank	50/50	1		09/26/07 12:37
31	P2.092607.124405	WG250443-04	Laboratory Control S	50/50	1		09/26/07 12:44
32	P2.092607.125023	WG250443-01	Reference Sample		1	L0709322-02	09/26/07 12:50
33	P2.092607.125644	WG250443-05	Matrix Spike	50/50	1	L0709322-03	09/26/07 12:56
34	P2.092607.130303	WG250443-06	Matrix Spike Duplica	50/50	1	L0709322-04	09/26/07 13:03
35	P2.092607.130826	L0709322-05	IW101-07B-EBT-4	50/50	1		09/26/07 13:08
36	P2.092607.131446	L0709322-06	IW101-07C-EBT-4	50/50	1		09/26/07 13:14
37	P2.092607.132105	L0709322-01	RB1-EBT-4	50/50	1		09/26/07 13:21

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KEMRON Environmental Services

Instrument Run Log

00072006

Instrument: PE-ICP2 Dataset: 092607HR.CSV
Analyst1: KRV Analyst2: N/A
Method: 6010B SOP: ME600E Rev: 6
Maintenance Log ID: 21009

Calibration Std: STD21870 ICV/CCV Std: STD21884 Post Spike: STD21659
ICSA: STD21758 ICSAB: STD22071

Workgroups: 250687, 251073, 251075, 251133, 250572

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	P2.092607.132728	WG251073-01	Post Digestion Spike		1	L0709322-01	09/26/07 13:27
39	P2.092607.133349	WG251073-02	Serial Dilution		5	L0709322-01	09/26/07 13:33
40	P2.092607.134016	WG251121-16	CCV		1		09/26/07 13:40
41	P2.092607.134636	WG251121-17	CCB		1		09/26/07 13:46
42	P2.092607.135258	WG250443-02	Reference Sample		1	L0709354-01	09/26/07 13:52
43	P2.092607.135824	WG250443-07	Matrix Spike	50/50	1	L0709354-02	09/26/07 13:58
44	P2.092607.140358	WG250443-08	Matrix Spike Duplica	50/50	1	L0709354-03	09/26/07 14:03
45	P2.092607.141007	L0709354-04	FT023-MW5R	50/50	1		09/26/07 14:10
46	P2.092607.141528	L0709354-05	FT023-MW5R-D	50/50	1		09/26/07 14:15
47	P2.092607.142045	L0709322-07	IW101-09A-EBT-4	50/50	1		09/26/07 14:20
48	P2.092607.142708	L0709322-08	IW101-09B-EBT-4	50/50	1		09/26/07 14:27
49	P2.092607.143331	L0709322-10	PMW101-01A-EBT-4	50/50	1		09/26/07 14:33
50	P2.092607.143851	L0709322-11	PMW101-01B-EBT-4	50/50	1		09/26/07 14:38
51	P2.092607.144414	L0709322-12	PMW101-02A-EBT-4	50/50	1		09/26/07 14:44
52	P2.092607.144934	WG251121-18	CCV		1		09/26/07 14:49
53	P2.092607.145551	WG251121-19	CCB		1		09/26/07 14:55
54	P2.092607.150206	L0709322-13	PMW101-02B-EBT-4	50/50	1		09/26/07 15:02
55	P2.092607.150730	L0709322-14	IW85-01-EBT-4	50/50	1		09/26/07 15:07
56	P2.092607.151345	L0709322-15	IW85-06-EBT-4	50/50	1	WG250335-07	09/26/07 15:13
57	P2.092607.151914	L0709322-16	DR2-5-EBT-4	50/50	1		09/26/07 15:19
58	P2.092607.152542	WG251121-20	CCV		1		09/26/07 15:25
59	P2.092607.153202	WG251121-21	CCB		1		09/26/07 15:32
60	P2.092607.153816	WG250548-02	Method/Prep Blank	50/50	1		09/26/07 15:38
61	P2.092607.154438	WG250548-03	Laboratory Control S	50/50	1		09/26/07 15:44
62	P2.092607.155112	WG250548-01	Reference Sample		1	L0709407-08	09/26/07 15:51
63	P2.092607.155732	WG250548-04	Matrix Spike	50/50	1		09/26/07 15:57
64	P2.092607.160429	WG250548-05	Matrix Spike Duplica	50/50	1		09/26/07 16:04
65	P2.092607.161056	L0709407-02	MW-2D	50/50	1	WG250549-01	09/26/07 16:10
66	P2.092607.161614	L0709407-04	MW-2D-HP	50/50	1		09/26/07 16:16
67	P2.092607.162139	L0709407-03	MW-2D-LF	50/50	1		09/26/07 16:21
68	P2.092607.162704	WG251075-01	Post Digestion Spike		1	L0709407-03	09/26/07 16:27
69	P2.092607.163231	WG251075-02	Serial Dilution		5	L0709407-03	09/26/07 16:32
70	P2.092607.163851	WG251121-22	CCV		1		09/26/07 16:38
71	P2.092607.164509	WG251121-23	CCB		1		09/26/07 16:45
72	P2.092607.165126	L0709407-06	MW-5	50/50	1		09/26/07 16:51
73	P2.092607.165747	L0709407-07	MW-5-LF	50/50	1		09/26/07 16:57
74	P2.092607.170408	L0709407-10	MW-6	50/50	1		09/26/07 17:04

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KEMRON Environmental Services

Instrument Run Log

00072007

Instrument: PE-ICP2 Dataset: 092607HR.CSV
Analyst1: KRV Analyst2: N/A
Method: 6010B SOP: ME600E Rev: 6
Maintenance Log ID: 21009

Calibration Std: STD21870 ICV/CCV Std: STD21884 Post Spike: STD21659
ICSA: STD21758 ICSAB: STD22071

Workgroups: 250687, 251073, 251075, 251133, 250572

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	P2.092607.171026	L0709407-11	MW-6-LF	50/50	1		09/26/07 17:10
76	P2.092607.171651	L0709407-12	MW-6-HP	50/50	1		09/26/07 17:16
77	P2.092607.172315	L0709407-14	MW-8	50/50	1		09/26/07 17:23
78	P2.092607.172935	L0709407-15	MW-8-LF	50/50	1		09/26/07 17:29
79	P2.092607.173549	L0709407-16	MW-8-HP	50/50	1		09/26/07 17:35
80	P2.092607.174207	L0709407-18	MW-9	50/50	1		09/26/07 17:42
81	P2.092607.174832	WG251121-24	CCV		1		09/26/07 17:48
82	P2.092607.175450	WG251121-25	CCB		1		09/26/07 17:54
83	P2.092607.180107	L0709407-19	MW-9LF		1		09/26/07 18:01
84	P2.092607.180724	L0709407-20	MW-9HP		1		09/26/07 18:07
85	P2.092607.181348	WG251121-26	CCV		1		09/26/07 18:13
86	P2.092607.182006	WG251121-27	CCB		1		09/26/07 18:20
87	P2.092607.183944	WG251121-28	CCV		1		09/26/07 18:39
88	P2.092607.184601	WG251121-29	CCB		1		09/26/07 18:46
89	P2.092607.185217	WG250447-02	Method/Prep Blank	50/50	1		09/26/07 18:52
90	P2.092607.185838	WG250447-03	Laboratory Control S	50/50	1		09/26/07 18:58
91	P2.092607.190459	WG250447-01	Reference Sample		1	L0709346-06	09/26/07 19:04
92	P2.092607.191114	WG250447-04	Matrix Spike	50/50	1	L0709346-07	09/26/07 19:11
93	P2.092607.191747	WG250447-05	Matrix Spike Duplica	50/50	1	L0709346-08	09/26/07 19:17
94	P2.092607.192410	L0709400-02	47WW06-091307	50/50	1		09/26/07 19:24
95	P2.092607.193028	L0709346-03	IW92-07-EBT-4	50/50	1		09/26/07 19:30
96	P2.092607.193601	L0709400-01	47WW06-091307	50/50	1	WG250449-01	09/26/07 19:36
97	P2.092607.194227	WG251133-01	Post Digestion Spike		1	L0709400-01	09/26/07 19:42
98	P2.092607.194851	WG251133-02	Serial Dilution		5	L0709400-01	09/26/07 19:48
99	P2.092607.195513	WG251121-30	CCV		1		09/26/07 19:55
100	P2.092607.200133	WG251121-31	CCB		1		09/26/07 20:01
101	P2.092607.200750	L0709347-02	ST105-GW-KAFB7-01	50/50	1		09/26/07 20:07
102	P2.092607.201414	L0709347-03	ST105-GW-KAFB7-99	50/50	1	WG250375-03	09/26/07 20:14
103	P2.092607.202040	L0709347-04	ST105-SW-GCMP-01	50/50	1		09/26/07 20:20
104	P2.092607.202700	L0709347-05	ST105-GW-0506-01	50/50	1	WG250518-03	09/26/07 20:27
105	P2.092607.203322	L0709347-01	ST105-GW-KAFB16-01	50/50	1	WG250245-04	09/26/07 20:33
106	P2.092607.203947	WG251121-32	CCV		1		09/26/07 20:39
107	P2.092607.204606	WG251121-33	CCB		1		09/26/07 20:46
108	P2.092607.205222	L0709346-01	DUP7-EBT-4	50/50	1		09/26/07 20:52
109	P2.092607.205844	L0709346-02	IW92-06-EBT-4	50/50	1		09/26/07 20:58
110	P2.092607.210403	L0709346-04	IW85-02-EBT-4	50/50	1		09/26/07 21:04
111	P2.092607.211028	L0709346-05	IW85-05-EBT-4	50/50	1		09/26/07 21:10

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KEMRON Environmental Services

Instrument Run Log

00072008

Instrument: PE-ICP2 Dataset: 092607HR.CSV
Analyst1: KRV Analyst2: N/A
Method: 6010B SOP: ME600E Rev: 6
Maintenance Log ID: 21009

Calibration Std: STD21870 ICV/CCV Std: STD21884 Post Spike: STD21659
ICSA: STD21758 ICSAB: STD22071

Workgroups: 250687, 251073, 251075, 251133, 250572

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
112	P2.092607.211650	L0709346-09	IW21-01A-EBT-4	50/50	1		09/26/07 21:16
113	P2.092607.212310	L0709346-11	IW101-04B-EBT-4	50/50	1		09/26/07 21:23
114	P2.092607.212834	L0709346-12	IW101-04C-EBT-4	50/50	1		09/26/07 21:28
115	P2.092607.213457	L0709346-13	IW101-09C-EBT-4	50/50	1		09/26/07 21:34
116	P2.092607.214113	WG251121-34	CCV		1		09/26/07 21:41
117	P2.092607.214736	WG251121-35	CCB		1		09/26/07 21:47
118	P2.092607.215404	WG250446-02	Method/Prep Blank	50/50	1		09/26/07 21:54
119	P2.092607.220019	WG250446-03	Laboratory Control S	50/50	1		09/26/07 22:00
120	P2.092607.220640	WG250446-01	Reference Sample		1	L0709342-07	09/26/07 22:06
121	P2.092607.221302	WG250446-04	Matrix Spike	50/50	1	L0709342-08	09/26/07 22:13
122	P2.092607.222022	WG250446-05	Matrix Spike Duplica	50/50	1	L0709342-09	09/26/07 22:20
123	P2.092607.222643	L0709405-01	JACKSON \#4	50/50	1		09/26/07 22:26
124	P2.092607.223215	L0709406-02	TW-73	50/50	1		09/26/07 22:32
125	P2.092607.223846	L0709342-02	MW2B-217-14	50/50	1		09/26/07 22:38
126	P2.092607.224502	WG250572-01	Post Digestion Spike		1	L0709342-02	09/26/07 22:45
127	P2.092607.225130	WG250572-02	Serial Dilution		5	L0709342-02	09/26/07 22:51
128	P2.092607.225751	WG251121-36	CCV		1		09/26/07 22:57
129	P2.092607.230410	WG251121-37	CCB		1		09/26/07 23:04
130	P2.092607.231025	L0709342-14	MW4B-217-14		1		09/26/07 23:10
131	P2.092607.231646	L0709342-17	MW4B2-217-14		1		09/26/07 23:16
132	P2.092607.232302	L0709342-20	MW5A-217-14		1		09/26/07 23:23
133	P2.092607.232927	L0709342-23	OW1B-217-14		1		09/26/07 23:29
134	P2.092607.233548	L0709342-26	OW2A-217-14		1		09/26/07 23:35
135	P2.092607.234204	L0709342-29	OW3A-217-14		1		09/26/07 23:42
136	P2.092607.234826	L0709406-04	EQUIP RINSE #1	50/50	1		09/26/07 23:48
137	P2.092607.235447	L0709406-06	BW-01	50/50	1		09/26/07 23:54
138	P2.092707.000112	L0709406-08	TW-45	50/50	1		09/27/07 00:01
139	P2.092707.000739	WG251121-38	CCV		1		09/27/07 00:07
140	P2.092707.001357	WG251121-39	CCB		1		09/27/07 00:13
141	P2.092707.002013	L0709335-01	EOL-01		1	WG250368-04	09/27/07 00:20
142	P2.092707.002645	L0709336-01	OHD-01		1	WG250228-04	09/27/07 00:26
143	P2.092707.003312	L0709336-03	OHD-01D		1		09/27/07 00:33
144	P2.092707.003933	L0709336-05	OHD-02		1		09/27/07 00:39
145	P2.092707.004605	WG251121-40	CCV		1		09/27/07 00:46
146	P2.092707.005223	WG251121-41	CCB		1		09/27/07 00:52

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KEMRON Environmental Services
Data Checklist

00072009

Date: 24-SEP-2007
Analyst: KRV
Analyst: NA
Method: 6010
Instrument: PE-ICP2
Curve Workgroup: WG250856
Runlog ID: 18352
Analytical Workgroups: 250293,250382,250653,250688

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	335,336
Level 3	400,459
Level 4	280,345,372,413,430,435,446,451
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KRV
Secondary Reviewer	MMB
Comments	

Primary Reviewer: 24-SEP-2007 Katie Vickers

Secondary Reviewer: 25-SEP-2007 Maren Berry

Generated: SEP-25-2007 10:49:27

KEMRON Environmental Services
Data Checklist

00072010

Date: 26-SEP-2007
Analyst: KRV
Analyst: NA
Method: 6010
Instrument: PE-ICP2
Curve Workgroup: WG251121
Runlog ID: 18434
Analytical Workgroups: 250687,251073,251075,251133,250572

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	335,336
Level 3	
Level 4	322,342,346,347,354,372,400,405,406,407
Check for compliance with method and project specific requirements	
Check the completeness of reported information	
Check the information for the report narrative	
Primary Reviewer	KRV
Secondary Reviewer	
Comments	

Primary Reviewer: 26-SEP-2007
Katie Vickers

Secondary Reviewer:

Generated: SEP-27-2007 13:06:17

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B

AAB#: WG250637 00072011

Login Number: L0709459

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
PRWW01-091807	09/18/07	09/20/07	09/21/07	180	2.66	09/24/07	180	3.36	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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Version 1.5 PDF File ID: 882636
Report generated 09/25/2007 08:46

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B

Login Number: L0709459

AAB#: WG250633 00072012

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
PRWW01-091807	09/18/07	09/20/07	09/21/07	180	2.68	09/24/07	180	3.20	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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Version 1.5 PDF File ID: 882636
Report generated 09/25/2007 08:46

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072013

Login Number: L0709459
Blank File ID: P2.092407.110507
Prep Date: 09/21/07 06:55
Analyzed Date: 09/24/07 11:05
Analyst: KHR

Work Group: WG250688
Blank Sample ID: WG250654-02
Instrument ID: PE-ICP2
Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG250654-03	P2.092407.111121	09/24/07 11:11	01
PRWW01-091807	L0709459-01	P2.092407.114327	09/24/07 11:43	01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 882637
Report generated 09/25/2007 08:46

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072014

Login Number: L0709459
Blank File ID: P2.092407.141555
Prep Date: 09/21/07 06:30
Analyzed Date: 09/24/07 14:15
Analyst: KHR

Work Group: WG250687
Blank Sample ID: WG250653-02
Instrument ID: PE-ICP2
Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG250653-03	P2.092407.142221	09/24/07 14:22	01
PRWW01-091807	L0709459-02	P2.092407.150155	09/24/07 15:01	01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 882637
Report generated 09/25/2007 08:46

KEMRON Environmental Services

METHOD BLANK REPORT

00072015

Login Number: L0709459 Prep Date: 09/21/07 06:55 Sample ID: WG250654-02
Instrument ID: PE-ICP2 Run Date: 09/24/07 11:05 Prep Method: 3005A
File ID: P2.092407.110507 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG250688 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: PE-ICP-24-SEP-07

Analytes	SQL	PQL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Iron, Total	0.0250	0.100	0.0250	1	U

SQL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

KEMRON FORMS - Modified 12/07/2006
Version 1.5 PDF File ID: 882638
Report generated 09/25/2007 08:46

KEMRON Environmental Services

METHOD BLANK REPORT

00072016

Login Number: L0709459 Prep Date: 09/21/07 06:30 Sample ID: WG250653-02
Instrument ID: PE-ICP2 Run Date: 09/24/07 14:15 Prep Method: 3005A
File ID: P2.092407.141555 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG250687 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: PE-ICP-24-SEP-07

Analytes	SQL	PQL	Concentration	Dilution	Qualifier
Aluminum, Dissolved	0.0500	0.100	0.0500	1	U
Iron, Dissolved	0.0250	0.100	0.0250	1	U

SQL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

KEMRON FORMS - Modified 12/07/2006
Version 1.5 PDF File ID: 882638
Report generated 09/25/2007 08:46

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072017

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250654-03
Instrument ID: PE-ICP2 Run Time: 11:11 Prep Method: 3005A
File ID: P2.092407.111121 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG250688 Matrix: Water Units: mg/L
QC Key: STD Lot#: MI0058-81 Cal ID: PE-ICP-24-SEP-07

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	5.16	103	85 - 115	
Iron, Total	2.00	2.07	104	85 - 115	

KEMRON FORMS - Modified 09/06/2007
Version 1.5 PDF File ID: 882639
Report generated 09/25/2007 08:46

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072018

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250653-03
Instrument ID: PE-ICP2 Run Time: 14:22 Prep Method: 3005A
File ID: P2.092407.142221 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG250687 Matrix: Water Units: mg/L
QC Key: STD Lot#: MI0058-81 Cal ID: PE-ICP-24-SEP-07

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Dissolved	5.00	5.20	104	85 - 115	
Iron, Dissolved	2.00	2.02	101	85 - 115	

KEMRON FORMS - Modified 09/06/2007
Version 1.5 PDF File ID: 882639
Report generated 09/25/2007 08:46

KEMRON Environmental Services

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00072019

Loginnum:L0709459 Cal ID: PE-ICP2- Worknum:WG250688

Instrument ID:PE-ICP2 Contract #:DACA56-94-D-0020 Method:6010B

Parent ID:WG250654-01 File ID:P2.092407.111748 Dil:1 Matrix:WATER

Sample ID:WG250654-04 MS File ID:P2.092407.112406 Dil:1 Units:mg/L

Sample ID:WG250654-05 MSD File ID:P2.092407.113035 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	ND	5.00	5.06	101	5.00	4.99	99.8	1.42	80 - 120	20	
Iron, Total	ND	2.00	2.09	105	2.00	2.06	103	1.53	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 09/25/2007 (wg_ms_msd_drywt)

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KEMRON Environmental Services

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00072020

Loginnum:L0709459 Cal ID: PE-ICP2- Worknum:WG250687

Instrument ID:PE-ICP2 Contract #:DACA56-94-D-0020 Method:6010B

Parent ID:WG250653-01 File ID:P2.092407.142919 Dil:1 Matrix:WATER

Sample ID:WG250653-04 MS File ID:P2.092407.143615 Dil:1 Units:mg/L

Sample ID:WG250653-05 MSD File ID:P2.092407.144245 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Dissolved	ND	5.00	5.01	100	5.00	5.13	103	2.39	80 - 120	20	
Iron, Dissolved	0.386	2.00	2.34	97.5	2.00	2.33	97.1	0.319	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 09/25/2007 (wg_ms_msd_drywt)

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KEMRON ENVIRONMENTAL SERVICES
SERIAL DILUTION REPORT

00072021

Sample Login ID: L0709459
Instrument ID: PE-ICP2
Sample ID: L0709459-02 File ID: P2.092407.150155 Dil: 1
Serial Dilution ID: WG250687-02 File ID: P2.092407.151440 Dil: 5

Worknum: WG250687
Method: 6010B
Units: mg/L

Analyte	Sample	C	Serial Dilution	C	% Difference	Q
Aluminum	0	U	0	U		
Iron	0.129	X	0.210	F	62.8	E

U = Result is below MDL
F = Result is between MDL and RL
X = Result is greater than RL and less than 50 times the MDL
E = %D exceeds control limit of 10% and initial
sample result is greater than or equal to 50 times the MDL

KEMRON FORMS - Modified 02/14/2006
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KEMRON ENVIRONMENTAL SERVICES
SERIAL DILUTION REPORT

00073022

Sample Login ID: L0709459
Instrument ID: PE-ICP2
Sample ID: L0709473-02 File ID: P2.092407.114950 Dil: 1
Serial Dilution ID: WG250688-02 File ID: P2.092407.120233 Dil: 5

Worknum: WG250688
Method: 6010B
Units: mg/L

Analyte	Sample	C	Serial Dilution	C	% Difference	Q
Aluminum	0	U	0	U		
Iron	1.15	X	1.24	X	7.83	

U = Result is below MDL
F = Result is between MDL and RL
X = Result is greater than RL and less than 50 times the MDL
E = %D exceeds control limit of 10% and initial
sample result is greater than or equal to 50 times the MDL

KEMRON FORMS - Modified 02/14/2006
Version 1.3 PDF File ID: 882634
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KEMRON ENVIRONMENTAL SERVICES
POST SPIKE REPORT

00072023

Sample Login ID: L0709459 **Worknum:** WG250688
Instrument ID: PE-ICP2 **Method:** 6010B
Post Spike ID: WG250688-01 **File ID:** P2.092407.115611 **Dil:** 1 **Units:** mg/L
Sample ID: L0709473-02 **File ID:** P2.092407.114950 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	5.18		0	U	5	103.7	75 - 125	
IRON	3.17		1.15		2	106.6	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

KEMRON FORMS - Modified 04/20/2007 - POST_SPIKE
Version 2.0 PDF File ID: 882635
Report generated 09/25/2007 08:46

KEMRON ENVIRONMENTAL SERVICES
POST SPIKE REPORT

00072024

Sample Login ID: L0709459 **Worknum:** WG250687
Instrument ID: PE-ICP2 **Method:** 6010B
Post Spike ID: WG250687-01 **File ID:** P2.092407.150818 **Dil:** 1 **Units:** mg/L
Sample ID: L0709459-02 **File ID:** P2.092407.150155 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	5.10		0	U	5	102.1	75 - 125	
IRON	2.08		0.129		2	98.0	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

KEMRON FORMS - Modified 04/20/2007 - POST_SPIKE
Version 2.0 PDF File ID: 882635
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0709459
Analytical Method: 6010B
ICAL Worknum: WG250856

Workgroup (AAB#): WG250687
Instrument ID: PE-ICP2
Initial Calibration Date: 24-SEP-2007 08:38

00072025

Analyte	WG250856-01		WG250856-02		WG250856-03		WG250856-04		WG250856-05			
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	R	Q
Aluminum	0	-162.087278	.1	911.1040955	.2	1645.438239	5	75557.36239	10	152591.6425	0.999987	
Iron	0	-1.19350466	.04	27.28947323	.08	51.51499584	2	2512.66421	4	5145.82929	0.999934	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

KEMRON FORMS - Modified 03/08/2007
Version 1.5 PDF File ID: 882643
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0709459
Analytical Method: 6010B
ICAL Worknum: WG250856

Workgroup (AAB#): WG250688
Instrument ID: PE-ICP2
Initial Calibration Date: 24-SEP-2007 08:38

00072026

Analyte	WG250856-01		WG250856-02		WG250856-03		WG250856-04		WG250856-05			
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	R	Q
Aluminum	0	-162.087278	.1	911.1040955	.2	1645.438239	5	75557.36239	10	152591.6425	0.999987	
Iron	0	-1.19350466	.04	27.28947323	.08	51.51499584	2	2512.66421	4	5145.82929	0.999934	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

KEMRON FORMS - Modified 03/08/2007
Version 1.5 PDF File ID: 882643
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INITIAL CALIBRATION BLANK (ICB)

00072027

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250850-07
Instrument ID: PE-ICP2 Run Time: 08:51 Method: 6010B
File ID: P2.092407.085106 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250687 Cal ID: PE-ICP - 24-SEP-07

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	.00693	1	U
Iron	0.0250	0.100	.0146	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 10/02/2006
Version 1.5 PDF File ID: 882645
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INITIAL CALIBRATION BLANK (ICB)

00072028

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250850-07
Instrument ID: PE-ICP2 Run Time: 08:51 Method: 6010B
File ID: P2.092407.085106 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250688 Cal ID: PE-ICP - 24-SEP-07

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	.00693	1	U
Iron	0.0250	0.100	.0146	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 10/02/2006
Version 1.5 PDF File ID: 882645
Report generated 09/25/2007 08:46

KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-11
Instrument ID: PE-ICP2 Run Time: 09:14 Method: 6010B
File ID: P2.092407.091428 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250687 Cal ID: PE-ICP - 24-SEP-07

00072029

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	0.0185	1	U
Iron	0.0250	0.100	0.0139	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
Version 2.0 PDF File ID: 882648
Report generated 09/25/2007 08:46

KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-21
Instrument ID: PE-ICP2 Run Time: 14:09 Method: 6010B
File ID: P2.092407.140907 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250687 Cal ID: PE-ICP - 24-SEP-07

00072030

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	0.00449	1	U
Iron	0.0250	0.100	0.0139	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
Version 2.0 PDF File ID: 882648
Report generated 09/25/2007 08:46

KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-23
Instrument ID: PE-ICP2 Run Time: 15:27 Method: 6010B
File ID: P2.092407.152718 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250687 Cal ID: PE-ICP - 24-SEP-07

00072031

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	0.00356	1	U
Iron	0.0250	0.100	0.0153	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
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Report generated 09/25/2007 08:46

KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-11
Instrument ID: PE-ICP2 Run Time: 09:14 Method: 6010B
File ID: P2.092407.091428 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250688 Cal ID: PE-ICP - 24-SEP-07

00072032

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	0.0185	1	U
Iron	0.0250	0.100	0.0139	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
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KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-13
Instrument ID: PE-ICP2 Run Time: 10:35 Method: 6010B
File ID: P2.092407.103534 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250688 Cal ID: PE-ICP - 24-SEP-07

00072033

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	0.00666	1	U
Iron	0.0250	0.100	0.0126	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
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KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-17
Instrument ID: PE-ICP2 Run Time: 12:15 Method: 6010B
File ID: P2.092407.121512 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG250688 Cal ID: PE-ICP - 24-SEP-07

00072034

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Aluminum	0.0500	0.100	0.0143	1	U
Iron	0.0250	0.100	0.0107	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
Version 2.0 PDF File ID: 882648
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KEMRON Environmental Services

INITIAL CALIBRATION VERIFICATION (ICV)

Login Number: L0709459
Run Date: 09/24/2007
Sample ID: WG250856-06
Instrument ID: PE-ICP2
Run Time: 08:44
Method: 6010B
File ID: P2.092407.084448
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG250687
Cal ID: PE-ICP - 24-SEP-07
QC Key: STD

00072035

Analyte		Expected	Found	%REC	LIMITS	Q
Aluminum		10	10.0	100	90 - 110	
Iron		4	4.11	103	90 - 110	

* Exceeds LIMITS Limit

KEMRON FORMS - Modified 09/06/2007 (ICV)
Version 1.5 PDF File ID: 882644
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INITIAL CALIBRATION VERIFICATION (ICV)

Login Number: L0709459
Run Date: 09/24/2007
Sample ID: WG250856-06
Instrument ID: PE-ICP2
Run Time: 08:44
Method: 6010B
00072036
File ID: P2.092407.084448
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG250688
Cal ID: PE-ICP - 24-SEP-07
QC Key: STD

Analyte		Expected	Found	%REC	LIMITS	Q
Aluminum		10	10.0	100	90 - 110	
Iron		4	4.11	103	90 - 110	

* Exceeds LIMITS Limit

KEMRON FORMS - Modified 09/06/2007 (ICV)
Version 1.5 PDF File ID: 882644
Report generated 09/25/2007 08:46

KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-10
Instrument ID: PE-ICP2 Run Time: 09:08 Method: 6010B 00072037
File ID: P2.092407.090809 Analyst: KHR QC Key: STD
Workgroup (AAB#): WG250687 Cal ID: PE-ICP - 24-SEP-07

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Iron		4.00	4.04	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-10
Instrument ID: PE-ICP2 Run Time: 09:08 Method: 6010B 00072038
File ID: P2.092407.090809 Analyst: KHR QC Key: STD
Workgroup (AAB#): WG250688 Cal ID: PE-ICP - 24-SEP-07

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Iron		4.00	4.04	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
Version 1.5 PDF File ID: 882647
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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-12
Instrument ID: PE-ICP2 Run Time: 10:29 Method: 6010B 00072039
File ID: P2.092407.102915 Analyst: KHR QC Key: STD
Workgroup (AAB#): WG250688 Cal ID: PE-ICP - 24-SEP-07

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Iron		4.00	4.11	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-16
Instrument ID: PE-ICP2 Run Time: 12:08 Method: 6010B 00072040
File ID: P2.092407.120853 Analyst: KHR QC Key: STD
Workgroup (AAB#): WG250688 Cal ID: PE-ICP - 24-SEP-07

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Iron		4.00	4.10	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-20
Instrument ID: PE-ICP2 Run Time: 14:02 Method: 6010B
File ID: P2.092407.140248 Analyst: KHR QC Key: STD
Workgroup (AAB#): WG250687 Cal ID: PE-ICP - 24-SEP-07

00072041

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Iron		4.00	4.03	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250856-22
Instrument ID: PE-ICP2 Run Time: 15:21 Method: 6010B 00072042
File ID: P2.092407.152101 Analyst: KHR QC Key: STD
Workgroup (AAB#): WG250687 Cal ID: PE-ICP - 24-SEP-07

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.4	mg/L	104	90 - 110		
Iron		4.00	3.94	mg/L	98.6	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
Version 1.5 PDF File ID: 882647
Report generated 09/25/2007 08:46

KEMRON ENVIRONMENTAL SERVICES
INTERFERENCE CHECK SAMPLES

00072043

Login number: L0709459
Instrument ID: PE-ICP2
Sol. A : WG250856-08 **File ID:** P2.092407.085720
Sol. AB : WG250856-09 **File ID:** P2.092407.090247

Workgroup (AAB#): WG250687
Method: 6010B
Units: mg/L

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Aluminum	250	245	98.0	250	244	97.6	
Iron	100	95.5	95.5	100	97.5	97.5	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

KEMRON FORMS - Modified 03/05/2007
Version 1.3 PDF File ID: 882646
Report generated 09/25/2007 08:46

KEMRON ENVIRONMENTAL SERVICES
INTERFERENCE CHECK SAMPLES

00072044

Login number: L0709459
Instrument ID: PE-ICP2
Sol. A : WG250856-08 **File ID:** P2.092407.085720
Sol. AB : WG250856-09 **File ID:** P2.092407.090247

Workgroup (AAB#): WG250856
Method: 6010B
Units: mg/L

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Aluminum	250	245	98.0	250	244	97.6	
Iron	100	95.5	95.5	100	97.5	97.5	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

KEMRON FORMS - Modified 03/05/2007
Version 1.3 PDF File ID: 882646
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

00072045

Login Number: L0709459 **Date:** 01/08/2007

Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	396.15	0	0	0.206	0	0
ANTIMONY	206.84	0	0	-0.740	0	0
ARSENIC	188.98	0	0.0237	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	-0.000453	1.00	0	0
CALCIUM	227.55	0	-0.370	0.0414	0	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	-0.0647
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	0	-0.143	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-0.185	0	-0.231	-0.0949	-0.230
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.0416	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0.504	0	0.200	0	-0.130
ZINC	206.20	0	0	0	0	0

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 882642
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

00072046

Login Number: L0709459 **Date:** 01/08/2007

Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	396.15	0	0.274	0	0	0
ANTIMONY	206.84	0	0	0	0	19.8
ARSENIC	188.98	0	-0.0104	-0.0875	0	-3.78
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	-0.0105
BORON	249.68	0	0.0238	50.1	3.51	1.50
CADMIUM	228.80	0	0	0	-7.33	0
CALCIUM	227.55	0	0	0	174	-21.8
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	0.436
COPPER	327.39	0	-0.0137	0	0.380	-0.0467
IRON	239.56	0	0.0227	0	1.91	0.331
LEAD	220.35	0	-0.0214	0	0.666	-0.100
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.638	0	0	0
MANGANESE	257.61	-1.04	-0.0173	-0.755	-0.0418	-0.110
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0.948	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.0228	0	-0.382	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	2.97	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	-0.0233	0	0	0.297
VANADIUM	290.88	0	0.00481	0	0	0
ZINC	206.20	0	0.00300	0	0	-6.39

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 882642
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

00072047

Login Number: L0709459 **Date:** 01/08/2007

Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	396.15	0	0.108	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	-0.115	0	0	0.0133
BARIUM	233.53	0	0.0217	0	0	0
BERYLLIUM	234.86	0	0.171	0	0	0
BORON	249.68	0	-4.09	0	0	0
CADMIUM	228.80	0	-0.00172	0	0	0
CALCIUM	227.55	-2.44	-8.15	0	0	0.104
CHROMIUM	267.72	0	-0.0115	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	-0.0550	0	0	0
IRON	239.56	0	0	0	0	0.0276
LEAD	220.35	0.341	0.0593	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.174	0	0	0
MANGANESE	257.61	-0.0457	-0.0659	-0.0181	-0.794	0.0147
MOLYBDENUM	202.03	0	-0.0342	0	11.9	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0.831	0	0	0
SELENIUM	196.03	0	-0.444	0	0	0.00120
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0.0717	-0.0541	0	0	0.00521
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	-16.4	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0.0284
VANADIUM	290.88	0	-0.0723	0	0	-0.0542
ZINC	206.20	-0.309	0.00450	0	0	0

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 882642
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

00072048

Login Number: L0709459 **Date:** 01/08/2007

Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	MN	MO	NA	NI	PB
ALUMINUM	396.15	0	51.0	0	0	0
ANTIMONY	206.84	0	-17.4	0	0	0
ARSENIC	188.98	0	3.15	0	0	0
BARIUM	233.53	0	-0.740	0	0	0
BERYLLIUM	234.86	-0.131	-0.545	0	-0.00974	0
BORON	249.68	0	-2.08	0	0	0
CADMIUM	228.80	0	0	0	-0.0660	0
CALCIUM	227.55	0	-25.0	0	-1100	0
CHROMIUM	267.72	0.554	-0.0135	0	0	0
COBALT	228.62	0	-0.668	0	0.129	0
COPPER	327.39	0	-0.519	0	-0.0905	-0.0630
IRON	239.56	-1.38	0	0	0	0
LEAD	220.35	0.232	-2.35	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-5.58	0	0	0.0252
MANGANESE	257.61	0	-0.0482	-0.00916	-0.0340	-0.0413
MOLYBDENUM	202.03	-0.209	0	0	0.134	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0.0278	0	0
SELENIUM	196.03	1.11	0.199	0	-0.202	0
SILICON	251.61	0	12.9	0	0	0
SILVER	328.07	0.130	0.0781	0	0	0
SODIUM	589.59	0	0	0.181	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	-1.50	0.660	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.578	0	0	0
ZINC	206.20	0	0	0	-0.244	-0.330

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Report generated 09/25/2007 08:46

KEMRON Environmental Services

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

00072049

Login Number: L0709459 **Date:** 01/08/2007

Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	SB	SE	SI	SN	SR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	-7.64	0
ARSENIC	188.98	0	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	2.79	0	0
CHROMIUM	267.72	0	-0.0706	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	-0.117	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-0.0924	0	0	0
MANGANESE	257.61	-0.0505	-0.0281	-0.185	-0.0445	-0.625
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	-0.288	-0.262	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	1.61
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	-0.420	0	0	0	0

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 882642
Report generated 09/25/2007 08:46

KEMRON Environmental Services

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

00072050

Login Number: L0709459 **Date:** 01/08/2007

Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	TI	TL	V	ZN
ALUMINUM	396.15	0	0	0	0
ANTIMONY	206.84	0	0	-3.59	0
ARSENIC	188.98	0	0	0.0930	0
BARIUM	233.53	0	0	-2.27	0
BERYLLIUM	234.86	0	0	0	0
BORON	249.68	0	0	0	0
CADMIUM	228.80	0	0	0.0980	0
CALCIUM	227.55	0	0	11.3	0
CHROMIUM	267.72	0	0	-0.605	-0.0845
COBALT	228.62	2.07	0	0	0
COPPER	327.39	-1.79	0	-0.842	-0.0613
IRON	239.56	0	0	0	0
LEAD	220.35	-0.776	0	-0.153	0
LITHIUM	670.78	0	0	0	0
MAGNESIUM	279.08	0	0	-0.0280	0
MANGANESE	257.61	-0.227	-0.0414	-0.0601	-0.0553
MOLYBDENUM	202.03	0	0	-0.288	0
NICKEL	231.60	0	0.286	0	0
POTASSIUM	766.49	0	0	0	0
SELENIUM	196.03	0	0	0.593	0
SILICON	251.61	0	0	0	0
SILVER	328.07	0	0	-6.38	0
SODIUM	589.59	0	0	0	0
STRONTIUM	407.77	0	0	0	0
THALLIUM	190.80	-10.1	0	0	0
TIN	189.93	0	0	0	0
TITANIUM	334.94	0	0	0	0
VANADIUM	290.88	0	0	0	0
ZINC	206.20	0	0	-0.100	0

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 882642
Report generated 09/25/2007 08:46

KEMRON Environmental Services

LINEAR RANGE (QUARTERLY)

00072051

Login Number: L0709459 **Date:** 09/11/2007

Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	450.0
Antimony	10.00	36.0
Arsenic	10.00	9.0
Barium	10.00	9.0
Beryllium	10.00	1.8
Boron	10.00	18.0
Cadmium	10.00	2.7
Calcium	10.00	450.0
Chromium	10.00	45.0
Cobalt	10.00	45.0
Copper	10.00	45.0
Iron	10.00	360.0
Lead	10.00	45.0
Lithium	10.00	1.8
Magnesium	10.00	450.0
Manganese	10.00	27.0
Molybdenum	10.00	45.0
Nickel	10.00	45.0
Potassium	10.00	90.0
Selenium	10.00	45.0
Silicon	10.00	9.0
Silver	10.00	9.0
Sodium	10.00	180.0
Strontium	10.00	2.7
Thallium	10.00	45.0
Tin	10.00	45.0
Titanium	10.00	9.0
Vanadium	10.00	45.0
Zinc	10.00	36.0

Comments:

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 882641
Report generated 09/25/2007 08:46

2.1.2 Metals ICP-MS Data

2.1.2.1 Summary Data

LABORATORY REPORT

L0709459

09/27/07 13:08

00072054

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Biulding
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Account Number: 2773
Work ID:

P.O. Number: 200328

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
PRWW01-091807	L0709459-01	6020	1	20-SEP-07
PRWW01-091807	L0709459-02	6020	1	20-SEP-07

Report Number: **L0709459**
Report Date : **September 27, 2007**

00072055

Sample Number: **L0709459-01**
Client ID: **PRWW01-091807**
Matrix: **Water**
Workgroup Number: **WG250784**
Collect Date: **09/18/2007 14:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **09/21/2007 08:00**
Cal Date: **09/24/2007 09:57**
Run Date: **09/24/2007 11:09**
File ID: **EL.092407.110959**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Lead, Total	7439-92-1	0.00541		0.000500	0.000250

Report Number: **L0709459**
Report Date : **September 27, 2007**

00072056

Sample Number: **L0709459-02**
Client ID: **PRWW01-091807**
Matrix: **Water**
Workgroup Number: **WG250784**
Collect Date: **09/18/2007 14:40**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **3015**
Analytical Method: **6020**
Analyst: **JYH**
Dilution: **1**
Units: **mg/L**

Instrument: **ELAN-ICP**
Prep Date: **09/21/2007 08:00**
Cal Date: **09/24/2007 09:57**
Run Date: **09/24/2007 11:16**
File ID: **EL.092407.111630**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Lead, Dissolved	7439-92-1		U	0.000500	0.000250

U Not detected at or above adjusted sample detection limit

2.1.2.2 QC Summary Data

1.0 Initial Calibration (ICAL) Parameters
The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (ug/L)	0.1
Vf = Final volume	100
Vi = Initial volume	40
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in (ug/L)	0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (ug/L)	0.1
Vf = Final volume	200
Vi = Initial volume	0.5
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in (ug/kg)	40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	40
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (ug/kg)	50

50 ug/kg = 0.050 mg/kg

Perkin Elmer ELAN ICP/MS

STANDARDS KEY

00072059

QC Std 1 - ICV
QC Std 2 - ICB
QC Std 3 - CRI - Soil
QC Std 4 - CRI - Water
QC Std 5 - ICSA
QC Std 6 - ICSAB
QC Std 7 - CCV
QC Std 8 - CCB

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.0004	0.05	0.1
Sb	10	0	0.0004	0.05	0.1
As	10	0	0.0004	0.05	0.1
Ba	10	0	0.0004	0.05	0.1
Be	10	0	0.0004	0.05	0.1
Ca	1000	0	0.04	5	10
Cd	10	0	0.0004	0.05	0.1
Cr	10	0	0.0004	0.05	0.1
Co	10	0	0.0004	0.05	0.1
Cu	10	0	0.0004	0.05	0.1
Fe	1000	0	0.04	5	10
Pb	10	0	0.0004	0.05	0.1
Mg	1000	0	0.04	5	10
Mn	10	0	0.0004	0.05	0.1
Ni	10	0	0.0004	0.05	0.1
K	1000	0	0.04	5	10
Se	10	0	0.0004	0.05	0.1
Ag	10	0	0.0004	0.05	0.1
Na	1000	0	0.04	5	10
Tl	10	0	0.0004	0.05	0.1
V	10	0	0.0004	0.05	0.1
Zn	10	0	0.0004	0.05	0.1

Microwave Digestion Log

00072060

Analyst(s): VC
Date: 9/21/07 08:00
LCS: .25 mL STD 21717
MS/MSD: .25 mL STD 21717
Witness: Ed
HNO_3 Lot #: CUA12524
HCl Lot #:
Digest Tube Lot #: CUA 2400
Earliest Sample Due Date: 9/25
Microwave # MW 2

Box: 15

Digestion Work Group: WG 250645

ME407 Revision # 8 Method 3015-Water
ME406 Revision # _____ Method 3051-Soil-Oil

Relinquished By: VC
Digest Received By: BKP Date: 9/21/07

	KEMRON #	Initial Wt/Vol	Final Volume	Initial Weight	Final Weight	Comments	Due Date
1	PBW	40 mL	100 mL	208.16 g	208.14 g	02	
2	LCS			206.56 g	206.53 g	03	
3	09-400 02			209.05	209.03	Lab Filtered	9/28
4	04			207.86	207.82	"	
5	430-03 *			207.65	207.60	AFLCE	9/28
6	04			205.64	205.61		
7	05			208.40	208.38	01	
8	05MS			208.27	208.25	04	
9	05MSD			206.30	206.29	05	
10	06			209.14	209.12		
11	07			208.01	207.97		
12	08			204.99	204.97		
13	459-01			207.52	207.50		9/25
14	02			207.77	207.72	Lab Filtered	
15	484-14 *			208.00	208.01	AFLCE	9/28
16	15			205.43	205.41		
17	16			205.00	205.00		
18	17			206.05	206.03		
19	18			207.03	206.97		
20	19			208.26	208.23		
21							
22							
23							
24							
25							
26			Ed 09-21-07				
27							
28							
29							
30							

Comments: * leaked

Primary Review: Vicki Collins 9/21/07 Secondary Review: Emily Dockroe 09-21-07

KEMRON Environmental Services

Instrument Run Log

00072061

Instrument: ELAN-ICP Dataset: 092407A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700 Rev: 4
Maintenance Log ID: 19692

Calibration Std: STD21454 ICV/CCV Std: STD21905 Post Spike: STD21680
ICSA: STD21872 ICSAB: STD21873

Workgroups: 250784,250790,250879

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	EL.092407.093118	Blank	Blank		1		09/24/07 09:31
2	EL.092407.093748	WG250868-01	Calibration Point		1		09/24/07 09:37
3	EL.092407.094418	WG250868-02	Calibration Point		1		09/24/07 09:44
4	EL.092407.095050	WG250868-03	Calibration Point		1		09/24/07 09:50
5	EL.092407.095721	WG250868-04	Calibration Point		1		09/24/07 09:57
6	EL.092407.100354	WG250868-05	Initial Calibration Verification		1		09/24/07 10:03
7	EL.092407.101036	WG250868-06	Initial Calib Blank		1		09/24/07 10:10
8	EL.092407.101719	WG250868-07	CRQL Check Solid		1		09/24/07 10:17
9	EL.092407.102355	WG250868-08	CRQL Check Water		1		09/24/07 10:23
10	EL.092407.103030	WG250868-09	Interference Check		1		09/24/07 10:30
11	EL.092407.103704	WG250868-10	Interference Check		1		09/24/07 10:37
12	EL.092407.104337	WG250868-11	CCV		1		09/24/07 10:43
13	EL.092407.105019	WG250868-12	CCB		1		09/24/07 10:50
14	EL.092407.105659	WG250665-02	Method/Prep Blank	40/100	1		09/24/07 10:56
15	EL.092407.110329	WG250665-03	Laboratory Control S	40/100	1		09/24/07 11:03
16	EL.092407.110959	L0709459-01	PRWW01-091807	40/100	1		09/24/07 11:09
17	EL.092407.111630	L0709459-02	PRWW01-091807	40/100	1		09/24/07 11:16
18	EL.092407.112301	WG250665-01	Reference Sample		1	L0709430-05	09/24/07 11:23
19	EL.092407.112932	WG250665-04	Matrix Spike	40/100	1		09/24/07 11:29
20	EL.092407.113604	WG250665-05	Matrix Spike Duplica	40/100	1		09/24/07 11:36
21	EL.092407.114236	L0709400-02	47WW06-091307	40/100	10		09/24/07 11:42
22	EL.092407.114909	WG250784-01	Post Digestion Spike		10	L0709400-02	09/24/07 11:49
23	EL.092407.115541	WG250784-02	Serial Dilution		50	L0709400-02	09/24/07 11:55
24	EL.092407.120214	WG250868-13	CCV		1		09/24/07 12:02
25	EL.092407.120856	WG250868-14	CCB		1		09/24/07 12:08
26	EL.092407.121538	L0709400-04	47WW07-091307	40/100	10		09/24/07 12:15
27	EL.092407.122211	L0709430-03	OT018-GW-LH2-2	40/100	1		09/24/07 12:22
28	EL.092407.122843	L0709430-04	OT018-GW-MW11	40/100	1		09/24/07 12:28
29	EL.092407.123514	L0709430-06	OT018-GW-MW13	40/100	1		09/24/07 12:35
30	EL.092407.124145	L0709430-07	OT018-GW-TY10LH	40/100	1		09/24/07 12:41
31	EL.092407.124816	L0709430-08	OT018-GW-DUPE	40/100	1		09/24/07 12:48
32	EL.092407.125447	L0709484-14	N7666E1037-A-3	40/100	1		09/24/07 12:54
33	EL.092407.130119	L0709484-15	N7622E1273-A-3	40/100	1		09/24/07 13:01
34	EL.092407.130752	L0709484-16	N7666E1037-B-3	40/100	1		09/24/07 13:07
35	EL.092407.131424	L0709484-17	N7184E1675-B-3	40/100	1		09/24/07 13:14
36	EL.092407.132057	WG250868-15	CCV		1		09/24/07 13:20
37	EL.092407.132739	WG250868-16	CCB		1		09/24/07 13:27

Page: 1

Approved: September 25, 2007

Maren Berry

KEMRON Environmental Services

Instrument Run Log

00072062

Instrument: ELAN-ICP Dataset: 092407A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700 Rev: 4
Maintenance Log ID: 19692

Calibration Std: STD21454 ICV/CCV Std: STD21905 Post Spike: STD21680
ICSA: STD21872 ICSAB: STD21873

Workgroups: 250784,250790,250879

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
38	EL.092407.133420	L0709484-18	N6854E0476-B-3	40/100	1		09/24/07 13:34
39	EL.092407.134103	L0709484-19	N7184E1675-A-3	40/100	1		09/24/07 13:41
40	EL.092407.134736	WG250868-17	Interference Check		1		09/24/07 13:47
41	EL.092407.135410	WG250868-18	Interference Check		1		09/24/07 13:54
42	EL.092407.140044	WG250868-19	CCV		1		09/24/07 14:00
43	EL.092407.140726	WG250868-20	CCB		1		09/24/07 14:07
44	EL.092407.141407	BLANK	BLANK		10		09/24/07 14:14
45	EL.092407.142421	L0709400-04	47WW07-091307	40/100	10		09/24/07 14:24
46	EL.092407.143126	WG250667-02	Method/Prep Blank	.5/200	1		09/24/07 14:31
47	EL.092407.143800	WG250667-03	Laboratory Control S	.5/200	1		09/24/07 14:38
48	EL.092407.144433	WG250667-01	Reference Sample		1	L0709457-02	09/24/07 14:44
49	EL.092407.145104	WG250667-04	Matrix Spike	.5/200	1		09/24/07 14:51
50	EL.092407.145735	WG250667-05	Matrix Spike Duplica	.5/200	1		09/24/07 14:57
51	EL.092407.150406	L0709457-01	BGA030	.5/200	1	WG250749-01	09/24/07 15:04
52	EL.092407.151038	WG250790-01	Post Digestion Spike		1	L0709457-01	09/24/07 15:10
53	EL.092407.151710	WG250790-02	Serial Dilution		5	L0709457-01	09/24/07 15:17
54	EL.092407.152343	WG250868-21	CCV		1		09/24/07 15:23
55	EL.092407.153024	WG250868-22	CCB		1		09/24/07 15:30
56	EL.092407.153706	L0709457-03	BGA032	.503/200	1		09/24/07 15:37
57	EL.092407.154338	L0709457-04	BGA034	.5/200	1		09/24/07 15:43
58	EL.092407.155012	L0709457-05	BGA035	.503/200	1		09/24/07 15:50
59	EL.092407.155758	L0709457-06	BGA036	.504/200	1		09/24/07 15:57
60	EL.092407.160432	L0709457-07	BGA037	.502/200	1		09/24/07 16:04
61	EL.092407.161106	L0709460-01	E-20-SD-091907		1		09/24/07 16:11
62	EL.092407.161739	L0709460-02	E-25-SD-091907		1		09/24/07 16:17
63	EL.092407.162410	L0709474-01	T-20 PACKING RESIDUE		5		09/24/07 16:24
64	EL.092407.164015	BLANK	BLANK		1		09/24/07 16:40
65	EL.092407.165539	BLANK	BLANK		1		09/24/07 16:55
66	EL.092407.170213	WG250868-23	CCV		1		09/24/07 17:02
67	EL.092407.170854	WG250868-24	CCB		1		09/24/07 17:08
68	EL.092407.171536	L0709460-01	E-20-SD-091907	.5/200	10		09/24/07 17:15
69	EL.092407.172209	L0709460-02	E-25-SD-091907	.508/200	20		09/24/07 17:22
70	EL.092407.172841	WG250868-25	CCV		1		09/24/07 17:28
71	EL.092407.173523	WG250868-26	CCB		1		09/24/07 17:35
72	EL.092407.174204	WG250839-03	Method/Prep Blank	40/100	1		09/24/07 17:42
73	EL.092407.174835	WG250839-04	Laboratory Control S	40/100	1		09/24/07 17:48
74	EL.092407.175508	L0709525-01	LH18/24-SP650-6957/GRAB	40/100	1		09/24/07 17:55

Page: 2 Approved: September 25, 2007

Maren Berry

KEMRON Environmental Services

Instrument Run Log

00072063

Instrument: ELAN-ICP Dataset: 092407A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020 SOP: ME700 Rev: 4
Maintenance Log ID: 19692

Calibration Std: STD21454 ICV/CCV Std: STD21905 Post Spike: STD21680
ICSA: STD21872 ICSAB: STD21873

Workgroups: 250784,250790,250879

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
75	EL.092407.180140	L0709525-02	LH18/24-SP650-6957/COMP	40/100	1		09/24/07 18:01
76	EL.092407.180813	WG250839-02	Reference Sample		1	L0709545-02	09/24/07 18:08
77	EL.092407.181447	WG250839-06	Matrix Spike	40/100	1		09/24/07 18:14
78	EL.092407.182120	WG250839-07	Matrix Spike Duplica	40/100	1		09/24/07 18:21
79	EL.092407.182754	L0709545-04	EEF0907	40/100	1		09/24/07 18:27
80	EL.092407.183429	WG250879-01	Post Digestion Spike		1	L0709545-04	09/24/07 18:34
81	EL.092407.184103	WG250879-02	Serial Dilution		5	L0709545-04	09/24/07 18:41
82	EL.092407.184737	WG250868-27	CCV		1		09/24/07 18:47
83	EL.092407.185419	WG250868-28	CCB		1		09/24/07 18:54
84	EL.092407.190059	L0709461-01	DRL-Z-OUTLET 006	40/100	4		09/24/07 19:00
85	EL.092407.190731	WG250839-05	Duplicate	40/100	4		09/24/07 19:07
86	EL.092407.191403	L0709520-02	AV-NCB-EB-1-092007	40/100	1		09/24/07 19:14
87	EL.092407.192035	L0709540-01	BGA018	40/100	1		09/24/07 19:20
88	EL.092407.192708	L0709540-02	BGA024	40/100	1		09/24/07 19:27
89	EL.092407.193341	L0709540-03	BGA025	40/100	1		09/24/07 19:33
90	EL.092407.194014	L0709540-04	BGA026	40/100	1		09/24/07 19:40
91	EL.092407.194648	L0709540-05	BGA027	40/100	1		09/24/07 19:46
92	EL.092407.195322	L0709540-06	BGA028	40/100	1		09/24/07 19:53
93	EL.092407.195956	L0709540-07	BGA029	40/100	1		09/24/07 19:59
94	EL.092407.200631	L0709474-01	T-20 PACKING RESIDUE	.5/200	100		09/24/07 20:06
95	EL.092407.201306	BLANK	BLANK		1		09/24/07 20:13
96	EL.092407.201940	WG250868-29	CCV		1		09/24/07 20:19
97	EL.092407.202621	WG250868-30	CCB		1		09/24/07 20:26

Page: 3 Approved: September 25, 2007

Maren Berry

KEMRON Environmental Services
Data Checklist

00072064

Date: 24-SEP-2007
Analyst: JYH
Analyst: NA
Method: 6020
Instrument: ELAN
Curve Workgroup: 250868
Runlog ID: 18357
Analytical Workgroups: 250784,250790,250879

Calibration/Linearity	X
ICV/CCV	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	400,430,459,484,457,460,474,461,525,545,540
Client Forms	X
Level X	
Level 3	400,459,460,525,545
Level 4	430,484,457,540
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	MMB
Comments	

Primary Reviewer: Secondary Reviewer:
25-SEP-2007

Generated: SEP-25-2007 14:50:24

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020
Login Number: L0709459

AAB#: WG250784 00072065

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
PRWW01-091807	09/18/07	09/20/07	09/21/07	180	2.72	09/24/07	180	3.14	
PRWW01-091807	09/18/07	09/20/07	09/21/07	180	2.72	09/24/07	180	3.13	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

KEMRON FORMS - Modified 11/20/2006
Version 1.5 PDF File ID: 882760
Report generated 09/24/2007 14:57

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072066

Login Number: L0709459
Blank File ID: EL.092407.105659
Prep Date: 09/21/07 08:00
Analyzed Date: 09/24/07 10:56
Analyst: JYH

Work Group: WG250784
Blank Sample ID: WG250665-02
Instrument ID: ELAN-ICP
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG250665-03	EL.092407.110329	09/24/07 11:03	01
PRWW01-091807	L0709459-01	EL.092407.110959	09/24/07 11:09	01
PRWW01-091807	L0709459-02	EL.092407.111630	09/24/07 11:16	01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 882761
Report generated 09/24/2007 14:57

KEMRON Environmental Services

METHOD BLANK REPORT

00072067

Login Number: L0709459 Prep Date: 09/21/07 08:00 Sample ID: WG250665-02
Instrument ID: ELAN-ICP Run Date: 09/24/07 10:56 Prep Method: 3015
File ID: EL.092407.105659 Analyst: JYH Method: 6020
Workgroup (AAB#): WG250784 Matrix: Water Units: mg/L
Contract #: DACA56-94-D-0020 Cal ID: ELAN-I - 24-SEP-07

Analytes	SQL	PQL	Concentration	Dilution	Qualifier
Lead, Total	0.000250	0.000500	0.000250	1	U

SQL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

KEMRON FORMS - Modified 12/07/2006
Version 1.5 PDF File ID: 882762
Report generated 09/24/2007 14:57

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072068

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250665-03
Instrument ID: ELAN-ICP Run Time: 11:03 Prep Method: 3015
File ID: EL.092407.110329 Analyst: JYH Method: 6020
Workgroup (AAB#): WG250784 Matrix: Water Units: mg/L
QC Key: STD Lot#: STD21680 Cal ID: ELAN-I - 24-SEP-07

Analytes	Expected	Found	% Rec	LCS Limits	Q
Lead, Total	0.0625	0.0633	101	80 - 120	

KEMRON FORMS - Modified 09/06/2007
Version 1.5 PDF File ID: 882763
Report generated 09/24/2007 14:57

KEMRON Environmental Services

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00072069

Loginnum:L0709459 Cal ID: ELAN-ICP- Worknum:WG250784

Instrument ID:ELAN-ICP Contract #:DACA56-94-D-0020 Method:6020

Parent ID:WG250665-01 File ID:EL.092407.112301 Dil:1 Matrix:WATER

Sample ID:WG250665-04 MS File ID:EL.092407.112932 Dil:1 Units:mg/L

Sample ID:WG250665-05 MSD File ID:EL.092407.113604 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Lead	ND	0.0625	0.0623	99.6	0.0625	0.0617	98.6	1.00	75 - 125	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 12/08/2006
Version 1.5 PDF File ID: 882764
Report generated 09/24/2007 14:57

KEMRON ENVIRONMENTAL SERVICES
SERIAL DILUTION REPORT

00072070

Sample Login ID: L0709459
Instrument ID: ELAN-ICP
Sample ID: L0709400-02 File ID: EL.092407.114236 Dil: 10
Serial Dilution ID: WG250784-02 File ID: EL.092407.115541 Dil: 50

Worknum: WG250784
Method: 6020
Units: ug/L

Analyte	Sample	C	Serial Dilution	C	% Difference	Q
Lead	0	U	ND	U		

U = Result is below MDL
F = Result is between MDL and RL
X = Result is greater than RL and less than 100 times the MDL
E = %D exceeds control limit of 10% and initial
sample result is greater than or equal to 100 times the MDL

KEMRON FORMS - Modified 02/14/2006
Version 1.3 PDF File ID: 882758
Report generated 09/24/2007 14:57

KEMRON ENVIRONMENTAL SERVICES
POST SPIKE REPORT

00072071

Sample Login ID: L0709459 **Worknum:** WG250784
Instrument ID: ELAN-ICP **Method:** 6020
Post Spike ID: WG250784-01 **File ID:** EL.092407.114909 **Dil:** 10 **Units:** ug/L
Sample ID: L0709400-02 **File ID:** EL.092407.114236 **Dil:** 10 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
LEAD	56.6		0	U	50	113.2	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

KEMRON FORMS - Modified 04/20/2007 - POST_SPIKE
Version 2.0 PDF File ID: 882759
Report generated 09/24/2007 14:57

KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0709459
Analytical Method: 6020
ICAL Worknum: WG250868

Workgroup (AAB#): WG250784
Instrument ID: ELAN-ICP
Initial Calibration Date: 24-SEP-2007 09:57

00072072

Analyte	WG250868-01		WG250868-02		WG250868-03		WG250868-04			
	STD	INT	STD	INT	STD	INT	STD	INT	R	Q
Lead	0	484.011	.4	10797.287	50	1263633.887	100	2497624.394	0.999994	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

KEMRON FORMS - Modified 03/08/2007
Version 1.5 PDF File ID: 882767
Report generated 09/24/2007 14:57

KEMRON Environmental Services

INITIAL CALIBRATION BLANK (ICB)

00072073

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250868-06

Instrument ID: ELAN-ICP Run Time: 10:10 Method: 6020

File ID: EL.092407.101036 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG250784 Cal ID: ELAN-I - 24-SEP-07

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Lead	0.100	0.200	-.0143	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 10/02/2006
Version 1.5 PDF File ID: 882769
Report generated 09/24/2007 14:57

KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250868-12
Instrument ID: ELAN-ICP Run Time: 10:50 Method: 6020
File ID: EL.092407.105019 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG250784 Cal ID: ELAN-I - 24-SEP-07

00072074

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Lead	0.100	0.200	-0.0138	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
Version 2.0 PDF File ID: 882772
Report generated 09/24/2007 14:57

KEMRON Environmental Services

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250868-14
Instrument ID: ELAN-ICP Run Time: 12:08 Method: 6020 00072075
File ID: EL.092407.120856 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG250784 Cal ID: ELAN-I - 24-SEP-07

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Lead	0.100	0.200	-0.0141	1	U

U = Result is less than MDL
F = Result is between MDL and RL
* = Result is above RL

KEMRON FORMS - Modified 09/27/2006
Version 2.0 PDF File ID: 882772
Report generated 09/24/2007 14:57

KEMRON Environmental Services

INITIAL CALIBRATION VERIFICATION (ICV)

Login Number: L0709459
Run Date: 09/24/2007
Sample ID: WG250868-05
Instrument ID: ELAN-ICP
Run Time: 10:03
Method: 6020
File ID: EL.092407.100354
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG250784
Cal ID: ELAN-I - 24-SEP-07
QC Key: STD

00072076

Analyte		Expected	Found	%REC	LIMITS	Q
Lead		50	52.7	105	90 - 110	

* Exceeds LIMITS Limit

KEMRON FORMS - Modified 09/06/2007 (ICV)
Version 1.5 PDF File ID: 882768
Report generated 09/24/2007 14:57

KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250868-11
Instrument ID: ELAN-ICP Run Time: 10:43 Method: 6020 00072077
File ID: EL.092407.104337 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG250784 Cal ID: ELAN-I - 24-SEP-07

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Lead		50.0	50.5	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
Version 1.5 PDF File ID: 882771
Report generated 09/24/2007 14:57

KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0709459 Run Date: 09/24/2007 Sample ID: WG250868-13
Instrument ID: ELAN-ICP Run Time: 12:02 Method: 6020 00072078
File ID: EL.092407.120214 Analyst: JYH QC Key: STD
Workgroup (AAB#): WG250784 Cal ID: ELAN-I - 24-SEP-07

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Lead		50.0	50.2	ug/L	100	90 - 110		

* Exceeds LIMITS Criteria

KEMRON FORMS - Modified 09/06/2007 - (CCV)
Version 1.5 PDF File ID: 882771
Report generated 09/24/2007 14:57

KEMRON ENVIRONMENTAL SERVICES
INTERFERENCE CHECK SAMPLES

00072079

Login number: L0709459
Instrument ID: ELAN-ICP
Sol. A : WG250868-09 **File ID:** EL.092407.103030
Sol. AB : WG250868-10 **File ID:** EL.092407.103704

Workgroup (AAB#): WG250782
Method: 6020
Units: ug/L

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Lead	NS	0.0504	NS	100	106	106	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

KEMRON FORMS - Modified 03/05/2007
Version 1.3 PDF File ID: 882770
Report generated 09/24/2007 14:57

KEMRON ENVIRONMENTAL SERVICES
INTERFERENCE CHECK SAMPLES

00072080

Login number: L0709459
Instrument ID: ELAN-ICP
Sol. A : WG250868-17 **File ID:** EL.092407.134736
Sol. AB : WG250868-18 **File ID:** EL.092407.135410

Workgroup (AAB#): WG250868
Method: 6020
Units: ug/L

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Lead	NS	0.0497	NS	100	105	105	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

KEMRON FORMS - Modified 03/05/2007
Version 1.3 PDF File ID: 882770
Report generated 09/24/2007 14:57

00072081

KEMRON Environmental Services

LINEAR RANGE (QUARTERLY)

00072082

Login Number: L0709459 **Date:** 09/07/2007

Insturment ID: ELAN-ICP **Method:** 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 882765
Report generated 09/24/2007 14:57

3.0 Attachments

AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BOCK
AML - ANTHONY M. LONG
ARA - ADRIAN R. ACHTERMANN
ASP - AARON S. PETRIE
BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEPHENS
CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL
DD - DIANE M. DENNIS
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS
DRP - DAVE R. PITZER
DSF - DEBRA S. FREDERICK
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
ED - EMILY E. DECKER
ERE - ERIN R. ELDER
FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR
HJR - HOLLY J. REED
JAB - JUANITA A. BECKER
JAL - JOHN A. LENT
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JCO - JOE C. OWENS
JDH - JUSTIN D. HESSON
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JKT - JANE K. THOMPSON
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KCZ - KEVIN C. ZUMBRO
KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES
KJW - KATIE J. WIEFERICH
KRA - KATHY R. ALBERTSON
KRV - KATHRINE R. VICKERS
LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
PJM - PAUL J. MILLER
RAH - ROY A. HALSTEAD
RB - ROBERT BUCHANAN
REK - ROBERT E. KYER
RLF - RACHEL L. FRYE
RLK - ROBIN L. KLINGER
RNP - RICK N. PETTY
RWC - RODNEY W. CAMPBELL
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SMH - SHAUNA M. HYDE
TDH - TRICIA D. HUCK
TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
WFM - WALTER F. MARTIN

KEMRON Environmental Services

List of Valid Qualifiers

September 27, 2007

Qualkey: STD

00072085

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
FL	Free Liquid
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
ND,L	Not detected; sample reporting limit (RL) elevated due to interference
ND,S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Chain of Custody

00072086 10218

Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Laboratory Name: Kemron
Address: 156 Starlite DR. Marietta, OH 45750
Contact: Stephanie Mossburg

Project Name: LHAAP
Project Location: KARNACK, TX.
Project No.: 117591.0009C400
Project Contact: Scott Beesinger
Project Telephone No.: 903-679-3448
Point of Contact: Kay Everett
Telephone No.: 713-996-4421
Project Manager/Supervisor: Praveen Srivastav

Analysis and Method Desired (Indicate separate containers)

Item No.	Telephone Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	TOTAL metals Lead, Aluminum, Iron	Dissolved metals Lead, Aluminum, Iron						Remarks
1	PRW W01-091807	9/18/07	2:40		✓	W	Groundwater, Pistol Range	2	1	1						Please filter Dissolved metals in Lab
2																
3																
4																
5																
6																
7																
8																
9																
10																

Transfers Relinquished By (signature)	Date/Time	Transfers Accepted By (signature)	Date/Time
Scott Beesinger	9/19/07 3:00	Eric Elder	9-20-07 925
		Laboratory	

Special Instructions: 3 DAY TAT

FedEx Airbill No.:

Sampler's Signature: Scott Beesinger

TAT: _____ Standard _____ Rush Date _____ Seals Intact? _____ Y _____ N Received Good Condition _____ Y _____ N _____ Cold

White - Lab Copy Canary - Field Copy Pink - File Copy

Form Number: 433_1
Rev. 03-19-07

KEMRON Environmental Services

SAMPLE RECEIPT FORM

156 Starlite Drive
Marietta, OH 45750
(740) 373-4071

00072087

Client: SHAW Houston	
Workorder Number: B —	
Date Received: 9-20-07	
Delivered by:	( ) Fedx (✓) UPS ( ) Client ( ) Courier Time: 9:25
Opened by: EE	
IR Temp Gun:	( ) D (✓) G
Logged by:	L 9-459

Cooler information

Cooler ID	Temp C	Airbill#	COC#	Other
79	3	1Z6U72501975190 20		Soil / Waters

Inspection Checklist	Y	N	NA	Discrepancy ID
Were shipping coolers sealed?	✓			
Were custody seals intact?	✓			
Were cooler temperatures in range of 0 - 6?	✓			
Was ice present?	✓			
Were COC's received/information complete/signed/dated?	✓			
Were sample containers and labels intact?	✓			
Were correct containers used?	✓			
Were correct preservatives used (water only)?	✓			
Were pH ranges acceptable?	✓			
Were VOA samples free of headspace?			✓	
Were samples received within EPA hold times?	✓			

Discrepancy/Comments/Other Problems

Distribution

Name of KEMRON representative
Client/Company:
Person Contacted:
Date contacted:

Resolution/other comments:

KEMRON Environmental Services
Internal Chain of Custody Report

Login: L0709459
Account: 2773
Project: 2773.025
Samples: 2
Due Date: 25-SEP-2007

00072088

Samplenum	Container ID	Products
L0709459-01	376009	FE AL PB-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	20-SEP-2007 13:36	BRG	
2	PREP	W1	DIG	21-SEP-2007 06:19	REK	ERE
3	STORE	DIG	A1	21-SEP-2007 11:50	ERE	REK

Samplenum	Container ID	Products
L0709459-02	376010	AL-D FE-D PB-MS-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	20-SEP-2007 13:36	BRG	
2	PREP	W1	DIG	21-SEP-2007 06:19	REK	ERE
3	STORE	DIG	A1	21-SEP-2007 11:50	ERE	REK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Appendix E

Soil to Groundwater Transport Modeling

Soil to Groundwater Transport Modeling

A copy of Appendix E is provided on compact disc in a pocket on the inside back cover of this document

Appendix E
Soil to Groundwater Transport Modeling

Purpose

The purpose of the calculations presented in this Appendix is to determine if lead concentrations observed at the former Pistol Range are protective of groundwater quality.

Model Selection

Shaw evaluated the Soil Attenuation Model (SAM) and VLEACH, a one-dimensional finite difference Vadose Zone Leaching Model for predicting impacts of soil contamination on groundwater quality. Both models are described below.

SAM. SAM is an extension of the Soil Screening Level calculations presented in *Soil Screening Guidance: User's Guide*, Second Edition [U.S. Environmental Protection Agency (EPA), 1996]. SAM is based on calculating total mass (liquid phase, solid phase, and gas phase) in the soil column:

$$M_T = V(\rho_b C_s + \theta_w C_w + \theta_a C_g) + I\,C_i - I\,C_w$$

Where

M_T = total mass
C_i = concentration in water infiltrating to the zone
C_g = gas phase concentration
C_s = concentration in soil (dry weight basis)
C_w = concentration in pore water
I = infiltration rate
V = volume of the soil column
ρ_b = bulk density
θ_a = air filled porosity
θ_w = water filled porosity

Total mass is then redistributed using equilibrium conditions based on the adsorption coefficient and Henry's constant. The equilibrium equations are:

$$C_s = K_d C_w$$
$$C_g = K_H C_w$$

Where K_d is the distribution coefficient or adsorption coefficient, and K_H is dimensionless Henry's Law constant. For lead, the primary contaminant at the former Pistol Range, the Henry's Law constant is set to zero.

SAM model enhancement over EPA's Soil Screening Levels is that the SAM model assumes a zone of contaminated soils overlying a zone of clean soil (zero concentration). After soil contamination is introduced, SAM mixes two zones and predicts leachate at the

bottom of the soil column to be in equilibrium with the mixed soil column. Therefore, in the SAM model, the leachate concentration is calculated as follows:

$$C_w = C_s \left(\frac{\rho_b}{K_d + (\theta_w + \theta_a K_H)} \right) \left(\frac{L_1}{L_2} \right)$$

Or, alternately, the concentration in soil based that will produce a given leachate concentration can be calculated as:

$$C_s = C_w \left(\frac{K_d + \theta_w + \theta_a K_H}{\rho_b} \right) \left(\frac{L_2}{L_1} \right)$$

Where L_1 is the thickness of the total soil column and L_2 is the thickness of the contaminated zone. The factor (L_2/L_1) is an enhancement in the SAM model over the Soil Screening Level Model by EPA. A further dilution factor for leachate mixing with groundwater can be incorporated by using dilution factor:

$$DF = 1 + \frac{Kid}{IL}$$

Where

d = mixing zone depth
i = hydraulic gradient in aquifer
K = aquifer hydraulic conductivity
L = source length parallel to groundwater flow

VLEACH. VLEACH was initially developed for the EPA in 1990. It has been updated since then, and the current version is V2.2. VLEACH is an extension of the equation used in the SAM model with the following enhancements:

- The soil column is not limited to two zones. User can specify number of zones, each with its own initial soil concentration.
- Background soil concentration does not need to be zero.
- In each time step, total mass is calculated in the top zone including infiltrating water (at zero concentration). Once total mass is calculated, the equilibrium equation is used to distribute total mass into three phases (adsorbed to solids, liquid, and gas). The amount of infiltration received in one zone is discharged to the next zone with a concentration equal to the equilibrium liquid phase concentration. These calculations are repeated for each zone moving from top to bottom of the soil column. Leachate discharged from the bottom zone is considered to impact the groundwater.
- In addition to using equilibrium equations, the VLEACH model limits liquid phase concentration (C_w) to the saturation limit for the contaminant.

Both the SAM and VLEACH models ignore biodegradation and dispersion. VLEACH does not account for dilution of leachate as it mixes with groundwater. However, this can be added externally by using dilution factor calculations shown above.
VLEACH was selected for calculating soil to groundwater impact and determine soil concentrations that will be protective of groundwater quality because of the enhancements listed above and its capability to handle non-zero background concentrations. The latter is important since most metals, including lead, occur naturally in soil.

Assumptions and Model Input Parameters

Although VLEACH is capable of simulating multiple soil columns with different initial soil concentrations, this capability was not used in the calculations presented here. It was assumed that soils at the whole site are at the same concentration as at the location of the maximum lead concentration observed (N50E25). This is a very conservative assumption. Therefore only one polygon (source) was used in the simulation and since mixing of leachate from multiple polygons is not used, polygon (source) area was arbitrarily set at 10,000 square feet. While the leachate concentration will also be diluted as it mixes with groundwater, no dilution factor has been used in the calculations presented here.

Since lead is not volatile, all parameters related to gas-phase concentrations were set to zero. Therefore, free-air diffusion coefficient is not used in the calculation and was left at the default value. The values used for the remaining non-trivial model input parameters, and the basis for those values, are as follows:

1. **Recharge Rate** – It was estimated that recharge rate in conditions similar to the former Longhorn Army Ammunition Plant (LHAAP) would range from 10 to 15 inches per year. Higher recharge rate would result in earlier impact to groundwater. Therefore, the net recharge rate was assumed to be 15 inches per year or 1.25 feet per year for VLEACH calculations.
2. **Dry Bulk Density** – Dry bulk density was assumed to be 100 pounds per cubic feet which equates to 1.6 grams per cubic centimeter. This is a typical value for silty clayey sands.
3. **Water filled Porosity -** Water filled porosity is less than the total porosity in unsaturated soils above the water table. Water filled porosity was assumed to be 25%.
4. **Concentration of Recharge Water –** Concentration of recharge water was set to zero to simulate rainfall containing no lead.
5. **Zone (or Cell) Thickness** – Smallest zone (cell) thickness that can be used within the model limitations should be used. Zone thickness of 0.1 feet was used.
6. **Soil Column Thickness** – The depth to water table at the former Pistol Range site is 14.5 feet. Therefore, the soil column thickness of 14.5 feet was used in the model.

7. **Time Step** – Time step for calculations should be small enough so that vertical migration of infiltration is less than the thickness of the zone (cell). For recharge rate of 15 inches per year and zone (cell) thickness of 0.1 feet, time step should be less than 0.08 years. A time step of 0.05 years was used in the calculations.
8. **Maximum Time for Simulation** – VLEACH calculations were performed for 1,000 years for vertical migration. Calculations were performed at each time step and predicted leachate concentrations were printed out at 50 year time increment due to slow migration of lead.
9. **Initial Lead Concentrations** – Site analytical results show that lead contamination was limited primarily to surface soils. However, at the location of the highest lead concentration in surface soil (N50E25), elevated lead concentrations were detected to a depth of 6 feet (see Table 2-5 in main body of EE/CA). Although the maximum lead concentration [5,240 milligram per kilogram (mg/kg)] was detected in a sample collected from 0 to 6 inches below ground surface (bgs), it was conservatively assumed that the top 2 feet of the soil column was contaminated and lead concentration equals the maximum observed soil concentration. Similarly it was conservatively assumed that the measured concentration of 564 mg/kg in a soil sample from 2 to 2.5 feet bgs is applicable to the soil column from 2 to 3 feet bgs and the measured concentration of 126 mg/kg in a soil sample from 4 to 6 feet bgs is applicable to the soil column from 3 to 6 feet bgs. From 6 feet bgs to the water table (11.62 feet bgs), the lead concentration was assumed to be equal to the background soil concentration for the LHAAP. Both the mean concentration (7.81 mg/kg) and the 95% UCL concentration (8.29 mg/kg) in background soils were used. **Table E-1** shows initial lead concentrations used as model inputs.
10. **Adsorption Coefficient** – Lead adsorption coefficient (K_d) is pH dependent. Adsorption coefficient was calculated from site soil pH values and equation presented in *Understanding Variation in Partition Coefficient, Kd, Values* (EPA, 1999). The equation is as follows:

    K_d (ml/g) = 1639 – 902.4(pH) + 150.4(pH)^2
11. **Time Period of Simulation** – 1,000 years.

Model Results and Discussion

Four VLEACH simulations were performed to determine impacts of various input values. Leachate concentrations are most sensitive to the value of K_d and the background soil concentrations. Since the value of lead K_d is sensitive to pH, two values of soil pH were evaluated – the minimum soil pH measured in the background subsurface soils [4.8 standard unit (su)] and the average soil pH measured in background soil samples (5.2 su). Initial soil lead concentrations at depths greater than 6 feet were set at the mean concentration (7.81 mg/kg) and the 95% UCL concentration (8.29 mg/kg) in the background soils.

Groundwater samples were collected from monitoring well PRWW01 located in the area of highest lead impact to soils. Both filtered and unfiltered groundwater samples were collected on September 7, 2007. Lead was detected in the unfiltered sample at a concentration of 17.2 µg/L and was not detected in the filtered sample. However, the

turbidity in the groundwater sample was 186 nephelometric turbidity units (NTU) and lead detection in unfiltered sample was attributed to high turbidity. Monitoring well PRWW01 was resampled on September 18, 2007, to collect a low turbidity sample. The turbidity of the groundwater samples collected on September 18, 2007 was 9 NTU, which is considered a representative sample of the groundwater. Lead was not detected in the filtered sample, but lead was detected in the unfiltered sample at a concentration of 5.41 µg/L.

Table E-1 provides a summary of VLEACH simulations for lead at the former Pistol Range. It shows that for all four simulations, the predicted initial leachate concentration ranged from 7.71 micrograms per liter (µg/L) to 10.72 µg/L. When all soils are at background conditions, groundwater concentration will eventually be equal to the initial leachate concentration which is in equilibrium with the background soils. Therefore, predicted initial leachate concentrations are higher than the site groundwater concentrations (from non-detect to 5.41 µg/L), which indicates that a conservative K_d value was used in the calculations.

Table E-1 also shows predicted maximum leachate concentration to range from 7.73 µg/L to 10.72 µg/L as a result of contaminated soils left in place. Incremental rise in leachate concentration (maximum minus initial) due to impacted soils at the maximum measured lead concentration of 5,240 mg/kg range from 0.0 to 0.02 µg/L. This is a small impact and leachate concentration is below the Maximum Contaminant Level for drinking water (MCL) value of 15 µg/L for lead. Since the maximum measured lead concentration is protective of groundwater to MCL, it is not necessary to develop a remediation goal for lead.

The input and output files associated with each VLEACH model run are provided in four attachments associated with the four combination of pH (su) and lead background concentration (mg/kig) that were modeled:

Attachment	pH (su)	Lead Background Concentration (mg/kg)
E-1	4.8	7.81
E-2	4.8	8.29
E-3	5.2	7.81
E-4	5.2	8.29

Each attachment contains five types of files:

- input.TXT provides the general project information, contaminant information, and polygon parameters that were fed into the model.
- .PRM echoes the input information and lists the initial mass and concentration for each cell.
- .OUT presents the essential results for each print time, including the mass balance information.

- .PRF provides concentrations with depth in gas (in grams per cubic feet [g/cf]), liquid (in g/cf), and solid (in grams per gram) phases for each print time.
- TRNSPROF.DAT provides liquid phase concentrations in micrograms per liter (µg/L) in each cell as a function of time in a tabular form. Each TRNSPROF.DAT file also includes a graphical representation of liquid concentration at the bottom of the soil column and the liquid concentration profile at 1,000 years.

Conclusion

The maximum measured lead concentration in soil is shown to be protective of groundwater for at least the next 1000 years.

References

EPA, 1996. *Soil Screening Guidance: User's Guide, Second Edition", EPA Report EPA/540/R-96/018*, Office of Emergency and Remedial Response, July.

EPA, 1999. *Understanding Variation in Partition Coefficient, Kd, Values. Volume II: Review of Geochemistry and Available Kd values for Cadmium, Cesium, Chromium, Lead, Plutonium, Radon, Strontium, Thorium, Tritium (^3H), and Uranium, EPA 402-R-99-004B*, August.

Table E-1
Summary of VLEACH Simulations for Lead

Lead Concentration (mg/kg)				Soil pH	Kd[2] (ml/g)	Predicted Leachate Concentration (µg/L)		Major Assumptions	Remarks
0-2 feet[1]	2-3 feet	3-6 feet	Background (below 6 feet)			Initial Values at 11.6 feet bgs	Maximum at 11.6 feet bgs		
5240	564	126	7.81	4.8	773	10.10	10.10	(1) Minimum soil pH measured in the background subsurface soil samples is applicable to the entire soil column. (2) Soil column below the first 6 feet is at the mean concentration in background soils.	Model predictions are consistent with the measured groundwater concentrations at the former Pistol Range.
5240	564	126	8.29	4.8	773	10.72	10.72	(1) Minimum soil pH measured in the background subsurface soil samples is applicable to the entire soil column. (2) Soil column below the first 6 feet is at the 95% UCL concentration in background soils.	Model predictions are consistent with the measured groundwater concentrations at the former Pistol Range.
5240	564	126	7.81	5.2	1013	7.71	7.73	(1) Average soil pH measured in the background soil samples is applicable to the entire soil column. (2) Soil column below the first 6 feet is at the mean concentration in background soils.	Model predictions are consistent with the measured groundwater concentrations at the former Pistol Range.
5240	564	126	8.29	5.2	1013	8.18	8.20	(1) Average soil pH measured in the background soil samples is applicable to the entire soil column. (2) Soil column below the first 6 feet is at the 95% UCL concentration in background soils.	Model predictions are consistent with the measured groundwater concentrations at the former Pistol Range.

Notes:

1 - Conservatively assumed that the measured maximum soil concentration applies to the top 2 feet of the soil column.

2 - Adsorption coefficient (Kd) calculated from soil pH values as per the equation presented in "Understanding Variation in Partition Coefficient, Kd, Values. Volume II: Review of Geochemistry and available Kd values for Cadmium, Cesium, Chromium, Lead, Plutonium, Radon, Strontium, Thorium, Tritium (^{3}H), and Uranium", EPA Report no. EPA 402-R-99-004B, August 1999.

ATTACHMENT E-1

VLEACH FILES

pH = 4.8

Lead = 7.81 mg/kg

```
==============GENERAL PROJECT INFORMATION============================
project title..........................Lead at the Pistol Range, 4.8 pH
number of polygons.....................1
timestep [years]......................0.05
total time of simulation [years]........1000.0
gw impact output interval [years].......50
transient profile plot interval [years].100
===============CONTAMINANT INFORMATION==============================
org.C distrib. coeff., Koc [ml/g].......773000.
Henry's constant [dimensionless]........0.0
water solubility [mg/l]................40.0
free air diffusion coef.[sq.m/d]........0.7435
===============Polygon #1============================================
title..................................Pistol Range
surface area [sq.ft]...................10000
vertical thickness of a cell [ft].......0.1
net recharge rate [ft/year]............1.25
dry bulk density [g/cm3]...............1.6
effective porosity [dim.less]..........0.422
volumetric water content [percent]......0.25
organic carbon content [dim.less]......0.001
contaminant conc. in recharge [mg/l]....0.0
upper BC for vapor [mg/l]..............-1.0,
lower BC for vapor [mg/l]..............0.0
number of cells........................116
plot SOILIMP,GWIMP [y/n]...............y
plot time, profile in SOILIMP [years]...50.0
======repeat the following line until all cells are assigned=========
top #, bottom #, init. conc. [ug/kg]....1,20,5240000.0
top #, bottom #, init. conc. [ug/kg]....21,30,564000.0
top #, bottom #, init. conc. [ug/kg]....31,60,126000.0
top #, bottom #, init. conc. [ug/kg]....61,116,7810.0
```

```
|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
```

Lead at the Pistol Range, 4.8 pH
  1 polygons.
Timestep = 0.05 years. Simulation length = 1000.00 years.
Printout every 50.00 years. Vertical profile stored every 100.00 years.
Koc = 0.77300E+06ml/g, 27.298 cu.ft./g
Kh = 0.0000 (dimensionless).
Aqueous solubility = 40.000 mg/l, 1.1327 g/cu.ft
Free air diffusion coefficient = .74350 sq. m/day, 2921.2 sq.ft./yr

Polygon 1
Pistol Range

Polygon area = 10000. sq. ft.
116 cells, each cell 0.10 ft. thick.
Soil Properties:
 Bulk density = 1.600g/ml, 45307.199g/cu.ft.
 Porosity = 0.422 Volumetric water content = 0.2500
 Organic carbon content = 0.001000
Recharge Rate = 1.2500 ft/yr
Conc. in recharge water = 0.0000 m g/l, 0.0000 g/cu.ft
Atmospheric concentration = -1.00000000 mg/l, -0.02831700 g/cu.ft
Water table has a fixed concentration of 0.0000 mg/l, 0.0000 g/cu.ft.
  with respect to gas diffusion.
Initial Mass and Concentration:

cell	total mass [g/cu.ft]	equiv.c_liq[ug/l]
1	237.40	0.33536E+08
2	237.40	0.33536E+08
3	237.40	0.33536E+08
4	237.40	0.33536E+08
5	237.40	0.33536E+08
6	237.40	0.33536E+08
7	237.40	0.33536E+08
8	237.40	0.33536E+08
9	237.40	0.33536E+08
10	237.40	0.33536E+08
11	237.40	0.33536E+08
12	237.40	0.33536E+08
13	237.40	0.33536E+08
14	237.40	0.33536E+08
15	237.40	0.33536E+08
16	237.40	0.33536E+08
17	237.40	0.33536E+08
18	237.40	0.33536E+08
19	237.40	0.33536E+08
20	237.40	0.33536E+08
21	25.552	0.36096E+07
22	25.552	0.36096E+07
23	25.552	0.36096E+07
24	25.552	0.36096E+07
25	25.552	0.36096E+07
26	25.552	0.36096E+07
27	25.552	0.36096E+07
28	25.552	0.36096E+07
29	25.552	0.36096E+07
30	25.552	0.36096E+07
31	5.7085	0.80640E+06
32	5.7085	0.80640E+06
33	5.7085	0.80640E+06

34	5.7085	0.80640E+06
35	5.7085	0.80640E+06
36	5.7085	0.80640E+06
37	5.7085	0.80640E+06
38	5.7085	0.80640E+06
39	5.7085	0.80640E+06
40	5.7085	0.80640E+06
41	5.7085	0.80640E+06
42	5.7085	0.80640E+06
43	5.7085	0.80640E+06
44	5.7085	0.80640E+06
45	5.7085	0.80640E+06
46	5.7085	0.80640E+06
47	5.7085	0.80640E+06
48	5.7085	0.80640E+06
49	5.7085	0.80640E+06
50	5.7085	0.80640E+06
51	5.7085	0.80640E+06
52	5.7085	0.80640E+06
53	5.7085	0.80640E+06
54	5.7085	0.80640E+06
55	5.7085	0.80640E+06
56	5.7085	0.80640E+06
57	5.7085	0.80640E+06
58	5.7085	0.80640E+06
59	5.7085	0.80640E+06
60	5.7085	0.80640E+06
61	0.35384	49984.
62	0.35384	49984.
63	0.35384	49984.
64	0.35384	49984.
65	0.35384	49984.
66	0.35384	49984.
67	0.35384	49984.
68	0.35384	49984.
69	0.35384	49984.
70	0.35384	49984.
71	0.35384	49984.
72	0.35384	49984.
73	0.35384	49984.
74	0.35384	49984.
75	0.35384	49984.
76	0.35384	49984.
77	0.35384	49984.
78	0.35384	49984.
79	0.35384	49984.
80	0.35384	49984.
81	0.35384	49984.
82	0.35384	49984.
83	0.35384	49984.
84	0.35384	49984.
85	0.35384	49984.
86	0.35384	49984.
87	0.35384	49984.
88	0.35384	49984.
89	0.35384	49984.
90	0.35384	49984.
91	0.35384	49984.
92	0.35384	49984.
93	0.35384	49984.
94	0.35384	49984.
95	0.35384	49984.
96	0.35384	49984.
97	0.35384	49984.
98	0.35384	49984.
99	0.35384	49984.
100	0.35384	49984.
101	0.35384	49984.
102	0.35384	49984.
103	0.35384	49984.
104	0.35384	49984.
105	0.35384	49984.
106	0.35384	49984.
107	0.35384	49984.
108	0.35384	49984.
109	0.35384	49984.
110	0.35384	49984.
111	0.35384	49984.
112	0.35384	49984.

113	0.35384	49984.
114	0.35384	49984.
115	0.35384	49984.
116	0.35384	49984.

```
|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
```

Lead at the Pistol Range, 4.8 pH

```
Polygon   1
At time =       0.00, total mass in vadose zone =     519.46    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.36    g/sq.ft.


Polygon   1
At time =      50.0000, total mass in vadose zone =     519.46    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.35    g/sq.ft.

Since last printout at time =       0.0000
               Change in Total Mass =    -0.90942E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.87828E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.90942E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.87828E-02g/sq.ft.


Polygon   1
At time =     100.0000, total mass in vadose zone =     519.45    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.34    g/sq.ft.

Since last printout at time =      50.0000
               Change in Total Mass =    -0.83008E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.95762E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.17395E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.35755E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.35755E-01g/sq.ft.
               Mass discrepancy =     0.18360E-01g/sq.ft.


Polygon   1
At time =     150.0000, total mass in vadose zone =     519.44    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
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Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.33    g/sq.ft.

Since last printout at time =     100.0000
               Change in Total Mass =    -0.91553E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.87217E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.26550E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.53632E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.53632E-01g/sq.ft.
               Mass discrepancy =     0.27082E-01g/sq.ft.


Polygon   1
At time =     200.0000, total mass in vadose zone =     519.43    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.32    g/sq.ft.

Since last printout at time =     150.0000
               Change in Total Mass =    -0.86060E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.92711E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.35156E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.71508E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.71508E-01g/sq.ft.
               Mass discrepancy =     0.36352E-01g/sq.ft.


Polygon   1
At time =     250.0000, total mass in vadose zone =     519.42    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.32    g/sq.ft.

Since last printout at time =     200.0000
               Change in Total Mass =    -0.89722E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.89049E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.44128E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.89382E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.89382E-01g/sq.ft.
               Mass discrepancy =     0.45254E-01g/sq.ft.


Polygon   1
At time =     300.0000, total mass in vadose zone =     519.41    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.31    g/sq.ft.

Since last printout at time =     250.0000
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```
                Change in Total Mass =    -0.86060E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.17877E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.17877E-01g/sq.ft.
                Mass discrepancy =     0.92711E-02g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =    -0.52734E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.10726    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.10726    g/sq.ft.
                Mass discrepancy =     0.54522E-01g/sq.ft.


Polygon   1
At time =     350.0000, total mass in vadose zone =     519.40    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.30    g/sq.ft.

Since last printout at time =     300.0000
                Change in Total Mass =    -0.85449E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.17877E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.17877E-01g/sq.ft.
                Mass discrepancy =     0.93321E-02g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =    -0.61279E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.12513    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.12513    g/sq.ft.
                Mass discrepancy =     0.63851E-01g/sq.ft.


Polygon   1
At time =     400.0000, total mass in vadose zone =     519.39    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.29    g/sq.ft.

Since last printout at time =     350.0000
                Change in Total Mass =    -0.87891E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.17877E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.17877E-01g/sq.ft.
                Mass discrepancy =     0.90880E-02g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =    -0.70068E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.14301    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.14301    g/sq.ft.
                Mass discrepancy =     0.72943E-01g/sq.ft.


Polygon   1
At time =     450.0000, total mass in vadose zone =     519.39    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10496    g/sq.ft.
Mass sorbed           =       519.28    g/sq.ft.

Since last printout at time =     400.0000
                Change in Total Mass =    -0.83618E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.17877E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
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                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.95152E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.78430E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.16089    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.16089    g/sq.ft.
               Mass discrepancy =     0.82463E-01g/sq.ft.


Polygon   1
At time =     500.0000, total mass in vadose zone =     519.38    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10496    g/sq.ft.
Mass sorbed           =       519.27    g/sq.ft.

Since last printout at time =     450.0000
               Change in Total Mass =    -0.84839E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.93931E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.86914E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877    g/sq.ft.
               Mass discrepancy =     0.91860E-01g/sq.ft.


Polygon   1
At time =     550.0000, total mass in vadose zone =     519.37    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10496    g/sq.ft.
Mass sorbed           =       519.26    g/sq.ft.

Since last printout at time =     500.0000
               Change in Total Mass =    -0.87891E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.90880E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.95703E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.19666    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.19666    g/sq.ft.
               Mass discrepancy =     0.10095    g/sq.ft.


Polygon   1
At time =     600.0000, total mass in vadose zone =     519.36    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10496    g/sq.ft.
Mass sorbed           =       519.26    g/sq.ft.

Since last printout at time =     550.0000
               Change in Total Mass =    -0.86060E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.92711E-02g/sq.ft.
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```
Since beginning of run at time = 0.0
               Change in Total Mass =    -0.10431    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.21454    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.21454    g/sq.ft.
               Mass discrepancy =     0.11023    g/sq.ft.


Polygon   1
At time =     650.0000, total mass in vadose zone =     519.35    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10496    g/sq.ft.
Mass sorbed           =       519.25    g/sq.ft.

Since last printout at time =     600.0000
               Change in Total Mass =    -0.84839E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.93931E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.11279    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.23242    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.23242    g/sq.ft.
               Mass discrepancy =     0.11963    g/sq.ft.


Polygon   1
At time =     700.0000, total mass in vadose zone =     519.34    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10496    g/sq.ft.
Mass sorbed           =       519.24    g/sq.ft.

Since last printout at time =     650.0000
               Change in Total Mass =    -0.87280E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.91490E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.12152    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.25030    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.25030    g/sq.ft.
               Mass discrepancy =     0.12878    g/sq.ft.


Polygon   1
At time =     750.0000, total mass in vadose zone =     519.33    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10495    g/sq.ft.
Mass sorbed           =       519.23    g/sq.ft.

Since last printout at time =     700.0000
               Change in Total Mass =    -0.83618E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.95152E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.12988    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.26818    g/sq.ft.
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                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.26818    g/sq.ft.
               Mass discrepancy =     0.13830    g/sq.ft.


Polygon   1
At time =     800.0000, total mass in vadose zone =     519.33    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10495    g/sq.ft.
Mass sorbed           =       519.22    g/sq.ft.

Since last printout at time =     750.0000
               Change in Total Mass =    -0.87280E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.91490E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.13861    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.28606    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.28606    g/sq.ft.
               Mass discrepancy =     0.14745    g/sq.ft.


Polygon   1
At time =     850.0000, total mass in vadose zone =     519.32    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10495    g/sq.ft.
Mass sorbed           =       519.21    g/sq.ft.

Since last printout at time =     800.0000
               Change in Total Mass =    -0.87280E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17877E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17877E-01g/sq.ft.
               Mass discrepancy =     0.91494E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.14734    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.30394    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.30394    g/sq.ft.
               Mass discrepancy =     0.15661    g/sq.ft.


Polygon   1
At time =     900.0000, total mass in vadose zone =     519.31    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10495    g/sq.ft.
Mass sorbed           =       519.20    g/sq.ft.

Since last printout at time =     850.0000
               Change in Total Mass =    -0.85449E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17878E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17878E-01g/sq.ft.
               Mass discrepancy =     0.93326E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.15588    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.32183    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.32183    g/sq.ft.
               Mass discrepancy =     0.16594    g/sq.ft.
```

```
Polygon   1
At time =     950.0000, total mass in vadose zone =     519.30    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10495    g/sq.ft.
Mass sorbed           =       519.20    g/sq.ft.

Since last printout at time =     900.0000
               Change in Total Mass =    -0.84229E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17878E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17878E-01g/sq.ft.
               Mass discrepancy =     0.94549E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.16431    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.33971    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.33971    g/sq.ft.
               Mass discrepancy =     0.17540    g/sq.ft.


Polygon   1
At time =    1000.0000, total mass in vadose zone =     519.29    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10495    g/sq.ft.
Mass sorbed           =       519.19    g/sq.ft.

Since last printout at time =     950.0000
               Change in Total Mass =    -0.87891E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17879E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17879E-01g/sq.ft.
               Mass discrepancy =     0.90901E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.17310    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.35759    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.35759    g/sq.ft.
               Mass discrepancy =     0.18449    g/sq.ft.


GROUNDWATER IMPACT OF POLYGON   1

 Time        Mass flux (g/yr/sq.ft.)      Total Mass(g/yr)
     50.00         0.35754E-03                3.5754
    100.00         0.35754E-03                3.5754
    150.00         0.35754E-03                3.5754
    200.00         0.35754E-03                3.5754
    250.00         0.35754E-03                3.5754
    300.00         0.35754E-03                3.5754
    350.00         0.35754E-03                3.5754
    400.00         0.35754E-03                3.5754
    450.00         0.35754E-03                3.5754
    500.00         0.35754E-03                3.5754
    550.00         0.35754E-03                3.5754
    600.00         0.35754E-03                3.5754
    650.00         0.35754E-03                3.5754
    700.00         0.35754E-03                3.5754
    750.00         0.35754E-03                3.5754
    800.00         0.35754E-03                3.5754
    850.00         0.35755E-03                3.5755
    900.00         0.35755E-03                3.5755
    950.00         0.35757E-03                3.5757
   1000.00         0.35760E-03                3.5760
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TOTAL GROUNDWATER IMPACT
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Time (yr)	Mass (g/yr)	Cumulative Mass (g)
50.00	3.5754	178.77
100.00	3.5754	357.54
150.00	3.5754	536.31
200.00	3.5754	715.08
250.00	3.5754	893.85
300.00	3.5754	1072.6
350.00	3.5754	1251.4
400.00	3.5754	1430.2
450.00	3.5754	1608.9
500.00	3.5754	1787.7
550.00	3.5754	1966.5
600.00	3.5754	2145.2
650.00	3.5754	2324.0
700.00	3.5754	2502.8
750.00	3.5754	2681.6
800.00	3.5754	2860.3
850.00	3.5755	3039.1
900.00	3.5755	3217.9
950.00	3.5757	3396.7
1000.00	3.5760	3575.4

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|-------------------------------------------------------------|
|                VLEACH (Version 2.2a, 1996)                  |
|                                                             |
|                            By:                              |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)                        |
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|                                                             |
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
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Pistol Range
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.19191	0.52388E-02
2	0.0000	0.19191	0.52388E-02
3	0.0000	0.19191	0.52388E-02
4	0.0000	0.19191	0.52388E-02
5	0.0000	0.19191	0.52388E-02
6	0.0000	0.19191	0.52388E-02
7	0.0000	0.19191	0.52388E-02
8	0.0000	0.19191	0.52388E-02
9	0.0000	0.19191	0.52388E-02
10	0.0000	0.19191	0.52388E-02
11	0.0000	0.19191	0.52388E-02
12	0.0000	0.19191	0.52388E-02
13	0.0000	0.19191	0.52388E-02
14	0.0000	0.19191	0.52388E-02
15	0.0000	0.19191	0.52388E-02
16	0.0000	0.19191	0.52388E-02
17	0.0000	0.19191	0.52388E-02
18	0.0000	0.19191	0.52388E-02
19	0.0000	0.19191	0.52388E-02
20	0.0000	0.19191	0.52388E-02
21	0.0000	0.20656E-01	0.56387E-03
22	0.0000	0.20656E-01	0.56387E-03
23	0.0000	0.20656E-01	0.56387E-03
24	0.0000	0.20656E-01	0.56387E-03
25	0.0000	0.20656E-01	0.56387E-03
26	0.0000	0.20656E-01	0.56387E-03
27	0.0000	0.20656E-01	0.56387E-03
28	0.0000	0.20656E-01	0.56387E-03
29	0.0000	0.20656E-01	0.56387E-03
30	0.0000	0.20656E-01	0.56387E-03
31	0.0000	0.46146E-02	0.12597E-03
32	0.0000	0.46146E-02	0.12597E-03
33	0.0000	0.46146E-02	0.12597E-03
34	0.0000	0.46146E-02	0.12597E-03
35	0.0000	0.46146E-02	0.12597E-03
36	0.0000	0.46146E-02	0.12597E-03
37	0.0000	0.46146E-02	0.12597E-03
38	0.0000	0.46146E-02	0.12597E-03
39	0.0000	0.46146E-02	0.12597E-03
40	0.0000	0.46146E-02	0.12597E-03
41	0.0000	0.46146E-02	0.12597E-03
42	0.0000	0.46146E-02	0.12597E-03
43	0.0000	0.46146E-02	0.12597E-03
44	0.0000	0.46146E-02	0.12597E-03
45	0.0000	0.46146E-02	0.12597E-03
46	0.0000	0.46146E-02	0.12597E-03
47	0.0000	0.46146E-02	0.12597E-03
48	0.0000	0.46146E-02	0.12597E-03
49	0.0000	0.46146E-02	0.12597E-03
50	0.0000	0.46146E-02	0.12597E-03
51	0.0000	0.46146E-02	0.12597E-03
52	0.0000	0.46146E-02	0.12597E-03
53	0.0000	0.46146E-02	0.12597E-03
54	0.0000	0.46146E-02	0.12597E-03
55	0.0000	0.46146E-02	0.12597E-03
56	0.0000	0.46146E-02	0.12597E-03
57	0.0000	0.46146E-02	0.12597E-03
58	0.0000	0.46146E-02	0.12597E-03

59	0.0000	0.46146E-02	0.12597E-03
60	0.0000	0.46146E-02	0.12597E-03
61	0.0000	0.28603E-03	0.78082E-05
62	0.0000	0.28603E-03	0.78082E-05
63	0.0000	0.28603E-03	0.78082E-05
64	0.0000	0.28603E-03	0.78082E-05
65	0.0000	0.28603E-03	0.78082E-05
66	0.0000	0.28603E-03	0.78082E-05
67	0.0000	0.28603E-03	0.78082E-05
68	0.0000	0.28603E-03	0.78082E-05
69	0.0000	0.28603E-03	0.78082E-05
70	0.0000	0.28603E-03	0.78082E-05
71	0.0000	0.28603E-03	0.78082E-05
72	0.0000	0.28603E-03	0.78082E-05
73	0.0000	0.28603E-03	0.78082E-05
74	0.0000	0.28603E-03	0.78082E-05
75	0.0000	0.28603E-03	0.78082E-05
76	0.0000	0.28603E-03	0.78082E-05
77	0.0000	0.28603E-03	0.78082E-05
78	0.0000	0.28603E-03	0.78082E-05
79	0.0000	0.28603E-03	0.78082E-05
80	0.0000	0.28603E-03	0.78082E-05
81	0.0000	0.28603E-03	0.78082E-05
82	0.0000	0.28603E-03	0.78082E-05
83	0.0000	0.28603E-03	0.78082E-05
84	0.0000	0.28603E-03	0.78082E-05
85	0.0000	0.28603E-03	0.78082E-05
86	0.0000	0.28603E-03	0.78082E-05
87	0.0000	0.28603E-03	0.78082E-05
88	0.0000	0.28603E-03	0.78082E-05
89	0.0000	0.28603E-03	0.78082E-05
90	0.0000	0.28603E-03	0.78082E-05
91	0.0000	0.28603E-03	0.78082E-05
92	0.0000	0.28603E-03	0.78082E-05
93	0.0000	0.28603E-03	0.78082E-05
94	0.0000	0.28603E-03	0.78082E-05
95	0.0000	0.28603E-03	0.78082E-05
96	0.0000	0.28603E-03	0.78082E-05
97	0.0000	0.28603E-03	0.78082E-05
98	0.0000	0.28603E-03	0.78082E-05
99	0.0000	0.28603E-03	0.78082E-05
100	0.0000	0.28603E-03	0.78082E-05
101	0.0000	0.28603E-03	0.78082E-05
102	0.0000	0.28603E-03	0.78082E-05
103	0.0000	0.28603E-03	0.78082E-05
104	0.0000	0.28603E-03	0.78082E-05
105	0.0000	0.28603E-03	0.78082E-05
106	0.0000	0.28603E-03	0.78082E-05
107	0.0000	0.28603E-03	0.78082E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 100.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.12248	0.33433E-02
2	0.0000	0.14693	0.40108E-02
3	0.0000	0.16295	0.44482E-02
4	0.0000	0.17337	0.47327E-02
5	0.0000	0.18010	0.49164E-02
6	0.0000	0.18442	0.50344E-02
7	0.0000	0.18718	0.51097E-02
8	0.0000	0.18894	0.51576E-02
9	0.0000	0.19005	0.51879E-02
10	0.0000	0.19075	0.52070E-02
11	0.0000	0.19119	0.52190E-02
12	0.0000	0.19146	0.52266E-02
13	0.0000	0.19163	0.52313E-02
14	0.0000	0.19174	0.52342E-02
15	0.0000	0.19181	0.52360E-02
16	0.0000	0.19185	0.52371E-02
17	0.0000	0.19188	0.52379E-02

18	0.0000	0.19189	0.52383E-02
19	0.0000	0.19190	0.52385E-02
20	0.0000	0.19191	0.52388E-02
21	0.0000	0.82617E-01	0.22553E-02
22	0.0000	0.60800E-01	0.16597E-02
23	0.0000	0.46502E-01	0.12694E-02
24	0.0000	0.37205E-01	0.10156E-02
25	0.0000	0.31200E-01	0.85170E-03
26	0.0000	0.27344E-01	0.74645E-03
27	0.0000	0.24882E-01	0.67922E-03
28	0.0000	0.23316E-01	0.63649E-03
29	0.0000	0.22325E-01	0.60943E-03
30	0.0000	0.21700E-01	0.59237E-03
31	0.0000	0.11070E-01	0.30219E-03
32	0.0000	0.87801E-02	0.23968E-03
33	0.0000	0.72871E-02	0.19892E-03
34	0.0000	0.63205E-02	0.17254E-03
35	0.0000	0.56985E-02	0.15556E-03
36	0.0000	0.53005E-02	0.14469E-03
37	0.0000	0.50470E-02	0.13777E-03
38	0.0000	0.48863E-02	0.13339E-03
39	0.0000	0.47848E-02	0.13062E-03
40	0.0000	0.47209E-02	0.12887E-03
41	0.0000	0.46809E-02	0.12778E-03
42	0.0000	0.46558E-02	0.12710E-03
43	0.0000	0.46402E-02	0.12667E-03
44	0.0000	0.46305E-02	0.12640E-03
45	0.0000	0.46245E-02	0.12624E-03
46	0.0000	0.46208E-02	0.12614E-03
47	0.0000	0.46185E-02	0.12608E-03
48	0.0000	0.46171E-02	0.12604E-03
49	0.0000	0.46162E-02	0.12601E-03
50	0.0000	0.46157E-02	0.12600E-03
51	0.0000	0.46153E-02	0.12599E-03
52	0.0000	0.46151E-02	0.12598E-03
53	0.0000	0.46149E-02	0.12598E-03
54	0.0000	0.46147E-02	0.12597E-03
55	0.0000	0.46146E-02	0.12597E-03
56	0.0000	0.46146E-02	0.12597E-03
57	0.0000	0.46146E-02	0.12597E-03
58	0.0000	0.46146E-02	0.12597E-03
59	0.0000	0.46146E-02	0.12597E-03
60	0.0000	0.46146E-02	0.12597E-03
61	0.0000	0.18523E-02	0.50564E-04
62	0.0000	0.13008E-02	0.35509E-04
63	0.0000	0.93936E-03	0.25643E-04
64	0.0000	0.70435E-03	0.19227E-04
65	0.0000	0.55256E-03	0.15084E-04
66	0.0000	0.45509E-03	0.12423E-04
67	0.0000	0.39284E-03	0.10724E-04
68	0.0000	0.35327E-03	0.96436E-05
69	0.0000	0.32822E-03	0.89597E-05
70	0.0000	0.31242E-03	0.85285E-05
71	0.0000	0.30249E-03	0.82575E-05
72	0.0000	0.29628E-03	0.80877E-05
73	0.0000	0.29239E-03	0.79817E-05
74	0.0000	0.28997E-03	0.79157E-05
75	0.0000	0.28847E-03	0.78747E-05
76	0.0000	0.28754E-03	0.78493E-05
77	0.0000	0.28696E-03	0.78336E-05
78	0.0000	0.28661E-03	0.78239E-05
79	0.0000	0.28639E-03	0.78179E-05
80	0.0000	0.28626E-03	0.78143E-05
81	0.0000	0.28618E-03	0.78120E-05
82	0.0000	0.28612E-03	0.78106E-05
83	0.0000	0.28609E-03	0.78098E-05
84	0.0000	0.28607E-03	0.78092E-05
85	0.0000	0.28606E-03	0.78089E-05
86	0.0000	0.28605E-03	0.78086E-05
87	0.0000	0.28604E-03	0.78082E-05
88	0.0000	0.28603E-03	0.78082E-05
89	0.0000	0.28603E-03	0.78082E-05
90	0.0000	0.28603E-03	0.78082E-05
91	0.0000	0.28603E-03	0.78082E-05
92	0.0000	0.28603E-03	0.78082E-05
93	0.0000	0.28603E-03	0.78082E-05
94	0.0000	0.28603E-03	0.78082E-05
95	0.0000	0.28603E-03	0.78082E-05
96	0.0000	0.28603E-03	0.78082E-05

97	0.0000	0.28603E-03	0.78082E-05
98	0.0000	0.28603E-03	0.78082E-05
99	0.0000	0.28603E-03	0.78082E-05
100	0.0000	0.28603E-03	0.78082E-05
101	0.0000	0.28603E-03	0.78082E-05
102	0.0000	0.28603E-03	0.78082E-05
103	0.0000	0.28603E-03	0.78082E-05
104	0.0000	0.28603E-03	0.78082E-05
105	0.0000	0.28603E-03	0.78082E-05
106	0.0000	0.28603E-03	0.78082E-05
107	0.0000	0.28603E-03	0.78082E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 200.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.78163E-01	0.21337E-02
2	0.0000	0.10937	0.29857E-02
3	0.0000	0.13294	0.36290E-02
4	0.0000	0.15032	0.41035E-02
5	0.0000	0.16291	0.44470E-02
6	0.0000	0.17188	0.46919E-02
7	0.0000	0.17819	0.48643E-02
8	0.0000	0.18259	0.49842E-02
9	0.0000	0.18562	0.50670E-02
10	0.0000	0.18769	0.51236E-02
11	0.0000	0.18910	0.51620E-02
12	0.0000	0.19005	0.51879E-02
13	0.0000	0.19068	0.52052E-02
14	0.0000	0.19111	0.52168E-02
15	0.0000	0.19139	0.52245E-02
16	0.0000	0.19157	0.52296E-02
17	0.0000	0.19169	0.52329E-02
18	0.0000	0.19177	0.52351E-02
19	0.0000	0.19183	0.52365E-02
20	0.0000	0.19186	0.52375E-02
21	0.0000	0.12213	0.33340E-02
22	0.0000	0.94297E-01	0.25741E-02
23	0.0000	0.73275E-01	0.20003E-02
24	0.0000	0.57769E-01	0.15770E-02
25	0.0000	0.46544E-01	0.12706E-02
26	0.0000	0.38542E-01	0.10521E-02
27	0.0000	0.32910E-01	0.89837E-03
28	0.0000	0.28988E-01	0.79133E-03
29	0.0000	0.26284E-01	0.71752E-03
30	0.0000	0.24435E-01	0.66703E-03
31	0.0000	0.16646E-01	0.45441E-03
32	0.0000	0.13191E-01	0.36009E-03
33	0.0000	0.10653E-01	0.29082E-03
34	0.0000	0.88219E-02	0.24082E-03
35	0.0000	0.75190E-02	0.20526E-03
36	0.0000	0.66034E-02	0.18026E-03
37	0.0000	0.59666E-02	0.16288E-03
38	0.0000	0.55277E-02	0.15090E-03
39	0.0000	0.52277E-02	0.14271E-03
40	0.0000	0.50241E-02	0.13715E-03
41	0.0000	0.48868E-02	0.13340E-03
42	0.0000	0.47948E-02	0.13089E-03
43	0.0000	0.47334E-02	0.12921E-03
44	0.0000	0.46927E-02	0.12810E-03
45	0.0000	0.46658E-02	0.12737E-03
46	0.0000	0.46480E-02	0.12688E-03
47	0.0000	0.46364E-02	0.12657E-03
48	0.0000	0.46289E-02	0.12636E-03
49	0.0000	0.46240E-02	0.12623E-03
50	0.0000	0.46207E-02	0.12614E-03
51	0.0000	0.46187E-02	0.12608E-03
52	0.0000	0.46173E-02	0.12604E-03
53	0.0000	0.46164E-02	0.12602E-03
54	0.0000	0.46159E-02	0.12600E-03
55	0.0000	0.46155E-02	0.12600E-03

56	0.0000	0.46153E-02	0.12599E-03
57	0.0000	0.46150E-02	0.12598E-03
58	0.0000	0.46148E-02	0.12597E-03
59	0.0000	0.46146E-02	0.12597E-03
60	0.0000	0.46146E-02	0.12597E-03
61	0.0000	0.28519E-02	0.77850E-04
62	0.0000	0.21479E-02	0.58635E-04
63	0.0000	0.16164E-02	0.44124E-04
64	0.0000	0.12243E-02	0.33422E-04
65	0.0000	0.94052E-03	0.25674E-04
66	0.0000	0.73820E-03	0.20151E-04
67	0.0000	0.59580E-03	0.16264E-04
68	0.0000	0.49667E-03	0.13558E-04
69	0.0000	0.42831E-03	0.11692E-04
70	0.0000	0.38156E-03	0.10416E-04
71	0.0000	0.34982E-03	0.95494E-05
72	0.0000	0.32842E-03	0.89651E-05
73	0.0000	0.31407E-03	0.85734E-05
74	0.0000	0.30450E-03	0.83123E-05
75	0.0000	0.29815E-03	0.81390E-05
76	0.0000	0.29396E-03	0.80246E-05
77	0.0000	0.29120E-03	0.79493E-05
78	0.0000	0.28940E-03	0.79000E-05
79	0.0000	0.28822E-03	0.78678E-05
80	0.0000	0.28745E-03	0.78469E-05
81	0.0000	0.28695E-03	0.78333E-05
82	0.0000	0.28663E-03	0.78245E-05
83	0.0000	0.28642E-03	0.78188E-05
84	0.0000	0.28629E-03	0.78152E-05
85	0.0000	0.28620E-03	0.78128E-05
86	0.0000	0.28615E-03	0.78113E-05
87	0.0000	0.28611E-03	0.78103E-05
88	0.0000	0.28609E-03	0.78097E-05
89	0.0000	0.28607E-03	0.78093E-05
90	0.0000	0.28606E-03	0.78088E-05
91	0.0000	0.28604E-03	0.78084E-05
92	0.0000	0.28603E-03	0.78082E-05
93	0.0000	0.28603E-03	0.78082E-05
94	0.0000	0.28603E-03	0.78082E-05
95	0.0000	0.28603E-03	0.78082E-05
96	0.0000	0.28603E-03	0.78082E-05
97	0.0000	0.28603E-03	0.78082E-05
98	0.0000	0.28603E-03	0.78082E-05
99	0.0000	0.28603E-03	0.78082E-05
100	0.0000	0.28603E-03	0.78082E-05
101	0.0000	0.28603E-03	0.78082E-05
102	0.0000	0.28603E-03	0.78082E-05
103	0.0000	0.28603E-03	0.78082E-05
104	0.0000	0.28603E-03	0.78082E-05
105	0.0000	0.28603E-03	0.78082E-05
106	0.0000	0.28603E-03	0.78082E-05
107	0.0000	0.28603E-03	0.78082E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 300.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.49883E-01	0.13617E-02
2	0.0000	0.79760E-01	0.21773E-02
3	0.0000	0.10530	0.28746E-02
4	0.0000	0.12625	0.34464E-02
5	0.0000	0.14290	0.39009E-02
6	0.0000	0.15581	0.42534E-02
7	0.0000	0.16563	0.45214E-02
8	0.0000	0.17298	0.47219E-02
9	0.0000	0.17839	0.48698E-02
10	0.0000	0.18234	0.49776E-02
11	0.0000	0.18519	0.50553E-02
12	0.0000	0.18722	0.51108E-02
13	0.0000	0.18866	0.51501E-02
14	0.0000	0.18968	0.51778E-02

15	0.0000	0.19038	0.51971E-02
16	0.0000	0.19087	0.52105E-02
17	0.0000	0.19121	0.52197E-02
18	0.0000	0.19144	0.52260E-02
19	0.0000	0.19160	0.52303E-02
20	0.0000	0.19171	0.52333E-02
21	0.0000	0.14727	0.40201E-02
22	0.0000	0.12066	0.32937E-02
23	0.0000	0.97895E-01	0.26723E-02
24	0.0000	0.79225E-01	0.21627E-02
25	0.0000	0.64384E-01	0.17575E-02
26	0.0000	0.52870E-01	0.14432E-02
27	0.0000	0.44113E-01	0.12042E-02
28	0.0000	0.37563E-01	0.10254E-02
29	0.0000	0.32731E-01	0.89350E-03
30	0.0000	0.29210E-01	0.79738E-03
31	0.0000	0.22501E-01	0.61425E-03
32	0.0000	0.18190E-01	0.49657E-03
33	0.0000	0.14771E-01	0.40321E-03
34	0.0000	0.12117E-01	0.33076E-03
35	0.0000	0.10094E-01	0.27556E-03
36	0.0000	0.85775E-02	0.23415E-03
37	0.0000	0.74549E-02	0.20350E-03
38	0.0000	0.66338E-02	0.18109E-03
39	0.0000	0.60395E-02	0.16487E-03
40	0.0000	0.56134E-02	0.15324E-03
41	0.0000	0.53104E-02	0.14496E-03
42	0.0000	0.50966E-02	0.13913E-03
43	0.0000	0.49468E-02	0.13504E-03
44	0.0000	0.48424E-02	0.13219E-03
45	0.0000	0.47702E-02	0.13022E-03
46	0.0000	0.47204E-02	0.12886E-03
47	0.0000	0.46864E-02	0.12793E-03
48	0.0000	0.46632E-02	0.12730E-03
49	0.0000	0.46474E-02	0.12686E-03
50	0.0000	0.46367E-02	0.12657E-03
51	0.0000	0.46295E-02	0.12638E-03
52	0.0000	0.46247E-02	0.12625E-03
53	0.0000	0.46215E-02	0.12616E-03
54	0.0000	0.46193E-02	0.12610E-03
55	0.0000	0.46178E-02	0.12606E-03
56	0.0000	0.46169E-02	0.12603E-03
57	0.0000	0.46163E-02	0.12601E-03
58	0.0000	0.46158E-02	0.12600E-03
59	0.0000	0.46156E-02	0.12600E-03
60	0.0000	0.46153E-02	0.12599E-03
61	0.0000	0.34900E-02	0.95271E-04
62	0.0000	0.28161E-02	0.76874E-04
63	0.0000	0.22399E-02	0.61146E-04
64	0.0000	0.17675E-02	0.48249E-04
65	0.0000	0.13920E-02	0.37998E-04
66	0.0000	0.11007E-02	0.30047E-04
67	0.0000	0.87922E-03	0.24001E-04
68	0.0000	0.71355E-03	0.19479E-04
69	0.0000	0.59135E-03	0.16143E-04
70	0.0000	0.50231E-03	0.13712E-04
71	0.0000	0.43810E-03	0.11959E-04
72	0.0000	0.39224E-03	0.10707E-04
73	0.0000	0.35976E-03	0.98207E-05
74	0.0000	0.33692E-03	0.91973E-05
75	0.0000	0.32098E-03	0.87621E-05
76	0.0000	0.30992E-03	0.84601E-05
77	0.0000	0.30228E-03	0.82518E-05
78	0.0000	0.29705E-03	0.81088E-05
79	0.0000	0.29347E-03	0.80112E-05
80	0.0000	0.29104E-03	0.79449E-05
81	0.0000	0.28940E-03	0.79000E-05
82	0.0000	0.28829E-03	0.78698E-05
83	0.0000	0.28754E-03	0.78494E-05
84	0.0000	0.28705E-03	0.78358E-05
85	0.0000	0.28671E-03	0.78267E-05
86	0.0000	0.28649E-03	0.78206E-05
87	0.0000	0.28634E-03	0.78166E-05
88	0.0000	0.28625E-03	0.78140E-05
89	0.0000	0.28618E-03	0.78122E-05
90	0.0000	0.28614E-03	0.78110E-05
91	0.0000	0.28611E-03	0.78102E-05
92	0.0000	0.28609E-03	0.78098E-05
93	0.0000	0.28607E-03	0.78093E-05

94	0.0000	0.28606E-03	0.78088E-05
95	0.0000	0.28604E-03	0.78083E-05
96	0.0000	0.28603E-03	0.78082E-05
97	0.0000	0.28603E-03	0.78082E-05
98	0.0000	0.28603E-03	0.78082E-05
99	0.0000	0.28603E-03	0.78082E-05
100	0.0000	0.28603E-03	0.78082E-05
101	0.0000	0.28603E-03	0.78082E-05
102	0.0000	0.28603E-03	0.78082E-05
103	0.0000	0.28603E-03	0.78082E-05
104	0.0000	0.28603E-03	0.78082E-05
105	0.0000	0.28603E-03	0.78082E-05
106	0.0000	0.28603E-03	0.78082E-05
107	0.0000	0.28603E-03	0.78082E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 400.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.31835E-01	0.86904E-03
2	0.0000	0.57258E-01	0.15630E-02
3	0.0000	0.81532E-01	0.22257E-02
4	0.0000	0.10336	0.28214E-02
5	0.0000	0.12215	0.33346E-02
6	0.0000	0.13782	0.37623E-02
7	0.0000	0.15055	0.41097E-02
8	0.0000	0.16067	0.43859E-02
9	0.0000	0.16857	0.46015E-02
10	0.0000	0.17464	0.47673E-02
11	0.0000	0.17925	0.48931E-02
12	0.0000	0.18270	0.49874E-02
13	0.0000	0.18527	0.50574E-02
14	0.0000	0.18715	0.51089E-02
15	0.0000	0.18852	0.51464E-02
16	0.0000	0.18952	0.51735E-02
17	0.0000	0.19023	0.51930E-02
18	0.0000	0.19074	0.52069E-02
19	0.0000	0.19110	0.52167E-02
20	0.0000	0.19136	0.52237E-02
21	0.0000	0.16313	0.44530E-02
22	0.0000	0.14056	0.38372E-02
23	0.0000	0.11899	0.32482E-02
24	0.0000	0.99575E-01	0.27182E-02
25	0.0000	0.82841E-01	0.22614E-02
26	0.0000	0.68887E-01	0.18805E-02
27	0.0000	0.57551E-01	0.15710E-02
28	0.0000	0.48536E-01	0.13250E-02
29	0.0000	0.41496E-01	0.11328E-02
30	0.0000	0.36082E-01	0.98498E-03
31	0.0000	0.29313E-01	0.80020E-03
32	0.0000	0.24108E-01	0.65809E-03
33	0.0000	0.19792E-01	0.54030E-03
34	0.0000	0.16288E-01	0.44462E-03
35	0.0000	0.13491E-01	0.36828E-03
36	0.0000	0.11295E-01	0.30834E-03
37	0.0000	0.95953E-02	0.26193E-03
38	0.0000	0.82957E-02	0.22646E-03
39	0.0000	0.73134E-02	0.19964E-03
40	0.0000	0.65786E-02	0.17958E-03
41	0.0000	0.60340E-02	0.16472E-03
42	0.0000	0.56340E-02	0.15380E-03
43	0.0000	0.53423E-02	0.14583E-03
44	0.0000	0.51313E-02	0.14007E-03
45	0.0000	0.49795E-02	0.13593E-03
46	0.0000	0.48712E-02	0.13297E-03
47	0.0000	0.47942E-02	0.13087E-03
48	0.0000	0.47398E-02	0.12939E-03
49	0.0000	0.47016E-02	0.12835E-03
50	0.0000	0.46749E-02	0.12762E-03
51	0.0000	0.46563E-02	0.12711E-03
52	0.0000	0.46434E-02	0.12676E-03

53	0.0000	0.46345E-02	0.12651E-03
54	0.0000	0.46284E-02	0.12635E-03
55	0.0000	0.46242E-02	0.12623E-03
56	0.0000	0.46213E-02	0.12615E-03
57	0.0000	0.46193E-02	0.12610E-03
58	0.0000	0.46180E-02	0.12606E-03
59	0.0000	0.46171E-02	0.12604E-03
60	0.0000	0.46164E-02	0.12602E-03
61	0.0000	0.38979E-02	0.10641E-03
62	0.0000	0.33242E-02	0.90745E-04
63	0.0000	0.27766E-02	0.75795E-04
64	0.0000	0.22842E-02	0.62354E-04
65	0.0000	0.18601E-02	0.50778E-04
66	0.0000	0.15067E-02	0.41129E-04
67	0.0000	0.12196E-02	0.33293E-04
68	0.0000	0.99142E-03	0.27064E-04
69	0.0000	0.81324E-03	0.22200E-04
70	0.0000	0.67624E-03	0.18460E-04
71	0.0000	0.57230E-03	0.15623E-04
72	0.0000	0.49436E-03	0.13495E-04
73	0.0000	0.43653E-03	0.11916E-04
74	0.0000	0.39402E-03	0.10756E-04
75	0.0000	0.36303E-03	0.99100E-05
76	0.0000	0.34062E-03	0.92983E-05
77	0.0000	0.32453E-03	0.88590E-05
78	0.0000	0.31304E-03	0.85455E-05
79	0.0000	0.30490E-03	0.83232E-05
80	0.0000	0.29916E-03	0.81664E-05
81	0.0000	0.29513E-03	0.80564E-05
82	0.0000	0.29232E-03	0.79796E-05
83	0.0000	0.29036E-03	0.79263E-05
84	0.0000	0.28901E-03	0.78893E-05
85	0.0000	0.28807E-03	0.78639E-05
86	0.0000	0.28743E-03	0.78464E-05
87	0.0000	0.28699E-03	0.78344E-05
88	0.0000	0.28669E-03	0.78262E-05
89	0.0000	0.28649E-03	0.78207E-05
90	0.0000	0.28635E-03	0.78169E-05
91	0.0000	0.28626E-03	0.78143E-05
92	0.0000	0.28619E-03	0.78125E-05
93	0.0000	0.28615E-03	0.78114E-05
94	0.0000	0.28612E-03	0.78106E-05
95	0.0000	0.28610E-03	0.78101E-05
96	0.0000	0.28609E-03	0.78096E-05
97	0.0000	0.28607E-03	0.78091E-05
98	0.0000	0.28605E-03	0.78085E-05
99	0.0000	0.28603E-03	0.78082E-05
100	0.0000	0.28603E-03	0.78082E-05
101	0.0000	0.28603E-03	0.78082E-05
102	0.0000	0.28603E-03	0.78082E-05
103	0.0000	0.28603E-03	0.78082E-05
104	0.0000	0.28603E-03	0.78082E-05
105	0.0000	0.28603E-03	0.78082E-05
106	0.0000	0.28603E-03	0.78082E-05
107	0.0000	0.28603E-03	0.78082E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 500.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.20317E-01	0.55462E-03
2	0.0000	0.40598E-01	0.11083E-02
3	0.0000	0.61987E-01	0.16921E-02
4	0.0000	0.82859E-01	0.22619E-02
5	0.0000	0.10216	0.27888E-02
6	0.0000	0.11930	0.32568E-02
7	0.0000	0.13406	0.36595E-02
8	0.0000	0.14643	0.39973E-02
9	0.0000	0.15659	0.42747E-02
10	0.0000	0.16478	0.44983E-02
11	0.0000	0.17128	0.46757E-02

12	0.0000	0.17637	0.48145E-02
13	0.0000	0.18030	0.49218E-02
14	0.0000	0.18330	0.50039E-02
15	0.0000	0.18558	0.50660E-02
16	0.0000	0.18729	0.51126E-02
17	0.0000	0.18856	0.51472E-02
18	0.0000	0.18949	0.51728E-02
19	0.0000	0.19018	0.51916E-02
20	0.0000	0.19068	0.52053E-02
21	0.0000	0.17292	0.47203E-02
22	0.0000	0.15508	0.42334E-02
23	0.0000	0.13618	0.37174E-02
24	0.0000	0.11769	0.32126E-02
25	0.0000	0.10056	0.27451E-02
26	0.0000	0.85327E-01	0.23293E-02
27	0.0000	0.72208E-01	0.19711E-02
28	0.0000	0.61198E-01	0.16706E-02
29	0.0000	0.52154E-01	0.14237E-02
30	0.0000	0.44862E-01	0.12246E-02
31	0.0000	0.37375E-01	0.10203E-02
32	0.0000	0.31149E-01	0.85031E-03
33	0.0000	0.25858E-01	0.70589E-03
34	0.0000	0.21435E-01	0.58514E-03
35	0.0000	0.17794E-01	0.48574E-03
36	0.0000	0.14839E-01	0.40509E-03
37	0.0000	0.12474E-01	0.34051E-03
38	0.0000	0.10603E-01	0.28945E-03
39	0.0000	0.91411E-02	0.24953E-03
40	0.0000	0.80097E-02	0.21865E-03
41	0.0000	0.71430E-02	0.19499E-03
42	0.0000	0.64849E-02	0.17703E-03
43	0.0000	0.59894E-02	0.16350E-03
44	0.0000	0.56192E-02	0.15339E-03
45	0.0000	0.53446E-02	0.14590E-03
46	0.0000	0.51424E-02	0.14038E-03
47	0.0000	0.49943E-02	0.13633E-03
48	0.0000	0.48865E-02	0.13339E-03
49	0.0000	0.48085E-02	0.13126E-03
50	0.0000	0.47524E-02	0.12973E-03
51	0.0000	0.47122E-02	0.12863E-03
52	0.0000	0.46835E-02	0.12785E-03
53	0.0000	0.46631E-02	0.12729E-03
54	0.0000	0.46488E-02	0.12690E-03
55	0.0000	0.46386E-02	0.12663E-03
56	0.0000	0.46315E-02	0.12643E-03
57	0.0000	0.46266E-02	0.12630E-03
58	0.0000	0.46231E-02	0.12620E-03
59	0.0000	0.46207E-02	0.12614E-03
60	0.0000	0.46190E-02	0.12609E-03
61	0.0000	0.41596E-02	0.11355E-03
62	0.0000	0.37013E-02	0.10104E-03
63	0.0000	0.32184E-02	0.87855E-04
64	0.0000	0.27472E-02	0.74994E-04
65	0.0000	0.23116E-02	0.63103E-04
66	0.0000	0.19248E-02	0.52543E-04
67	0.0000	0.15919E-02	0.43456E-04
68	0.0000	0.13127E-02	0.35835E-04
69	0.0000	0.10835E-02	0.29578E-04
70	0.0000	0.89876E-03	0.24534E-04
71	0.0000	0.75215E-03	0.20532E-04
72	0.0000	0.63743E-03	0.17401E-04
73	0.0000	0.54875E-03	0.14980E-04
74	0.0000	0.48095E-03	0.13129E-04
75	0.0000	0.42963E-03	0.11728E-04
76	0.0000	0.39113E-03	0.10677E-04
77	0.0000	0.36248E-03	0.98950E-05
78	0.0000	0.34133E-03	0.93175E-05
79	0.0000	0.32581E-03	0.88941E-05
80	0.0000	0.31451E-03	0.85856E-05
81	0.0000	0.30633E-03	0.83622E-05
82	0.0000	0.30044E-03	0.82014E-05
83	0.0000	0.29622E-03	0.80861E-05
84	0.0000	0.29321E-03	0.80040E-05
85	0.0000	0.29107E-03	0.79457E-05
86	0.0000	0.28957E-03	0.79046E-05
87	0.0000	0.28850E-03	0.78756E-05
88	0.0000	0.28776E-03	0.78553E-05
89	0.0000	0.28724E-03	0.78411E-05
90	0.0000	0.28688E-03	0.78313E-05

91	0.0000	0.28663E-03	0.78244E-05
92	0.0000	0.28646E-03	0.78197E-05
93	0.0000	0.28634E-03	0.78164E-05
94	0.0000	0.28625E-03	0.78142E-05
95	0.0000	0.28620E-03	0.78127E-05
96	0.0000	0.28615E-03	0.78114E-05
97	0.0000	0.28613E-03	0.78109E-05
98	0.0000	0.28611E-03	0.78103E-05
99	0.0000	0.28609E-03	0.78098E-05
100	0.0000	0.28607E-03	0.78092E-05
101	0.0000	0.28605E-03	0.78087E-05
102	0.0000	0.28603E-03	0.78082E-05
103	0.0000	0.28603E-03	0.78082E-05
104	0.0000	0.28603E-03	0.78082E-05
105	0.0000	0.28603E-03	0.78082E-05
106	0.0000	0.28603E-03	0.78082E-05
107	0.0000	0.28603E-03	0.78082E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 600.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.12966E-01	0.35396E-03
2	0.0000	0.28498E-01	0.77795E-03
3	0.0000	0.46429E-01	0.12674E-02
4	0.0000	0.65271E-01	0.17818E-02
5	0.0000	0.83848E-01	0.22889E-02
6	0.0000	0.10132	0.27659E-02
7	0.0000	0.11717	0.31984E-02
8	0.0000	0.13111	0.35791E-02
9	0.0000	0.14309	0.39062E-02
10	0.0000	0.15317	0.41813E-02
11	0.0000	0.16150	0.44086E-02
12	0.0000	0.16827	0.45935E-02
13	0.0000	0.17370	0.47418E-02
14	0.0000	0.17801	0.48593E-02
15	0.0000	0.18138	0.49513E-02
16	0.0000	0.18399	0.50226E-02
17	0.0000	0.18600	0.50774E-02
18	0.0000	0.18753	0.51192E-02
19	0.0000	0.18868	0.51507E-02
20	0.0000	0.18955	0.51744E-02
21	0.0000	0.17863	0.48762E-02
22	0.0000	0.16525	0.45109E-02
23	0.0000	0.14960	0.40837E-02
24	0.0000	0.13304	0.36318E-02
25	0.0000	0.11665	0.31844E-02
26	0.0000	0.10120	0.27624E-02
27	0.0000	0.87155E-01	0.23792E-02
28	0.0000	0.74779E-01	0.20413E-02
29	0.0000	0.64138E-01	0.17508E-02
30	0.0000	0.55180E-01	0.15063E-02
31	0.0000	0.46690E-01	0.12746E-02
32	0.0000	0.39366E-01	0.10746E-02
33	0.0000	0.33032E-01	0.90172E-03
34	0.0000	0.27626E-01	0.75414E-03
35	0.0000	0.23072E-01	0.62981E-03
36	0.0000	0.19283E-01	0.52639E-03
37	0.0000	0.16170E-01	0.44141E-03
38	0.0000	0.13642E-01	0.37239E-03
39	0.0000	0.11610E-01	0.31694E-03
40	0.0000	0.99951E-02	0.27285E-03
41	0.0000	0.87232E-02	0.23813E-03
42	0.0000	0.77306E-02	0.21103E-03
43	0.0000	0.69626E-02	0.19006E-03
44	0.0000	0.63730E-02	0.17397E-03
45	0.0000	0.59239E-02	0.16171E-03
46	0.0000	0.55842E-02	0.15244E-03
47	0.0000	0.53289E-02	0.14547E-03
48	0.0000	0.51382E-02	0.14026E-03
49	0.0000	0.49967E-02	0.13640E-03

50	0.0000	0.48922E-02	0.13355E-03
51	0.0000	0.48155E-02	0.13145E-03
52	0.0000	0.47595E-02	0.12993E-03
53	0.0000	0.47187E-02	0.12881E-03
54	0.0000	0.46893E-02	0.12801E-03
55	0.0000	0.46680E-02	0.12743E-03
56	0.0000	0.46528E-02	0.12701E-03
57	0.0000	0.46419E-02	0.12671E-03
58	0.0000	0.46341E-02	0.12650E-03
59	0.0000	0.46286E-02	0.12635E-03
60	0.0000	0.46247E-02	0.12624E-03
61	0.0000	0.43294E-02	0.11818E-03
62	0.0000	0.39772E-02	0.10857E-03
63	0.0000	0.35714E-02	0.97492E-04
64	0.0000	0.31454E-02	0.85864E-04
65	0.0000	0.27258E-02	0.74409E-04
66	0.0000	0.23312E-02	0.63638E-04
67	0.0000	0.19736E-02	0.53875E-04
68	0.0000	0.16588E-02	0.45281E-04
69	0.0000	0.13884E-02	0.37900E-04
70	0.0000	0.11610E-02	0.31692E-04
71	0.0000	0.97306E-03	0.26563E-04
72	0.0000	0.82025E-03	0.22391E-04
73	0.0000	0.69769E-03	0.19046E-04
74	0.0000	0.60061E-03	0.16396E-04
75	0.0000	0.52457E-03	0.14320E-04
76	0.0000	0.46561E-03	0.12710E-04
77	0.0000	0.42032E-03	0.11474E-04
78	0.0000	0.38582E-03	0.10532E-04
79	0.0000	0.35975E-03	0.98205E-05
80	0.0000	0.34019E-03	0.92866E-05
81	0.0000	0.32562E-03	0.88888E-05
82	0.0000	0.31483E-03	0.85942E-05
83	0.0000	0.30689E-03	0.83774E-05
84	0.0000	0.30107E-03	0.82187E-05
85	0.0000	0.29684E-03	0.81031E-05
86	0.0000	0.29377E-03	0.80193E-05
87	0.0000	0.29155E-03	0.79589E-05
88	0.0000	0.28997E-03	0.79155E-05
89	0.0000	0.28883E-03	0.78845E-05
90	0.0000	0.28802E-03	0.78624E-05
91	0.0000	0.28744E-03	0.78467E-05
92	0.0000	0.28704E-03	0.78356E-05
93	0.0000	0.28675E-03	0.78278E-05
94	0.0000	0.28655E-03	0.78222E-05
95	0.0000	0.28641E-03	0.78184E-05
96	0.0000	0.28631E-03	0.78157E-05
97	0.0000	0.28624E-03	0.78138E-05
98	0.0000	0.28619E-03	0.78125E-05
99	0.0000	0.28616E-03	0.78116E-05
100	0.0000	0.28614E-03	0.78111E-05
101	0.0000	0.28612E-03	0.78105E-05
102	0.0000	0.28610E-03	0.78099E-05
103	0.0000	0.28608E-03	0.78093E-05
104	0.0000	0.28605E-03	0.78088E-05
105	0.0000	0.28603E-03	0.78082E-05
106	0.0000	0.28603E-03	0.78082E-05
107	0.0000	0.28603E-03	0.78082E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 700.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.82750E-02	0.22589E-03
2	0.0000	0.19839E-01	0.54158E-03
3	0.0000	0.34344E-01	0.93753E-03
4	0.0000	0.50655E-01	0.13828E-02
5	0.0000	0.67706E-01	0.18482E-02
6	0.0000	0.84608E-01	0.23096E-02
7	0.0000	0.10069	0.27485E-02
8	0.0000	0.11548	0.31524E-02

9	0.0000	0.12872	0.35139E-02
10	0.0000	0.14031	0.38302E-02
11	0.0000	0.15025	0.41014E-02
12	0.0000	0.15862	0.43299E-02
13	0.0000	0.16556	0.45195E-02
14	0.0000	0.17125	0.46747E-02
15	0.0000	0.17584	0.48001E-02
16	0.0000	0.17951	0.49003E-02
17	0.0000	0.18242	0.49796E-02
18	0.0000	0.18469	0.50417E-02
19	0.0000	0.18646	0.50900E-02
20	0.0000	0.18782	0.51272E-02
21	0.0000	0.18148	0.49541E-02
22	0.0000	0.17195	0.46940E-02
23	0.0000	0.15961	0.43570E-02
24	0.0000	0.14550	0.39719E-02
25	0.0000	0.13062	0.35657E-02
26	0.0000	0.11579	0.31607E-02
27	0.0000	0.10162	0.27741E-02
28	0.0000	0.88556E-01	0.24174E-02
29	0.0000	0.76834E-01	0.20974E-02
30	0.0000	0.66567E-01	0.18171E-02
31	0.0000	0.57061E-01	0.15577E-02
32	0.0000	0.48662E-01	0.13284E-02
33	0.0000	0.41278E-01	0.11268E-02
34	0.0000	0.34862E-01	0.95167E-03
35	0.0000	0.29351E-01	0.80123E-03
36	0.0000	0.24672E-01	0.67349E-03
37	0.0000	0.20743E-01	0.56624E-03
38	0.0000	0.17480E-01	0.47717E-03
39	0.0000	0.14798E-01	0.40397E-03
40	0.0000	0.12616E-01	0.34439E-03
41	0.0000	0.10857E-01	0.29637E-03
42	0.0000	0.94516E-02	0.25801E-03
43	0.0000	0.83384E-02	0.22762E-03
44	0.0000	0.74637E-02	0.20375E-03
45	0.0000	0.67816E-02	0.18513E-03
46	0.0000	0.62536E-02	0.17071E-03
47	0.0000	0.58476E-02	0.15963E-03
48	0.0000	0.55374E-02	0.15116E-03
49	0.0000	0.53019E-02	0.14473E-03
50	0.0000	0.51242E-02	0.13988E-03
51	0.0000	0.49908E-02	0.13624E-03
52	0.0000	0.48912E-02	0.13352E-03
53	0.0000	0.48172E-02	0.13150E-03
54	0.0000	0.47625E-02	0.13001E-03
55	0.0000	0.47222E-02	0.12891E-03
56	0.0000	0.46927E-02	0.12810E-03
57	0.0000	0.46712E-02	0.12751E-03
58	0.0000	0.46556E-02	0.12709E-03
59	0.0000	0.46442E-02	0.12678E-03
60	0.0000	0.46360E-02	0.12656E-03
61	0.0000	0.44435E-02	0.12130E-03
62	0.0000	0.41785E-02	0.11406E-03
63	0.0000	0.38483E-02	0.10505E-03
64	0.0000	0.34783E-02	0.94950E-04
65	0.0000	0.30921E-02	0.84410E-04
66	0.0000	0.27099E-02	0.73974E-04
67	0.0000	0.23465E-02	0.64055E-04
68	0.0000	0.20123E-02	0.54932E-04
69	0.0000	0.17132E-02	0.46766E-04
70	0.0000	0.14516E-02	0.39625E-04
71	0.0000	0.12273E-02	0.33503E-04
72	0.0000	0.10384E-02	0.28346E-04
73	0.0000	0.88163E-03	0.24067E-04
74	0.0000	0.75338E-03	0.20566E-04
75	0.0000	0.64972E-03	0.17736E-04
76	0.0000	0.56688E-03	0.15475E-04
77	0.0000	0.50135E-03	0.13686E-04
78	0.0000	0.44999E-03	0.12284E-04
79	0.0000	0.41010E-03	0.11195E-04
80	0.0000	0.37935E-03	0.10356E-04
81	0.0000	0.35583E-03	0.97136E-05
82	0.0000	0.33797E-03	0.92259E-05
83	0.0000	0.32448E-03	0.88577E-05
84	0.0000	0.31437E-03	0.85816E-05
85	0.0000	0.30682E-03	0.83756E-05
86	0.0000	0.30122E-03	0.82228E-05
87	0.0000	0.29709E-03	0.81101E-05

88	0.0000	0.29406E-03	0.80272E-05
89	0.0000	0.29184E-03	0.79667E-05
90	0.0000	0.29022E-03	0.79226E-05
91	0.0000	0.28905E-03	0.78906E-05
92	0.0000	0.28821E-03	0.78675E-05
93	0.0000	0.28760E-03	0.78509E-05
94	0.0000	0.28716E-03	0.78390E-05
95	0.0000	0.28685E-03	0.78305E-05
96	0.0000	0.28663E-03	0.78244E-05
97	0.0000	0.28647E-03	0.78202E-05
98	0.0000	0.28636E-03	0.78171E-05
99	0.0000	0.28628E-03	0.78149E-05
100	0.0000	0.28623E-03	0.78135E-05
101	0.0000	0.28619E-03	0.78123E-05
102	0.0000	0.28616E-03	0.78117E-05
103	0.0000	0.28614E-03	0.78112E-05
104	0.0000	0.28612E-03	0.78106E-05
105	0.0000	0.28610E-03	0.78100E-05
106	0.0000	0.28608E-03	0.78094E-05
107	0.0000	0.28606E-03	0.78088E-05
108	0.0000	0.28603E-03	0.78082E-05
109	0.0000	0.28603E-03	0.78082E-05
110	0.0000	0.28603E-03	0.78082E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 800.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.52811E-02	0.14416E-03
2	0.0000	0.13716E-01	0.37441E-03
3	0.0000	0.25137E-01	0.68619E-03
4	0.0000	0.38809E-01	0.10594E-02
5	0.0000	0.53899E-01	0.14713E-02
6	0.0000	0.69599E-01	0.18999E-02
7	0.0000	0.85210E-01	0.23261E-02
8	0.0000	0.10018	0.27347E-02
9	0.0000	0.11410	0.31148E-02
10	0.0000	0.12673	0.34596E-02
11	0.0000	0.13794	0.37656E-02
12	0.0000	0.14770	0.40320E-02
13	0.0000	0.15606	0.42602E-02
14	0.0000	0.16311	0.44526E-02
15	0.0000	0.16897	0.46127E-02
16	0.0000	0.17380	0.47443E-02
17	0.0000	0.17771	0.48513E-02
18	0.0000	0.18087	0.49374E-02
19	0.0000	0.18338	0.50060E-02
20	0.0000	0.18537	0.50602E-02
21	0.0000	0.18221	0.49741E-02
22	0.0000	0.17590	0.48017E-02
23	0.0000	0.16664	0.45490E-02
24	0.0000	0.15516	0.42356E-02
25	0.0000	0.14224	0.38829E-02
26	0.0000	0.12865	0.35118E-02
27	0.0000	0.11503	0.31401E-02
28	0.0000	0.10191	0.27819E-02
29	0.0000	0.89657E-01	0.24475E-02
30	0.0000	0.78516E-01	0.21433E-02
31	0.0000	0.68167E-01	0.18608E-02
32	0.0000	0.58823E-01	0.16058E-02
33	0.0000	0.50464E-01	0.13776E-02
34	0.0000	0.43069E-01	0.11757E-02
35	0.0000	0.36601E-01	0.99915E-03
36	0.0000	0.31007E-01	0.84643E-03
37	0.0000	0.26219E-01	0.71573E-03
38	0.0000	0.22164E-01	0.60503E-03
39	0.0000	0.18764E-01	0.51222E-03
40	0.0000	0.15941E-01	0.43515E-03
41	0.0000	0.13618E-01	0.37174E-03
42	0.0000	0.11724E-01	0.32004E-03
43	0.0000	0.10192E-01	0.27822E-03
44	0.0000	0.89633E-02	0.24468E-03
45	0.0000	0.79852E-02	0.21798E-03
46	0.0000	0.72122E-02	0.19688E-03

47	0.0000	0.66056E-02	0.18032E-03
48	0.0000	0.61327E-02	0.16741E-03
49	0.0000	0.57664E-02	0.15741E-03
50	0.0000	0.54843E-02	0.14971E-03
51	0.0000	0.52683E-02	0.14381E-03
52	0.0000	0.51038E-02	0.13932E-03
53	0.0000	0.49792E-02	0.13592E-03
54	0.0000	0.48853E-02	0.13336E-03
55	0.0000	0.48149E-02	0.13144E-03
56	0.0000	0.47623E-02	0.13000E-03
57	0.0000	0.47232E-02	0.12894E-03
58	0.0000	0.46943E-02	0.12815E-03
59	0.0000	0.46730E-02	0.12756E-03
60	0.0000	0.46573E-02	0.12714E-03
61	0.0000	0.45267E-02	0.12357E-03
62	0.0000	0.43281E-02	0.11815E-03
63	0.0000	0.40644E-02	0.11095E-03
64	0.0000	0.37516E-02	0.10241E-03
65	0.0000	0.34081E-02	0.93035E-04
66	0.0000	0.30517E-02	0.83305E-04
67	0.0000	0.26980E-02	0.73649E-04
68	0.0000	0.23592E-02	0.64402E-04
69	0.0000	0.20443E-02	0.55805E-04
70	0.0000	0.17588E-02	0.48012E-04
71	0.0000	0.15055E-02	0.41098E-04
72	0.0000	0.12851E-02	0.35081E-04
73	0.0000	0.10964E-02	0.29930E-04
74	0.0000	0.93728E-03	0.25586E-04
75	0.0000	0.80489E-03	0.21972E-04
76	0.0000	0.69607E-03	0.19002E-04
77	0.0000	0.60762E-03	0.16587E-04
78	0.0000	0.53646E-03	0.14644E-04
79	0.0000	0.47973E-03	0.13096E-04
80	0.0000	0.43491E-03	0.11872E-04
81	0.0000	0.39977E-03	0.10913E-04
82	0.0000	0.37244E-03	0.10167E-04
83	0.0000	0.35133E-03	0.95905E-05
84	0.0000	0.33512E-03	0.91482E-05
85	0.0000	0.32276E-03	0.88109E-05
86	0.0000	0.31340E-03	0.85551E-05
87	0.0000	0.30633E-03	0.83622E-05
88	0.0000	0.30103E-03	0.82176E-05
89	0.0000	0.29708E-03	0.81096E-05
90	0.0000	0.29414E-03	0.80294E-05
91	0.0000	0.29196E-03	0.79701E-05
92	0.0000	0.29036E-03	0.79264E-05
93	0.0000	0.28919E-03	0.78944E-05
94	0.0000	0.28833E-03	0.78710E-05
95	0.0000	0.28771E-03	0.78539E-05
96	0.0000	0.28726E-03	0.78416E-05
97	0.0000	0.28693E-03	0.78327E-05
98	0.0000	0.28670E-03	0.78263E-05
99	0.0000	0.28653E-03	0.78217E-05
100	0.0000	0.28641E-03	0.78183E-05
101	0.0000	0.28632E-03	0.78160E-05
102	0.0000	0.28626E-03	0.78144E-05
103	0.0000	0.28621E-03	0.78130E-05
104	0.0000	0.28619E-03	0.78124E-05
105	0.0000	0.28617E-03	0.78118E-05
106	0.0000	0.28614E-03	0.78112E-05
107	0.0000	0.28612E-03	0.78106E-05
108	0.0000	0.28610E-03	0.78100E-05
109	0.0000	0.28608E-03	0.78094E-05
110	0.0000	0.28606E-03	0.78088E-05
111	0.0000	0.28603E-03	0.78082E-05
112	0.0000	0.28603E-03	0.78082E-05
113	0.0000	0.28603E-03	0.78082E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 900.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.33704E-02	0.92004E-04
2	0.0000	0.94262E-02	0.25732E-03
3	0.0000	0.18231E-01	0.49767E-03
4	0.0000	0.29403E-01	0.80263E-03
5	0.0000	0.42371E-01	0.11567E-02

6	0.0000	0.56490E-01	0.15421E-02
7	0.0000	0.71122E-01	0.19415E-02
8	0.0000	0.85700E-01	0.23394E-02
9	0.0000	0.99759E-01	0.27232E-02
10	0.0000	0.11295	0.30834E-02
11	0.0000	0.12504	0.34134E-02
12	0.0000	0.13590	0.37097E-02
13	0.0000	0.14547	0.39710E-02
14	0.0000	0.15377	0.41978E-02
15	0.0000	0.16088	0.43916E-02
16	0.0000	0.16687	0.45553E-02
17	0.0000	0.17187	0.46917E-02
18	0.0000	0.17599	0.48043E-02
19	0.0000	0.17936	0.48962E-02
20	0.0000	0.18208	0.49705E-02
21	0.0000	0.18126	0.49481E-02
22	0.0000	0.17759	0.48480E-02
23	0.0000	0.17111	0.46709E-02
24	0.0000	0.16222	0.44282E-02
25	0.0000	0.15148	0.41351E-02
26	0.0000	0.13953	0.38089E-02
27	0.0000	0.12697	0.34661E-02
28	0.0000	0.11434	0.31214E-02
29	0.0000	0.10209	0.27868E-02
30	0.0000	0.90535E-01	0.24714E-02
31	0.0000	0.79631E-01	0.21738E-02
32	0.0000	0.69562E-01	0.18989E-02
33	0.0000	0.60376E-01	0.16482E-02
34	0.0000	0.52100E-01	0.14222E-02
35	0.0000	0.44730E-01	0.12210E-02
36	0.0000	0.38238E-01	0.10438E-02
37	0.0000	0.32582E-01	0.88943E-03
38	0.0000	0.27705E-01	0.75628E-03
39	0.0000	0.23540E-01	0.64259E-03
40	0.0000	0.20017E-01	0.54643E-03
41	0.0000	0.17065E-01	0.46584E-03
42	0.0000	0.14613E-01	0.39889E-03
43	0.0000	0.12592E-01	0.34374E-03
44	0.0000	0.10941E-01	0.29867E-03
45	0.0000	0.96018E-02	0.26211E-03
46	0.0000	0.85238E-02	0.23268E-03
47	0.0000	0.76620E-02	0.20916E-03
48	0.0000	0.69776E-02	0.19048E-03
49	0.0000	0.64376E-02	0.17574E-03
50	0.0000	0.60142E-02	0.16418E-03
51	0.0000	0.56841E-02	0.15517E-03
52	0.0000	0.54282E-02	0.14818E-03
53	0.0000	0.52309E-02	0.14279E-03
54	0.0000	0.50795E-02	0.13866E-03
55	0.0000	0.49640E-02	0.13551E-03
56	0.0000	0.48762E-02	0.13311E-03
57	0.0000	0.48098E-02	0.13130E-03
58	0.0000	0.47599E-02	0.12994E-03
59	0.0000	0.47224E-02	0.12891E-03
60	0.0000	0.46944E-02	0.12815E-03
61	0.0000	0.45975E-02	0.12550E-03
62	0.0000	0.44456E-02	0.12136E-03
63	0.0000	0.42356E-02	0.11562E-03
64	0.0000	0.39752E-02	0.10852E-03
65	0.0000	0.36766E-02	0.10036E-03
66	0.0000	0.33536E-02	0.91547E-04
67	0.0000	0.30203E-02	0.82449E-04
68	0.0000	0.26892E-02	0.73409E-04
69	0.0000	0.23703E-02	0.64705E-04
70	0.0000	0.20715E-02	0.56549E-04
71	0.0000	0.17979E-02	0.49080E-04
72	0.0000	0.15524E-02	0.42379E-04
73	0.0000	0.13361E-02	0.36473E-04
74	0.0000	0.11484E-02	0.31350E-04
75	0.0000	0.98802E-03	0.26971E-04
76	0.0000	0.85266E-03	0.23276E-04
77	0.0000	0.73979E-03	0.20195E-04
78	0.0000	0.64671E-03	0.17654E-04
79	0.0000	0.57071E-03	0.15579E-04
80	0.0000	0.50924E-03	0.13901E-04
81	0.0000	0.45994E-03	0.12556E-04
82	0.0000	0.42073E-03	0.11485E-04
83	0.0000	0.38976E-03	0.10640E-04
84	0.0000	0.36549E-03	0.99773E-05

85	0.0000	0.34659E-03	0.94613E-05
86	0.0000	0.33197E-03	0.90620E-05
87	0.0000	0.32071E-03	0.87549E-05
88	0.0000	0.31211E-03	0.85199E-05
89	0.0000	0.30556E-03	0.83411E-05
90	0.0000	0.30060E-03	0.82057E-05
91	0.0000	0.29686E-03	0.81037E-05
92	0.0000	0.29406E-03	0.80272E-05
93	0.0000	0.29197E-03	0.79701E-05
94	0.0000	0.29041E-03	0.79276E-05
95	0.0000	0.28926E-03	0.78962E-05
96	0.0000	0.28841E-03	0.78730E-05
97	0.0000	0.28778E-03	0.78559E-05
98	0.0000	0.28732E-03	0.78434E-05
99	0.0000	0.28699E-03	0.78343E-05
100	0.0000	0.28675E-03	0.78277E-05
101	0.0000	0.28657E-03	0.78229E-05
102	0.0000	0.28645E-03	0.78194E-05
103	0.0000	0.28635E-03	0.78169E-05
104	0.0000	0.28629E-03	0.78152E-05
105	0.0000	0.28624E-03	0.78137E-05
106	0.0000	0.28621E-03	0.78130E-05
107	0.0000	0.28619E-03	0.78124E-05
108	0.0000	0.28617E-03	0.78118E-05
109	0.0000	0.28615E-03	0.78112E-05
110	0.0000	0.28612E-03	0.78106E-05
111	0.0000	0.28610E-03	0.78100E-05
112	0.0000	0.28608E-03	0.78094E-05
113	0.0000	0.28606E-03	0.78088E-05
114	0.0000	0.28603E-03	0.78082E-05
115	0.0000	0.28603E-03	0.78082E-05
116	0.0000	0.28603E-03	0.78082E-05

Pistol Range
Time: 1000.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.21509E-02	0.58717E-04
2	0.0000	0.64452E-02	0.17594E-03
3	0.0000	0.13117E-01	0.35808E-03
4	0.0000	0.22057E-01	0.60212E-03
5	0.0000	0.32940E-01	0.89919E-03
6	0.0000	0.45302E-01	0.12366E-02
7	0.0000	0.58622E-01	0.16003E-02
8	0.0000	0.72380E-01	0.19758E-02
9	0.0000	0.86106E-01	0.23505E-02
10	0.0000	0.99404E-01	0.27135E-02
11	0.0000	0.11197	0.30565E-02
12	0.0000	0.12358	0.33734E-02
13	0.0000	0.13410	0.36608E-02
14	0.0000	0.14348	0.39168E-02
15	0.0000	0.15171	0.41415E-02
16	0.0000	0.15884	0.43359E-02
17	0.0000	0.16492	0.45020E-02
18	0.0000	0.17006	0.46422E-02
19	0.0000	0.17435	0.47593E-02
20	0.0000	0.17790	0.48562E-02
21	0.0000	0.17888	0.48832E-02
22	0.0000	0.17742	0.48431E-02
23	0.0000	0.17337	0.47326E-02
24	0.0000	0.16691	0.45564E-02
25	0.0000	0.15841	0.43243E-02
26	0.0000	0.14833	0.40492E-02
27	0.0000	0.13720	0.37452E-02
28	0.0000	0.12550	0.34260E-02
29	0.0000	0.11371	0.31040E-02
30	0.0000	0.10219	0.27895E-02
31	0.0000	0.91065E-01	0.24859E-02
32	0.0000	0.80546E-01	0.21988E-02
33	0.0000	0.70752E-01	0.19314E-02
34	0.0000	0.61752E-01	0.16857E-02
35	0.0000	0.53586E-01	0.14628E-02
36	0.0000	0.46264E-01	0.12629E-02
37	0.0000	0.39771E-01	0.10857E-02
38	0.0000	0.34074E-01	0.93016E-03
39	0.0000	0.29125E-01	0.79506E-03
40	0.0000	0.24867E-01	0.67881E-03
41	0.0000	0.21236E-01	0.57970E-03
42	0.0000	0.18168E-01	0.49594E-03
43	0.0000	0.15596E-01	0.42575E-03

44	0.0000	0.13459E-01	0.36739E-03
45	0.0000	0.11695E-01	0.31925E-03
46	0.0000	0.10251E-01	0.27983E-03
47	0.0000	0.90766E-02	0.24777E-03
48	0.0000	0.81282E-02	0.22188E-03
49	0.0000	0.73672E-02	0.20111E-03
50	0.0000	0.67604E-02	0.18455E-03
51	0.0000	0.62794E-02	0.17142E-03
52	0.0000	0.59003E-02	0.16107E-03
53	0.0000	0.56031E-02	0.15296E-03
54	0.0000	0.53715E-02	0.14663E-03
55	0.0000	0.51918E-02	0.14172E-03
56	0.0000	0.50530E-02	0.13794E-03
57	0.0000	0.49464E-02	0.13503E-03
58	0.0000	0.48649E-02	0.13280E-03
59	0.0000	0.48028E-02	0.13111E-03
60	0.0000	0.47557E-02	0.12982E-03
61	0.0000	0.46716E-02	0.12753E-03
62	0.0000	0.45480E-02	0.12415E-03
63	0.0000	0.43775E-02	0.11950E-03
64	0.0000	0.41608E-02	0.11358E-03
65	0.0000	0.39042E-02	0.10658E-03
66	0.0000	0.36171E-02	0.98741E-04
67	0.0000	0.33106E-02	0.90373E-04
68	0.0000	0.29958E-02	0.81779E-04
69	0.0000	0.26829E-02	0.73238E-04
70	0.0000	0.23805E-02	0.64984E-04
71	0.0000	0.20954E-02	0.57200E-04
72	0.0000	0.18322E-02	0.50016E-04
73	0.0000	0.15939E-02	0.43510E-04
74	0.0000	0.13816E-02	0.37716E-04
75	0.0000	0.11955E-02	0.32635E-04
76	0.0000	0.10345E-02	0.28241E-04
77	0.0000	0.89708E-03	0.24488E-04
78	0.0000	0.78104E-03	0.21321E-04
79	0.0000	0.68413E-03	0.18675E-04
80	0.0000	0.60399E-03	0.16488E-04
81	0.0000	0.53833E-03	0.14695E-04
82	0.0000	0.48498E-03	0.13239E-04
83	0.0000	0.44199E-03	0.12066E-04
84	0.0000	0.40761E-03	0.11127E-04
85	0.0000	0.38030E-03	0.10381E-04
86	0.0000	0.35875E-03	0.97933E-05
87	0.0000	0.34186E-03	0.93322E-05
88	0.0000	0.32870E-03	0.89729E-05
89	0.0000	0.31850E-03	0.86944E-05
90	0.0000	0.31063E-03	0.84797E-05
91	0.0000	0.30460E-03	0.83151E-05
92	0.0000	0.30000E-03	0.81895E-05
93	0.0000	0.29651E-03	0.80941E-05
94	0.0000	0.29386E-03	0.80219E-05
95	0.0000	0.29187E-03	0.79676E-05
96	0.0000	0.29038E-03	0.79268E-05
97	0.0000	0.28926E-03	0.78964E-05
98	0.0000	0.28843E-03	0.78737E-05
99	0.0000	0.28782E-03	0.78569E-05
100	0.0000	0.28737E-03	0.78445E-05
101	0.0000	0.28703E-03	0.78354E-05
102	0.0000	0.28679E-03	0.78287E-05
103	0.0000	0.28661E-03	0.78239E-05
104	0.0000	0.28648E-03	0.78203E-05
105	0.0000	0.28638E-03	0.78177E-05
106	0.0000	0.28632E-03	0.78159E-05
107	0.0000	0.28626E-03	0.78144E-05
108	0.0000	0.28623E-03	0.78136E-05
109	0.0000	0.28621E-03	0.78130E-05
110	0.0000	0.28619E-03	0.78124E-05
111	0.0000	0.28617E-03	0.78118E-05
112	0.0000	0.28614E-03	0.78112E-05
113	0.0000	0.28612E-03	0.78106E-05
114	0.0000	0.28610E-03	0.78100E-05
115	0.0000	0.28608E-03	0.78094E-05
116	0.0000	0.28605E-03	0.78087E-05

TRNSPROF.DAT FILE
for
Lead at the Former Pistol Range, Kd = 773 ml/g, pH = 4.8, and Background Soil at 7.81 mg/kg

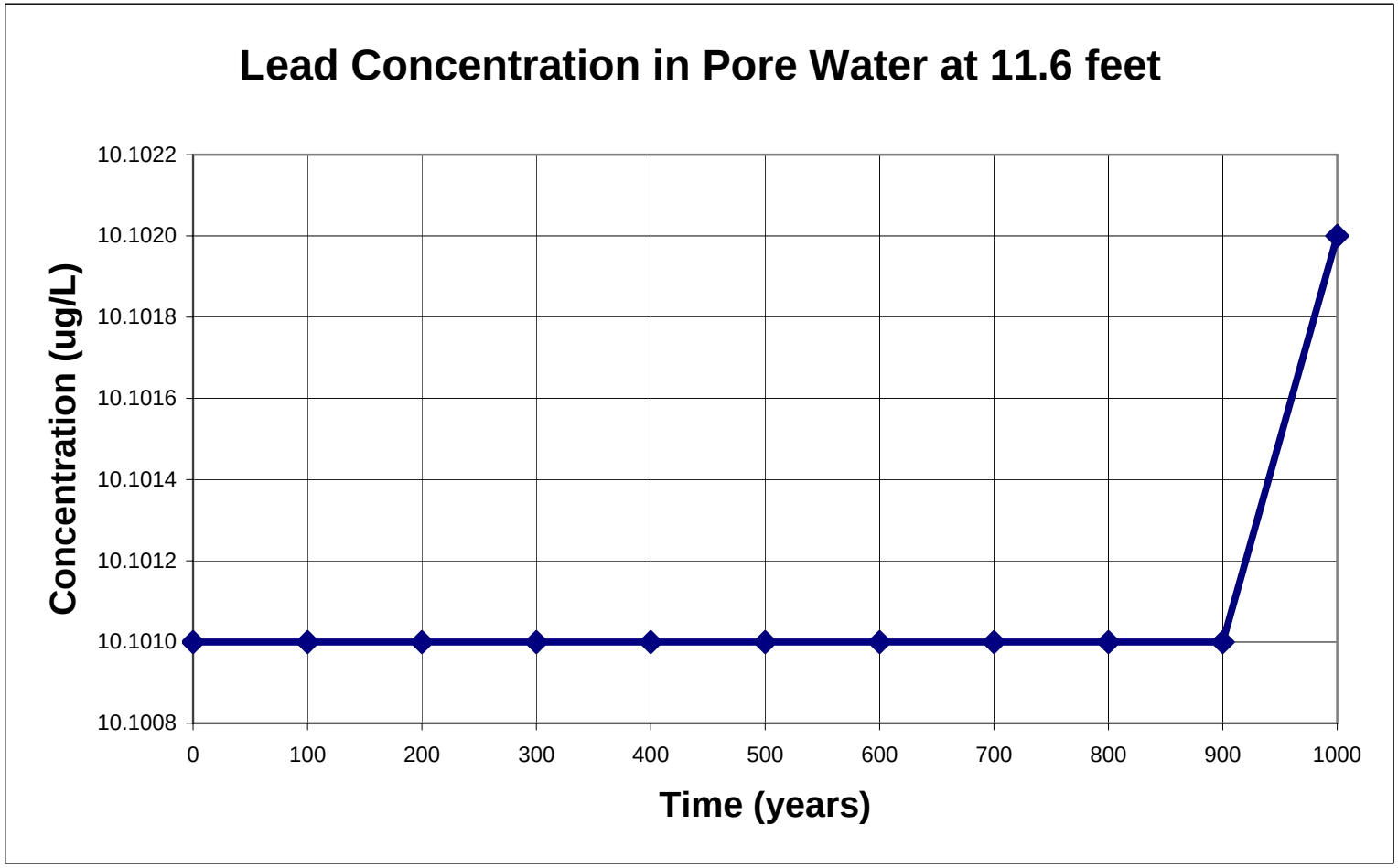
Liquid Phase Concentration [ug/l] for Polygon 1
(Cells by row, each column one time)

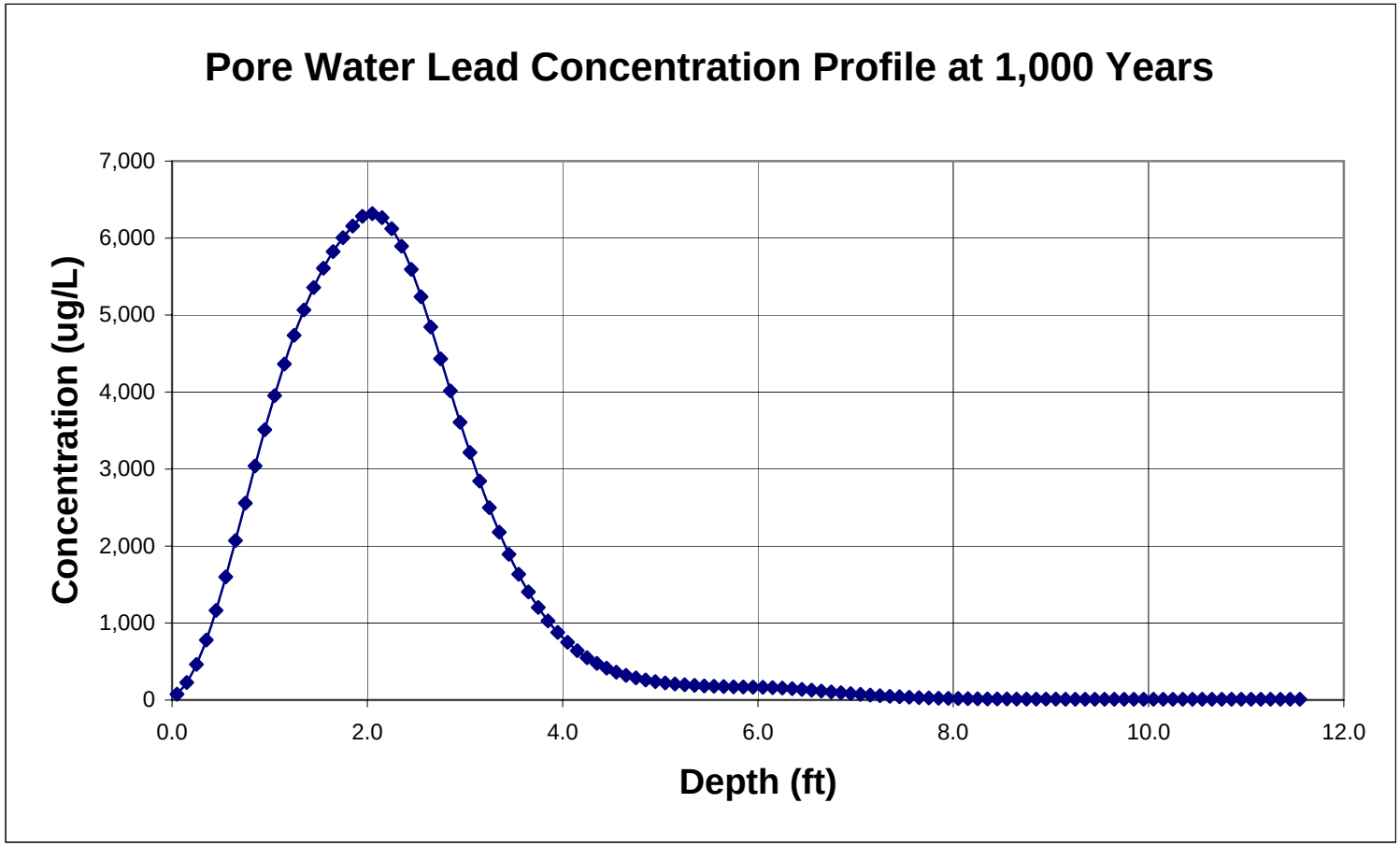
116	0	100	200	300	400	500	600	700	800	900	1000
0.05	6777.2	4325.2	2760.3	1761.6	1124.2	717.49	457.9	292.23	186.5	119.02	75.96
0.15	6777.2	5188.7	3862.5	2816.7	2022	1433.7	1006.4	700.62	484.37	332.88	227.61
0.25	6777.2	5754.5	4694.8	3718.8	2879.3	2189	1639.6	1212.8	887.7	643.81	463.23
0.35	6777.2	6122.5	5308.6	4458.4	3650	2926.1	2305	1788.8	1370.5	1038.3	778.94
0.45	6777.2	6360.2	5753	5046.4	4313.8	3607.7	2961	2391	1903.4	1496.3	1163.2
0.55	6777.2	6512.7	6069.7	5502.4	4867.2	4213.2	3578.1	2987.9	2457.9	1994.9	1599.8
0.65	6777.2	6610.2	6292.7	5849.2	5316.6	4734.2	4137.6	3555.6	3009.2	2511.6	2070.2
0.75	6777.2	6672.2	6447.9	6108.6	5673.8	5171.2	4630.2	4078.1	3537.7	3026.4	2556.1
0.85	6777.2	6711.4	6554.9	6299.9	5952.8	5530	5053.3	4545.8	4029.5	3523	3040.8
0.95	6777.2	6736.1	6628.1	6439.3	6167.3	5819.2	5409.2	4955	4475.6	3988.8	3510.4
1.05	6777.2	6751.7	6677.8	6539.9	6330	6048.7	5703.3	5305.8	4871.4	4415.8	3954.1
1.15	6777.2	6761.4	6711.3	6611.7	6452	6228.3	5942.5	5601.5	5216.1	4799.1	4364.1
1.25	6777.2	6767.5	6733.8	6662.5	6542.6	6367.2	6134.3	5846.7	5511.2	5137.2	4735.8
1.35	6777.2	6771.3	6748.8	6698.3	6609.2	6473.3	6286.3	6047.5	5760.1	5430.5	5067.1
1.45	6777.2	6773.6	6758.7	6723.2	6657.7	6553.7	6405.3	6209.7	5967.2	5681.3	5357.7
1.55	6777.2	6775.1	6765.3	6740.6	6692.7	6613.9	6497.6	6339.4	6137.5	5893	5609.2
1.65	6777.2	6776	6769.6	6752.5	6717.9	6658.8	6568.5	6441.9	6275.9	6069.5	5824
1.75	6777.2	6776.6	6772.4	6760.7	6735.9	6691.9	6622.5	6522.3	6387.3	6215.1	6005.4
1.85	6777.2	6776.9	6774.3	6766.3	6748.7	6716.2	6663.3	6584.8	6476	6334	6157
1.95	6777.2	6777.2	6775.5	6770.1	6757.7	6733.9	6693.9	6632.9	6546.2	6430.2	6282.3
2.05	729.45	2917.6	4313.1	5200.7	5760.7	6106.4	6308.1	6408.9	6434.8	6401.1	6317.2
2.15	729.45	2147.1	3330	4260.9	4964	5476.5	5835.6	6072.5	6211.8	6271.6	6265.3
2.25	729.45	1642.2	2587.7	3457.1	4202.1	4809.1	5283	5636.5	5884.9	6042.6	6122.3
2.35	729.45	1313.9	2040.1	2797.8	3516.4	4156.1	4698.3	5138.3	5479.4	5728.6	5894.4
2.45	729.45	1101.8	1643.7	2273.7	2925.5	3551.2	4119.5	4612.8	5023.2	5349.4	5594.2
2.55	729.45	965.65	1361.1	1867.1	2432.7	3013.3	3573.7	4088.9	4543.1	4927.4	5238.3
2.65	729.45	878.69	1162.2	1557.8	2032.4	2550	3077.8	3588.8	4062.2	4483.9	4845
2.75	729.45	823.4	1023.7	1326.5	1714	2161.2	2640.8	3127.3	3598.9	4038	4432.1

2.85	729.45	788.4	928.22	1155.9	1465.4	1841.8	2265	2713.4	3166.2	3605.2	4015.5
2.95	729.45	766.33	862.92	1031.5	1274.2	1584.3	1948.6	2350.8	2772.7	3197.2	3608.7
3.05	162.96	390.93	587.85	794.63	1035.2	1319.9	1648.8	2015.1	2407.3	2812.1	3215.9
3.15	162.96	310.07	465.83	642.39	851.35	1100	1390.2	1718.5	2077.3	2456.5	2844.5
3.25	162.96	257.34	376.22	521.62	698.96	913.18	1166.5	1457.7	1782.1	2132.2	2498.6
3.35	162.96	223.2	311.54	427.89	575.19	756.97	975.6	1231.1	1521	1839.9	2180.7
3.45	162.96	201.24	265.53	356.48	476.44	628.38	814.76	1036.5	1292.6	1579.6	1892.4
3.55	162.96	187.18	233.19	302.91	398.89	524.04	680.97	871.27	1095	1350.4	1633.8
3.65	162.96	178.23	210.71	263.27	338.85	440.51	571.04	732.53	925.91	1150.6	1404.5
3.75	162.96	172.56	195.21	234.27	292.96	374.46	481.75	617.3	782.71	978.37	1203.3
3.85	162.96	168.97	184.61	213.28	258.27	322.81	410.01	522.59	662.64	831.29	1028.5
3.95	162.96	166.72	177.42	198.23	232.32	282.86	352.97	445.53	562.94	706.9	878.15
4.05	162.96	165.3	172.58	187.53	213.09	252.25	308.05	383.41	480.91	602.64	749.94
4.15	162.96	164.42	169.33	179.98	198.96	229.01	273	333.78	414.02	516.03	641.58
4.25	162.96	163.87	167.16	174.69	188.66	211.51	245.88	294.47	359.92	444.68	550.77
4.35	162.96	163.52	165.72	171.01	181.21	198.44	225.06	263.58	316.53	386.37	475.28
4.45	162.96	163.31	164.77	168.46	175.85	188.74	209.2	239.49	281.99	339.08	413
4.55	162.96	163.18	164.14	166.7	172.02	181.6	197.2	220.84	254.7	301.01	362
4.65	162.96	163.1	163.73	165.5	169.3	176.37	188.19	206.5	233.27	270.58	320.53
4.75	162.96	163.05	163.47	164.68	167.39	172.56	181.45	195.55	216.57	246.41	287.04
4.85	162.96	163.02	163.29	164.12	166.04	169.81	176.46	187.24	203.64	227.34	260.17
4.95	162.96	163	163.18	163.74	165.09	167.83	172.77	180.96	193.67	212.39	238.74
5.05	162.96	162.99	163.11	163.49	164.44	166.41	170.06	176.25	186.05	200.73	221.75
5.15	162.96	162.98	163.06	163.32	163.98	165.39	168.08	172.73	180.24	191.69	208.37
5.25	162.96	162.97	163.03	163.2	163.66	164.68	166.64	170.12	175.84	184.73	197.87
5.35	162.96	162.97	163.01	163.13	163.45	164.17	165.6	168.18	172.52	179.38	189.69
5.45	162.96	162.96	163	163.08	163.3	163.81	164.85	166.76	170.04	175.3	183.34
5.55	162.96	162.96	162.99	163.04	163.2	163.56	164.31	165.72	168.18	172.2	178.44
5.65	162.96	162.96	162.98	163.02	163.13	163.38	163.92	164.96	166.8	169.86	174.68
5.75	162.96	162.96	162.97	163.01	163.08	163.26	163.65	164.41	165.78	168.09	171.8
5.85	162.96	162.96	162.96	163	163.05	163.18	163.46	164.01	165.02	166.77	169.61
5.95	162.96	162.96	162.96	162.99	163.03	163.12	163.32	163.72	164.47	165.78	167.95
6.05	10.101	65.412	100.71	123.25	137.65	146.89	152.89	156.92	159.86	162.36	164.98
6.15	10.101	45.936	75.854	99.449	117.39	130.71	140.45	147.56	152.84	156.99	160.61
6.25	10.101	33.173	57.082	79.103	98.053	113.65	126.12	135.9	143.53	149.58	154.59
6.35	10.101	24.874	43.236	62.418	80.665	97.016	111.08	122.83	132.49	140.38	146.94
6.45	10.101	19.513	33.214	49.157	65.689	81.634	96.259	109.2	120.36	129.84	137.88

6.55	10.101	16.071	26.069	38.871	53.207	67.973	82.326	95.697	107.77	118.43	127.74
6.65	10.101	13.873	21.04	31.049	43.07	56.218	69.695	82.865	95.277	106.66	116.91
6.75	10.101	12.475	17.54	25.199	35.011	46.358	58.578	71.063	83.314	94.966	105.79
6.85	10.101	11.591	15.125	20.883	28.719	38.264	49.03	60.5	72.193	83.707	94.745
6.95	10.101	11.033	13.474	17.739	23.881	31.739	40.998	51.262	62.111	73.156	84.067
7.05	10.101	10.682	12.354	15.471	20.21	26.562	34.363	43.342	53.167	63.493	73.998
7.15	10.101	10.463	11.598	13.852	17.458	22.511	28.967	36.67	45.382	54.824	64.704
7.25	10.101	10.326	11.091	12.705	15.416	19.379	24.639	31.134	38.719	47.183	56.287
7.35	10.101	10.24	10.753	11.898	13.914	16.985	21.21	26.605	33.1	40.556	48.792
7.45	10.101	10.187	10.529	11.335	12.82	15.172	18.525	22.944	28.424	34.891	42.219
7.55	10.101	10.154	10.381	10.944	12.029	13.812	16.443	20.019	24.582	30.111	36.534
7.65	10.101	10.134	10.284	10.675	11.46	12.801	14.843	17.705	21.458	26.125	31.68
7.75	10.101	10.121	10.22	10.49	11.055	12.054	13.625	15.891	18.945	22.838	27.582
7.85	10.101	10.114	10.178	10.364	10.767	11.506	12.704	14.482	16.941	20.154	24.16
7.95	10.101	10.109	10.151	10.278	10.565	11.107	12.014	13.397	15.359	17.984	21.33
8.05	10.101	10.106	10.134	10.22	10.422	10.818	11.499	12.566	14.118	16.243	19.011
8.15	10.101	10.104	10.122	10.181	10.323	10.61	11.118	11.935	13.153	14.858	17.127
8.25	10.101	10.103	10.115	10.154	10.254	10.461	10.838	11.459	12.407	13.764	15.609
8.35	10.101	10.102	10.11	10.137	10.206	10.354	10.632	11.102	11.835	12.907	14.395
8.45	10.101	10.102	10.107	10.125	10.173	10.279	10.483	10.835	11.398	12.24	13.43
8.55	10.101	10.102	10.105	10.117	10.151	10.226	10.374	10.638	11.067	11.723	12.669
8.65	10.101	10.101	10.104	10.112	10.135	10.188	10.296	10.492	10.818	11.326	12.073
8.75	10.101	10.101	10.103	10.109	10.124	10.162	10.24	10.385	10.631	11.022	11.608
8.85	10.101	10.101	10.103	10.106	10.117	10.144	10.2	10.306	10.491	10.791	11.248
8.95	10.101	10.101	10.102	10.105	10.112	10.131	10.171	10.249	10.387	10.615	10.97
9.05	10.101	10.101	10.101	10.104	10.109	10.122	10.151	10.208	10.311	10.483	10.757
9.15	10.101	10.101	10.101	10.103	10.107	10.116	10.137	10.178	10.254	10.385	10.594
9.25	10.101	10.101	10.101	10.103	10.105	10.112	10.126	10.156	10.213	10.311	10.471
9.35	10.101	10.101	10.101	10.102	10.104	10.109	10.119	10.141	10.182	10.256	10.378
9.45	10.101	10.101	10.101	10.101	10.104	10.107	10.114	10.13	10.16	10.215	10.307
9.55	10.101	10.101	10.101	10.101	10.103	10.105	10.111	10.122	10.144	10.185	10.255
9.65	10.101	10.101	10.101	10.101	10.102	10.105	10.108	10.117	10.133	10.163	10.215
9.75	10.101	10.101	10.101	10.101	10.102	10.104	10.107	10.113	10.125	10.147	10.186
9.85	10.101	10.101	10.101	10.101	10.101	10.103	10.106	10.11	10.119	10.135	10.164
9.95	10.101	10.101	10.101	10.101	10.101	10.103	10.105	10.108	10.114	10.126	10.148
10.05	10.101	10.101	10.101	10.101	10.101	10.102	10.104	10.106	10.111	10.12	10.136
10.15	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.106	10.109	10.116	10.128

10.25	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.105	10.107	10.112	10.121
10.35	10.101	10.101	10.101	10.101	10.101	10.101	10.102	10.104	10.107	10.11	10.117
10.45	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.106	10.108	10.113
10.55	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.105	10.107	10.111
10.65	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.102	10.104	10.107	10.109
10.75	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.106	10.108
10.85	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.105	10.107
10.95	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.102	10.104	10.107
11.05	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.106
11.15	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103	10.105
11.25	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.102	10.104
11.35	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103
11.45	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.103
11.55	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.101	10.102


Lead Concentration in Pore Water at 11.6 feet
Concentration (ug/L)
10.1022
10.1020
10.1018
10.1016
10.1014
10.1012
10.1010
10.1008
0
100
200
300
400
500
600
700
800
900
1000
Time (years)


Pore Water Lead Concentration Profile at 1,000 Years
Concentration (ug/L)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Depth (ft)

ATTACHMENT E-2

VLEACH FILES

pH = 4.8

Lead = 8.28 mg/kg

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==============GENERAL PROJECT INFORMATION============================
project title..........................Lead at the Pistol Range, 4.8 pH
number of polygons.....................1
timestep [years]......................0.05
total time of simulation [years]........1000.0
gw impact output interval [years].......50
transient profile plot interval [years].100
===============CONTAMINANT INFORMATION==============================
org.C distrib. coeff., Koc [ml/g].......773000.
Henry's constant [dimensionless]........0.0
water solubility [mg/l]................40.0
free air diffusion coef.[sq.m/d]........0.7435
===============Polygon #1============================================
title..................................Pistol Range
surface area [sq.ft]...................10000
vertical thickness of a cell [ft].......0.1
net recharge rate [ft/year]............1.25
dry bulk density [g/cm3]...............1.6
effective porosity [dim.less]..........0.422
volumetric water content [percent]......0.25
organic carbon content [dim.less]......0.001
contaminant conc. in recharge [mg/l]....0.0
upper BC for vapor [mg/l]..............-1.0,
lower BC for vapor [mg/l]..............0.0
number of cells........................116
plot SOILIMP,GWIMP [y/n]...............y
plot time, profile in SOILIMP [years]...50.0
======repeat the following line until all cells are assigned=========
top #, bottom #, init. conc. [ug/kg]....1,20,5240000.0
top #, bottom #, init. conc. [ug/kg]....21,30,564000.0
top #, bottom #, init. conc. [ug/kg]....31,60,126000.0
top #, bottom #, init. conc. [ug/kg]....61,116,8290.0
```

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|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
```

Lead at the Pistol Range, 4.8 pH
  1 polygons.
Timestep = 0.05 years. Simulation length = 1000.00 years.
Printout every 50.00 years. Vertical profile stored every 100.00 years.
Koc = 0.77300E+06ml/g, 27.298 cu.ft./g
Kh = 0.0000 (dimensionless).
Aqueous solubility = 40.000 mg/l, 1.1327 g/cu.ft
Free air diffusion coefficient = .74350 sq. m/day, 2921.2 sq.ft./yr

Polygon 1
Pistol Range

Polygon area = 10000. sq. ft.
116 cells, each cell 0.10 ft. thick.
Soil Properties:
 Bulk density = 1.600g/ml, 45307.199g/cu.ft.
 Porosity = 0.422 Volumetric water content = 0.2500
 Organic carbon content = 0.001000
Recharge Rate = 1.2500 ft/yr
Conc. in recharge water = 0.0000 m g/l, 0.0000 g/cu.ft
Atmospheric concentration = -1.00000000 mg/l, -0.02831700 g/cu.ft
Water table has a fixed concentration of 0.0000 mg/l, 0.0000 g/cu.ft.
  with respect to gas diffusion.
Initial Mass and Concentration:

cell	total mass [g/cu.ft]	equiv.c_liq[ug/l]
1	237.40	0.33536E+08
2	237.40	0.33536E+08
3	237.40	0.33536E+08
4	237.40	0.33536E+08
5	237.40	0.33536E+08
6	237.40	0.33536E+08
7	237.40	0.33536E+08
8	237.40	0.33536E+08
9	237.40	0.33536E+08
10	237.40	0.33536E+08
11	237.40	0.33536E+08
12	237.40	0.33536E+08
13	237.40	0.33536E+08
14	237.40	0.33536E+08
15	237.40	0.33536E+08
16	237.40	0.33536E+08
17	237.40	0.33536E+08
18	237.40	0.33536E+08
19	237.40	0.33536E+08
20	237.40	0.33536E+08
21	25.552	0.36096E+07
22	25.552	0.36096E+07
23	25.552	0.36096E+07
24	25.552	0.36096E+07
25	25.552	0.36096E+07
26	25.552	0.36096E+07
27	25.552	0.36096E+07
28	25.552	0.36096E+07
29	25.552	0.36096E+07
30	25.552	0.36096E+07
31	5.7085	0.80640E+06
32	5.7085	0.80640E+06
33	5.7085	0.80640E+06

34	5.7085	0.80640E+06
35	5.7085	0.80640E+06
36	5.7085	0.80640E+06
37	5.7085	0.80640E+06
38	5.7085	0.80640E+06
39	5.7085	0.80640E+06
40	5.7085	0.80640E+06
41	5.7085	0.80640E+06
42	5.7085	0.80640E+06
43	5.7085	0.80640E+06
44	5.7085	0.80640E+06
45	5.7085	0.80640E+06
46	5.7085	0.80640E+06
47	5.7085	0.80640E+06
48	5.7085	0.80640E+06
49	5.7085	0.80640E+06
50	5.7085	0.80640E+06
51	5.7085	0.80640E+06
52	5.7085	0.80640E+06
53	5.7085	0.80640E+06
54	5.7085	0.80640E+06
55	5.7085	0.80640E+06
56	5.7085	0.80640E+06
57	5.7085	0.80640E+06
58	5.7085	0.80640E+06
59	5.7085	0.80640E+06
60	5.7085	0.80640E+06
61	0.37558	53056.
62	0.37558	53056.
63	0.37558	53056.
64	0.37558	53056.
65	0.37558	53056.
66	0.37558	53056.
67	0.37558	53056.
68	0.37558	53056.
69	0.37558	53056.
70	0.37558	53056.
71	0.37558	53056.
72	0.37558	53056.
73	0.37558	53056.
74	0.37558	53056.
75	0.37558	53056.
76	0.37558	53056.
77	0.37558	53056.
78	0.37558	53056.
79	0.37558	53056.
80	0.37558	53056.
81	0.37558	53056.
82	0.37558	53056.
83	0.37558	53056.
84	0.37558	53056.
85	0.37558	53056.
86	0.37558	53056.
87	0.37558	53056.
88	0.37558	53056.
89	0.37558	53056.
90	0.37558	53056.
91	0.37558	53056.
92	0.37558	53056.
93	0.37558	53056.
94	0.37558	53056.
95	0.37558	53056.
96	0.37558	53056.
97	0.37558	53056.
98	0.37558	53056.
99	0.37558	53056.
100	0.37558	53056.
101	0.37558	53056.
102	0.37558	53056.
103	0.37558	53056.
104	0.37558	53056.
105	0.37558	53056.
106	0.37558	53056.
107	0.37558	53056.
108	0.37558	53056.
109	0.37558	53056.
110	0.37558	53056.
111	0.37558	53056.
112	0.37558	53056.

113	0.37558	53056.
114	0.37558	53056.
115	0.37558	53056.
116	0.37558	53056.

```
|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)                        |
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
```

Lead at the Pistol Range, 4.8 pH

```
Polygon   1
At time =       0.00, total mass in vadose zone =     519.58    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10500    g/sq.ft.
Mass sorbed           =       519.48    g/sq.ft.


Polygon   1
At time =      50.0000, total mass in vadose zone =     519.57    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10500    g/sq.ft.
Mass sorbed           =       519.47    g/sq.ft.

Since last printout at time =       0.0000
               Change in Total Mass =    -0.92163E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.97596E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.92163E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.97596E-02g/sq.ft.


Polygon   1
At time =     100.0000, total mass in vadose zone =     519.57    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10500    g/sq.ft.
Mass sorbed           =       519.46    g/sq.ft.

Since last printout at time =      50.0000
               Change in Total Mass =    -0.93994E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.95765E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.18616E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.37953E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.37953E-01g/sq.ft.
               Mass discrepancy =     0.19337E-01g/sq.ft.


Polygon   1
At time =     150.0000, total mass in vadose zone =     519.55    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
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Mass in liquid phase  =      0.10500    g/sq.ft.
Mass sorbed           =       519.45    g/sq.ft.

Since last printout at time =     100.0000
               Change in Total Mass =    -0.10254E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.87220E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.28870E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.56929E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.56929E-01g/sq.ft.
               Mass discrepancy =     0.28060E-01g/sq.ft.


Polygon   1
At time =     200.0000, total mass in vadose zone =     519.55    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10500    g/sq.ft.
Mass sorbed           =       519.44    g/sq.ft.

Since last printout at time =     150.0000
               Change in Total Mass =    -0.95215E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.94544E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.38391E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.75906E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.75906E-01g/sq.ft.
               Mass discrepancy =     0.37515E-01g/sq.ft.


Polygon   1
At time =     250.0000, total mass in vadose zone =     519.54    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10499    g/sq.ft.
Mass sorbed           =       519.43    g/sq.ft.

Since last printout at time =     200.0000
               Change in Total Mass =    -0.98877E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.90882E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.48279E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.94882E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.94882E-01g/sq.ft.
               Mass discrepancy =     0.46604E-01g/sq.ft.


Polygon   1
At time =     300.0000, total mass in vadose zone =     519.53    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10499    g/sq.ft.
Mass sorbed           =       519.42    g/sq.ft.

Since last printout at time =     250.0000
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```
                Change in Total Mass =    -0.99487E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.18976E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.18976E-01g/sq.ft.
                Mass discrepancy =     0.90271E-02g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =    -0.58228E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.11386    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.11386    g/sq.ft.
                Mass discrepancy =     0.55631E-01g/sq.ft.


Polygon   1
At time =     350.0000, total mass in vadose zone =     519.52    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10499    g/sq.ft.
Mass sorbed           =       519.41    g/sq.ft.

Since last printout at time =     300.0000
                Change in Total Mass =    -0.95215E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.18976E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.18976E-01g/sq.ft.
                Mass discrepancy =     0.94544E-02g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =    -0.67749E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.13283    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.13283    g/sq.ft.
                Mass discrepancy =     0.65084E-01g/sq.ft.


Polygon   1
At time =     400.0000, total mass in vadose zone =     519.51    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10499    g/sq.ft.
Mass sorbed           =       519.40    g/sq.ft.

Since last printout at time =     350.0000
                Change in Total Mass =    -0.96436E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.18976E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.18976E-01g/sq.ft.
                Mass discrepancy =     0.93323E-02g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =    -0.77393E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.15180    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.15180    g/sq.ft.
                Mass discrepancy =     0.74409E-01g/sq.ft.


Polygon   1
At time =     450.0000, total mass in vadose zone =     519.50    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10499    g/sq.ft.
Mass sorbed           =       519.39    g/sq.ft.

Since last printout at time =     400.0000
                Change in Total Mass =    -0.92163E-02g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.18976E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
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                Diffusion in from water table =      0.0000    g/sq.ft.
          Total inflow at boundaries =    -0.18976E-01g/sq.ft.
          Mass discrepancy =     0.97596E-02g/sq.ft.

Since beginning of run at time = 0.0
          Change in Total Mass =    -0.86609E-01g/sq.ft.
                Advection in from atmosphere =       0.0000    g/sq.ft.
                Advection in from water table =    -0.17077    g/sq.ft.
                Diffusion in from atmosphere =       0.0000    g/sq.ft.
                Diffusion in from water table =      0.0000    g/sq.ft.
          Total inflow at boundaries =    -0.17077    g/sq.ft.
          Mass discrepancy =     0.84162E-01g/sq.ft.


Polygon   1
At time =     500.0000, total mass in vadose zone =     519.49    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10499    g/sq.ft.
Mass sorbed           =       519.38    g/sq.ft.

Since last printout at time =     450.0000
          Change in Total Mass =    -0.98267E-02g/sq.ft.
                Advection in from atmosphere =       0.0000    g/sq.ft.
                Advection in from water table =    -0.18976E-01g/sq.ft.
                Diffusion in from atmosphere =       0.0000    g/sq.ft.
                Diffusion in from water table =      0.0000    g/sq.ft.
          Total inflow at boundaries =    -0.18976E-01g/sq.ft.
          Mass discrepancy =     0.91492E-02g/sq.ft.

Since beginning of run at time = 0.0
          Change in Total Mass =    -0.96436E-01g/sq.ft.
                Advection in from atmosphere =       0.0000    g/sq.ft.
                Advection in from water table =    -0.18974    g/sq.ft.
                Diffusion in from atmosphere =       0.0000    g/sq.ft.
                Diffusion in from water table =      0.0000    g/sq.ft.
          Total inflow at boundaries =    -0.18974    g/sq.ft.
          Mass discrepancy =     0.93305E-01g/sq.ft.


Polygon   1
At time =     550.0000, total mass in vadose zone =     519.48    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.37    g/sq.ft.

Since last printout at time =     500.0000
          Change in Total Mass =    -0.95825E-02g/sq.ft.
                Advection in from atmosphere =       0.0000    g/sq.ft.
                Advection in from water table =    -0.18976E-01g/sq.ft.
                Diffusion in from atmosphere =       0.0000    g/sq.ft.
                Diffusion in from water table =      0.0000    g/sq.ft.
          Total inflow at boundaries =    -0.18976E-01g/sq.ft.
          Mass discrepancy =     0.93934E-02g/sq.ft.

Since beginning of run at time = 0.0
          Change in Total Mass =    -0.10602    g/sq.ft.
                Advection in from atmosphere =       0.0000    g/sq.ft.
                Advection in from water table =    -0.20871    g/sq.ft.
                Diffusion in from atmosphere =       0.0000    g/sq.ft.
                Diffusion in from water table =      0.0000    g/sq.ft.
          Total inflow at boundaries =    -0.20871    g/sq.ft.
          Mass discrepancy =     0.10269    g/sq.ft.


Polygon   1
At time =     600.0000, total mass in vadose zone =     519.47    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.36    g/sq.ft.

Since last printout at time =     550.0000
          Change in Total Mass =    -0.98877E-02g/sq.ft.
                Advection in from atmosphere =       0.0000    g/sq.ft.
                Advection in from water table =    -0.18976E-01g/sq.ft.
                Diffusion in from atmosphere =       0.0000    g/sq.ft.
                Diffusion in from water table =      0.0000    g/sq.ft.
          Total inflow at boundaries =    -0.18976E-01g/sq.ft.
          Mass discrepancy =     0.90882E-02g/sq.ft.
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```
Since beginning of run at time = 0.0
               Change in Total Mass =    -0.11591    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.22768    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.22768    g/sq.ft.
               Mass discrepancy =     0.11177    g/sq.ft.


Polygon   1
At time =     650.0000, total mass in vadose zone =     519.46    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.35    g/sq.ft.

Since last printout at time =     600.0000
               Change in Total Mass =    -0.93994E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.95765E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.12531    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.24665    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.24665    g/sq.ft.
               Mass discrepancy =     0.12134    g/sq.ft.


Polygon   1
At time =     700.0000, total mass in vadose zone =     519.45    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.34    g/sq.ft.

Since last printout at time =     650.0000
               Change in Total Mass =    -0.95215E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.94544E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.13483    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.26563    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.26563    g/sq.ft.
               Mass discrepancy =     0.13080    g/sq.ft.


Polygon   1
At time =     750.0000, total mass in vadose zone =     519.44    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10498    g/sq.ft.
Mass sorbed           =       519.33    g/sq.ft.

Since last printout at time =     700.0000
               Change in Total Mass =    -0.95215E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.94544E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.14435    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.28461    g/sq.ft.
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                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.28461    g/sq.ft.
               Mass discrepancy =     0.14027    g/sq.ft.


Polygon   1
At time =     800.0000, total mass in vadose zone =     519.43    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.32    g/sq.ft.

Since last printout at time =     750.0000
               Change in Total Mass =    -0.97046E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.92713E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.15405    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.30360    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.30360    g/sq.ft.
               Mass discrepancy =     0.14954    g/sq.ft.


Polygon   1
At time =     850.0000, total mass in vadose zone =     519.42    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.31    g/sq.ft.

Since last printout at time =     800.0000
               Change in Total Mass =    -0.10010E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.89662E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.16406    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.32258    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.32258    g/sq.ft.
               Mass discrepancy =     0.15852    g/sq.ft.


Polygon   1
At time =     900.0000, total mass in vadose zone =     519.41    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.31    g/sq.ft.

Since last printout at time =     850.0000
               Change in Total Mass =    -0.95825E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18976E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18976E-01g/sq.ft.
               Mass discrepancy =     0.93939E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.17365    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.34157    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.34157    g/sq.ft.
               Mass discrepancy =     0.16792    g/sq.ft.
```

```
Polygon   1
At time =     950.0000, total mass in vadose zone =     519.40    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.30    g/sq.ft.

Since last printout at time =     900.0000
               Change in Total Mass =    -0.95825E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18977E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18977E-01g/sq.ft.
               Mass discrepancy =     0.93943E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.18323    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.36055    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.36055    g/sq.ft.
               Mass discrepancy =     0.17732    g/sq.ft.


Polygon   1
At time =    1000.0000, total mass in vadose zone =     519.39    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.10497    g/sq.ft.
Mass sorbed           =       519.29    g/sq.ft.

Since last printout at time =     950.0000
               Change in Total Mass =    -0.95825E-02g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18979E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18979E-01g/sq.ft.
               Mass discrepancy =     0.93961E-02g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =    -0.19281    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.37953    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.37953    g/sq.ft.
               Mass discrepancy =     0.18672    g/sq.ft.


GROUNDWATER IMPACT OF POLYGON   1

 Time        Mass flux (g/yr/sq.ft.)      Total Mass(g/yr)
     50.00         0.37952E-03               3.7952
    100.00         0.37952E-03               3.7952
    150.00         0.37952E-03               3.7952
    200.00         0.37952E-03               3.7952
    250.00         0.37952E-03               3.7952
    300.00         0.37952E-03               3.7952
    350.00         0.37952E-03               3.7952
    400.00         0.37952E-03               3.7952
    450.00         0.37952E-03               3.7952
    500.00         0.37952E-03               3.7952
    550.00         0.37952E-03               3.7952
    600.00         0.37952E-03               3.7952
    650.00         0.37952E-03               3.7952
    700.00         0.37952E-03               3.7952
    750.00         0.37952E-03               3.7952
    800.00         0.37952E-03               3.7952
    850.00         0.37952E-03               3.7952
    900.00         0.37953E-03               3.7953
    950.00         0.37955E-03               3.7955
   1000.00         0.37959E-03               3.7959
***************************************************

***************************************************
TOTAL GROUNDWATER IMPACT
```

Time (yr)	Mass (g/yr)	Cumulative Mass (g)
50.00	3.7952	189.76
100.00	3.7952	379.52
150.00	3.7952	569.28
200.00	3.7952	759.03
250.00	3.7952	948.79
300.00	3.7952	1138.6
350.00	3.7952	1328.3
400.00	3.7952	1518.1
450.00	3.7952	1707.8
500.00	3.7952	1897.6
550.00	3.7952	2087.3
600.00	3.7952	2277.1
650.00	3.7952	2466.9
700.00	3.7952	2656.6
750.00	3.7952	2846.4
800.00	3.7952	3036.1
850.00	3.7952	3225.9
900.00	3.7953	3415.7
950.00	3.7955	3605.4
1000.00	3.7959	3795.2

```
|-------------------------------------------------------------|
|                VLEACH (Version 2.2a, 1996)                  |
|                                                             |
|                            By:                              |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)                        |
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|                                                             |
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
```

Pistol Range
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.19191	0.52388E-02
2	0.0000	0.19191	0.52388E-02
3	0.0000	0.19191	0.52388E-02
4	0.0000	0.19191	0.52388E-02
5	0.0000	0.19191	0.52388E-02
6	0.0000	0.19191	0.52388E-02
7	0.0000	0.19191	0.52388E-02
8	0.0000	0.19191	0.52388E-02
9	0.0000	0.19191	0.52388E-02
10	0.0000	0.19191	0.52388E-02
11	0.0000	0.19191	0.52388E-02
12	0.0000	0.19191	0.52388E-02
13	0.0000	0.19191	0.52388E-02
14	0.0000	0.19191	0.52388E-02
15	0.0000	0.19191	0.52388E-02
16	0.0000	0.19191	0.52388E-02
17	0.0000	0.19191	0.52388E-02
18	0.0000	0.19191	0.52388E-02
19	0.0000	0.19191	0.52388E-02
20	0.0000	0.19191	0.52388E-02
21	0.0000	0.20656E-01	0.56387E-03
22	0.0000	0.20656E-01	0.56387E-03
23	0.0000	0.20656E-01	0.56387E-03
24	0.0000	0.20656E-01	0.56387E-03
25	0.0000	0.20656E-01	0.56387E-03
26	0.0000	0.20656E-01	0.56387E-03
27	0.0000	0.20656E-01	0.56387E-03
28	0.0000	0.20656E-01	0.56387E-03
29	0.0000	0.20656E-01	0.56387E-03
30	0.0000	0.20656E-01	0.56387E-03
31	0.0000	0.46146E-02	0.12597E-03
32	0.0000	0.46146E-02	0.12597E-03
33	0.0000	0.46146E-02	0.12597E-03
34	0.0000	0.46146E-02	0.12597E-03
35	0.0000	0.46146E-02	0.12597E-03
36	0.0000	0.46146E-02	0.12597E-03
37	0.0000	0.46146E-02	0.12597E-03
38	0.0000	0.46146E-02	0.12597E-03
39	0.0000	0.46146E-02	0.12597E-03
40	0.0000	0.46146E-02	0.12597E-03
41	0.0000	0.46146E-02	0.12597E-03
42	0.0000	0.46146E-02	0.12597E-03
43	0.0000	0.46146E-02	0.12597E-03
44	0.0000	0.46146E-02	0.12597E-03
45	0.0000	0.46146E-02	0.12597E-03
46	0.0000	0.46146E-02	0.12597E-03
47	0.0000	0.46146E-02	0.12597E-03
48	0.0000	0.46146E-02	0.12597E-03
49	0.0000	0.46146E-02	0.12597E-03
50	0.0000	0.46146E-02	0.12597E-03
51	0.0000	0.46146E-02	0.12597E-03
52	0.0000	0.46146E-02	0.12597E-03
53	0.0000	0.46146E-02	0.12597E-03
54	0.0000	0.46146E-02	0.12597E-03
55	0.0000	0.46146E-02	0.12597E-03
56	0.0000	0.46146E-02	0.12597E-03
57	0.0000	0.46146E-02	0.12597E-03
58	0.0000	0.46146E-02	0.12597E-03

59	0.0000	0.46146E-02	0.12597E-03
60	0.0000	0.46146E-02	0.12597E-03
61	0.0000	0.30361E-03	0.82880E-05
62	0.0000	0.30361E-03	0.82880E-05
63	0.0000	0.30361E-03	0.82880E-05
64	0.0000	0.30361E-03	0.82880E-05
65	0.0000	0.30361E-03	0.82880E-05
66	0.0000	0.30361E-03	0.82880E-05
67	0.0000	0.30361E-03	0.82880E-05
68	0.0000	0.30361E-03	0.82880E-05
69	0.0000	0.30361E-03	0.82880E-05
70	0.0000	0.30361E-03	0.82880E-05
71	0.0000	0.30361E-03	0.82880E-05
72	0.0000	0.30361E-03	0.82880E-05
73	0.0000	0.30361E-03	0.82880E-05
74	0.0000	0.30361E-03	0.82880E-05
75	0.0000	0.30361E-03	0.82880E-05
76	0.0000	0.30361E-03	0.82880E-05
77	0.0000	0.30361E-03	0.82880E-05
78	0.0000	0.30361E-03	0.82880E-05
79	0.0000	0.30361E-03	0.82880E-05
80	0.0000	0.30361E-03	0.82880E-05
81	0.0000	0.30361E-03	0.82880E-05
82	0.0000	0.30361E-03	0.82880E-05
83	0.0000	0.30361E-03	0.82880E-05
84	0.0000	0.30361E-03	0.82880E-05
85	0.0000	0.30361E-03	0.82880E-05
86	0.0000	0.30361E-03	0.82880E-05
87	0.0000	0.30361E-03	0.82880E-05
88	0.0000	0.30361E-03	0.82880E-05
89	0.0000	0.30361E-03	0.82880E-05
90	0.0000	0.30361E-03	0.82880E-05
91	0.0000	0.30361E-03	0.82880E-05
92	0.0000	0.30361E-03	0.82880E-05
93	0.0000	0.30361E-03	0.82880E-05
94	0.0000	0.30361E-03	0.82880E-05
95	0.0000	0.30361E-03	0.82880E-05
96	0.0000	0.30361E-03	0.82880E-05
97	0.0000	0.30361E-03	0.82880E-05
98	0.0000	0.30361E-03	0.82880E-05
99	0.0000	0.30361E-03	0.82880E-05
100	0.0000	0.30361E-03	0.82880E-05
101	0.0000	0.30361E-03	0.82880E-05
102	0.0000	0.30361E-03	0.82880E-05
103	0.0000	0.30361E-03	0.82880E-05
104	0.0000	0.30361E-03	0.82880E-05
105	0.0000	0.30361E-03	0.82880E-05
106	0.0000	0.30361E-03	0.82880E-05
107	0.0000	0.30361E-03	0.82880E-05
108	0.0000	0.30361E-03	0.82880E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 100.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.12248	0.33433E-02
2	0.0000	0.14693	0.40108E-02
3	0.0000	0.16295	0.44482E-02
4	0.0000	0.17337	0.47327E-02
5	0.0000	0.18010	0.49164E-02
6	0.0000	0.18442	0.50344E-02
7	0.0000	0.18718	0.51097E-02
8	0.0000	0.18894	0.51576E-02
9	0.0000	0.19005	0.51879E-02
10	0.0000	0.19075	0.52070E-02
11	0.0000	0.19119	0.52190E-02
12	0.0000	0.19146	0.52266E-02
13	0.0000	0.19163	0.52313E-02
14	0.0000	0.19174	0.52342E-02
15	0.0000	0.19181	0.52360E-02
16	0.0000	0.19185	0.52371E-02
17	0.0000	0.19188	0.52379E-02

18	0.0000	0.19189	0.52383E-02
19	0.0000	0.19190	0.52385E-02
20	0.0000	0.19191	0.52388E-02
21	0.0000	0.82617E-01	0.22553E-02
22	0.0000	0.60800E-01	0.16597E-02
23	0.0000	0.46502E-01	0.12694E-02
24	0.0000	0.37205E-01	0.10156E-02
25	0.0000	0.31200E-01	0.85170E-03
26	0.0000	0.27344E-01	0.74645E-03
27	0.0000	0.24882E-01	0.67922E-03
28	0.0000	0.23316E-01	0.63649E-03
29	0.0000	0.22325E-01	0.60943E-03
30	0.0000	0.21700E-01	0.59237E-03
31	0.0000	0.11070E-01	0.30219E-03
32	0.0000	0.87801E-02	0.23968E-03
33	0.0000	0.72871E-02	0.19892E-03
34	0.0000	0.63205E-02	0.17254E-03
35	0.0000	0.56985E-02	0.15556E-03
36	0.0000	0.53005E-02	0.14469E-03
37	0.0000	0.50470E-02	0.13777E-03
38	0.0000	0.48863E-02	0.13339E-03
39	0.0000	0.47848E-02	0.13062E-03
40	0.0000	0.47209E-02	0.12887E-03
41	0.0000	0.46809E-02	0.12778E-03
42	0.0000	0.46558E-02	0.12710E-03
43	0.0000	0.46402E-02	0.12667E-03
44	0.0000	0.46305E-02	0.12640E-03
45	0.0000	0.46245E-02	0.12624E-03
46	0.0000	0.46208E-02	0.12614E-03
47	0.0000	0.46185E-02	0.12608E-03
48	0.0000	0.46171E-02	0.12604E-03
49	0.0000	0.46162E-02	0.12601E-03
50	0.0000	0.46157E-02	0.12600E-03
51	0.0000	0.46153E-02	0.12599E-03
52	0.0000	0.46151E-02	0.12598E-03
53	0.0000	0.46149E-02	0.12598E-03
54	0.0000	0.46147E-02	0.12597E-03
55	0.0000	0.46146E-02	0.12597E-03
56	0.0000	0.46146E-02	0.12597E-03
57	0.0000	0.46146E-02	0.12597E-03
58	0.0000	0.46146E-02	0.12597E-03
59	0.0000	0.46146E-02	0.12597E-03
60	0.0000	0.46146E-02	0.12597E-03
61	0.0000	0.18635E-02	0.50870E-04
62	0.0000	0.13142E-02	0.35876E-04
63	0.0000	0.95429E-03	0.26050E-04
64	0.0000	0.72023E-03	0.19661E-04
65	0.0000	0.56905E-03	0.15534E-04
66	0.0000	0.47199E-03	0.12884E-04
67	0.0000	0.40999E-03	0.11192E-04
68	0.0000	0.37058E-03	0.10116E-04
69	0.0000	0.34563E-03	0.94349E-05
70	0.0000	0.32989E-03	0.90055E-05
71	0.0000	0.32001E-03	0.87356E-05
72	0.0000	0.31381E-03	0.85665E-05
73	0.0000	0.30995E-03	0.84609E-05
74	0.0000	0.30754E-03	0.83952E-05
75	0.0000	0.30604E-03	0.83544E-05
76	0.0000	0.30511E-03	0.83290E-05
77	0.0000	0.30454E-03	0.83134E-05
78	0.0000	0.30419E-03	0.83037E-05
79	0.0000	0.30397E-03	0.82978E-05
80	0.0000	0.30384E-03	0.82942E-05
81	0.0000	0.30375E-03	0.82919E-05
82	0.0000	0.30370E-03	0.82905E-05
83	0.0000	0.30367E-03	0.82897E-05
84	0.0000	0.30365E-03	0.82891E-05
85	0.0000	0.30364E-03	0.82888E-05
86	0.0000	0.30363E-03	0.82885E-05
87	0.0000	0.30362E-03	0.82881E-05
88	0.0000	0.30361E-03	0.82880E-05
89	0.0000	0.30361E-03	0.82880E-05
90	0.0000	0.30361E-03	0.82880E-05
91	0.0000	0.30361E-03	0.82880E-05
92	0.0000	0.30361E-03	0.82880E-05
93	0.0000	0.30361E-03	0.82880E-05
94	0.0000	0.30361E-03	0.82880E-05
95	0.0000	0.30361E-03	0.82880E-05
96	0.0000	0.30361E-03	0.82880E-05

97	0.0000	0.30361E-03	0.82880E-05
98	0.0000	0.30361E-03	0.82880E-05
99	0.0000	0.30361E-03	0.82880E-05
100	0.0000	0.30361E-03	0.82880E-05
101	0.0000	0.30361E-03	0.82880E-05
102	0.0000	0.30361E-03	0.82880E-05
103	0.0000	0.30361E-03	0.82880E-05
104	0.0000	0.30361E-03	0.82880E-05
105	0.0000	0.30361E-03	0.82880E-05
106	0.0000	0.30361E-03	0.82880E-05
107	0.0000	0.30361E-03	0.82880E-05
108	0.0000	0.30361E-03	0.82880E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 200.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.78163E-01	0.21337E-02
2	0.0000	0.10937	0.29857E-02
3	0.0000	0.13294	0.36290E-02
4	0.0000	0.15032	0.41035E-02
5	0.0000	0.16291	0.44470E-02
6	0.0000	0.17188	0.46919E-02
7	0.0000	0.17819	0.48643E-02
8	0.0000	0.18259	0.49842E-02
9	0.0000	0.18562	0.50670E-02
10	0.0000	0.18769	0.51236E-02
11	0.0000	0.18910	0.51620E-02
12	0.0000	0.19005	0.51879E-02
13	0.0000	0.19068	0.52052E-02
14	0.0000	0.19111	0.52168E-02
15	0.0000	0.19139	0.52245E-02
16	0.0000	0.19157	0.52296E-02
17	0.0000	0.19169	0.52329E-02
18	0.0000	0.19177	0.52351E-02
19	0.0000	0.19183	0.52365E-02
20	0.0000	0.19186	0.52375E-02
21	0.0000	0.12213	0.33340E-02
22	0.0000	0.94297E-01	0.25741E-02
23	0.0000	0.73275E-01	0.20003E-02
24	0.0000	0.57769E-01	0.15770E-02
25	0.0000	0.46544E-01	0.12706E-02
26	0.0000	0.38542E-01	0.10521E-02
27	0.0000	0.32910E-01	0.89837E-03
28	0.0000	0.28988E-01	0.79133E-03
29	0.0000	0.26284E-01	0.71752E-03
30	0.0000	0.24435E-01	0.66703E-03
31	0.0000	0.16646E-01	0.45441E-03
32	0.0000	0.13191E-01	0.36009E-03
33	0.0000	0.10653E-01	0.29082E-03
34	0.0000	0.88219E-02	0.24082E-03
35	0.0000	0.75190E-02	0.20526E-03
36	0.0000	0.66034E-02	0.18026E-03
37	0.0000	0.59666E-02	0.16288E-03
38	0.0000	0.55277E-02	0.15090E-03
39	0.0000	0.52277E-02	0.14271E-03
40	0.0000	0.50241E-02	0.13715E-03
41	0.0000	0.48868E-02	0.13340E-03
42	0.0000	0.47948E-02	0.13089E-03
43	0.0000	0.47334E-02	0.12921E-03
44	0.0000	0.46927E-02	0.12810E-03
45	0.0000	0.46658E-02	0.12737E-03
46	0.0000	0.46480E-02	0.12688E-03
47	0.0000	0.46364E-02	0.12657E-03
48	0.0000	0.46289E-02	0.12636E-03
49	0.0000	0.46240E-02	0.12623E-03
50	0.0000	0.46207E-02	0.12614E-03
51	0.0000	0.46187E-02	0.12608E-03
52	0.0000	0.46173E-02	0.12604E-03
53	0.0000	0.46164E-02	0.12602E-03
54	0.0000	0.46159E-02	0.12600E-03
55	0.0000	0.46155E-02	0.12600E-03

56	0.0000	0.46153E-02	0.12599E-03
57	0.0000	0.46150E-02	0.12598E-03
58	0.0000	0.46148E-02	0.12597E-03
59	0.0000	0.46146E-02	0.12597E-03
60	0.0000	0.46146E-02	0.12597E-03
61	0.0000	0.28590E-02	0.78046E-04
62	0.0000	0.21580E-02	0.58908E-04
63	0.0000	0.16286E-02	0.44457E-04
64	0.0000	0.12381E-02	0.33798E-04
65	0.0000	0.95544E-03	0.26082E-04
66	0.0000	0.75394E-03	0.20581E-04
67	0.0000	0.61212E-03	0.16710E-04
68	0.0000	0.51339E-03	0.14015E-04
69	0.0000	0.44531E-03	0.12156E-04
70	0.0000	0.39875E-03	0.10885E-04
71	0.0000	0.36714E-03	0.10022E-04
72	0.0000	0.34582E-03	0.94403E-05
73	0.0000	0.33153E-03	0.90503E-05
74	0.0000	0.32201E-03	0.87902E-05
75	0.0000	0.31568E-03	0.86176E-05
76	0.0000	0.31151E-03	0.85036E-05
77	0.0000	0.30876E-03	0.84286E-05
78	0.0000	0.30696E-03	0.83795E-05
79	0.0000	0.30579E-03	0.83475E-05
80	0.0000	0.30503E-03	0.83266E-05
81	0.0000	0.30453E-03	0.83131E-05
82	0.0000	0.30421E-03	0.83044E-05
83	0.0000	0.30400E-03	0.82987E-05
84	0.0000	0.30387E-03	0.82951E-05
85	0.0000	0.30378E-03	0.82927E-05
86	0.0000	0.30373E-03	0.82912E-05
87	0.0000	0.30369E-03	0.82902E-05
88	0.0000	0.30367E-03	0.82896E-05
89	0.0000	0.30365E-03	0.82892E-05
90	0.0000	0.30364E-03	0.82888E-05
91	0.0000	0.30362E-03	0.82883E-05
92	0.0000	0.30361E-03	0.82880E-05
93	0.0000	0.30361E-03	0.82880E-05
94	0.0000	0.30361E-03	0.82880E-05
95	0.0000	0.30361E-03	0.82880E-05
96	0.0000	0.30361E-03	0.82880E-05
97	0.0000	0.30361E-03	0.82880E-05
98	0.0000	0.30361E-03	0.82880E-05
99	0.0000	0.30361E-03	0.82880E-05
100	0.0000	0.30361E-03	0.82880E-05
101	0.0000	0.30361E-03	0.82880E-05
102	0.0000	0.30361E-03	0.82880E-05
103	0.0000	0.30361E-03	0.82880E-05
104	0.0000	0.30361E-03	0.82880E-05
105	0.0000	0.30361E-03	0.82880E-05
106	0.0000	0.30361E-03	0.82880E-05
107	0.0000	0.30361E-03	0.82880E-05
108	0.0000	0.30361E-03	0.82880E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 300.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.49883E-01	0.13617E-02
2	0.0000	0.79760E-01	0.21773E-02
3	0.0000	0.10530	0.28746E-02
4	0.0000	0.12625	0.34464E-02
5	0.0000	0.14290	0.39009E-02
6	0.0000	0.15581	0.42534E-02
7	0.0000	0.16563	0.45214E-02
8	0.0000	0.17298	0.47219E-02
9	0.0000	0.17839	0.48698E-02
10	0.0000	0.18234	0.49776E-02
11	0.0000	0.18519	0.50553E-02
12	0.0000	0.18722	0.51108E-02
13	0.0000	0.18866	0.51501E-02
14	0.0000	0.18968	0.51778E-02

15	0.0000	0.19038	0.51971E-02
16	0.0000	0.19087	0.52105E-02
17	0.0000	0.19121	0.52197E-02
18	0.0000	0.19144	0.52260E-02
19	0.0000	0.19160	0.52303E-02
20	0.0000	0.19171	0.52333E-02
21	0.0000	0.14727	0.40201E-02
22	0.0000	0.12066	0.32937E-02
23	0.0000	0.97895E-01	0.26723E-02
24	0.0000	0.79225E-01	0.21627E-02
25	0.0000	0.64384E-01	0.17575E-02
26	0.0000	0.52870E-01	0.14432E-02
27	0.0000	0.44113E-01	0.12042E-02
28	0.0000	0.37563E-01	0.10254E-02
29	0.0000	0.32731E-01	0.89350E-03
30	0.0000	0.29210E-01	0.79738E-03
31	0.0000	0.22501E-01	0.61425E-03
32	0.0000	0.18190E-01	0.49657E-03
33	0.0000	0.14771E-01	0.40321E-03
34	0.0000	0.12117E-01	0.33076E-03
35	0.0000	0.10094E-01	0.27556E-03
36	0.0000	0.85775E-02	0.23415E-03
37	0.0000	0.74549E-02	0.20350E-03
38	0.0000	0.66338E-02	0.18109E-03
39	0.0000	0.60395E-02	0.16487E-03
40	0.0000	0.56134E-02	0.15324E-03
41	0.0000	0.53104E-02	0.14496E-03
42	0.0000	0.50966E-02	0.13913E-03
43	0.0000	0.49468E-02	0.13504E-03
44	0.0000	0.48424E-02	0.13219E-03
45	0.0000	0.47702E-02	0.13022E-03
46	0.0000	0.47204E-02	0.12886E-03
47	0.0000	0.46864E-02	0.12793E-03
48	0.0000	0.46632E-02	0.12730E-03
49	0.0000	0.46474E-02	0.12686E-03
50	0.0000	0.46367E-02	0.12657E-03
51	0.0000	0.46295E-02	0.12638E-03
52	0.0000	0.46247E-02	0.12625E-03
53	0.0000	0.46215E-02	0.12616E-03
54	0.0000	0.46193E-02	0.12610E-03
55	0.0000	0.46178E-02	0.12606E-03
56	0.0000	0.46169E-02	0.12603E-03
57	0.0000	0.46163E-02	0.12601E-03
58	0.0000	0.46158E-02	0.12600E-03
59	0.0000	0.46156E-02	0.12600E-03
60	0.0000	0.46153E-02	0.12599E-03
61	0.0000	0.34946E-02	0.95396E-04
62	0.0000	0.28234E-02	0.77074E-04
63	0.0000	0.22496E-02	0.61410E-04
64	0.0000	0.17791E-02	0.48565E-04
65	0.0000	0.14051E-02	0.38356E-04
66	0.0000	0.11150E-02	0.30437E-04
67	0.0000	0.89440E-03	0.24415E-04
68	0.0000	0.72940E-03	0.19911E-04
69	0.0000	0.60770E-03	0.16589E-04
70	0.0000	0.51901E-03	0.14168E-04
71	0.0000	0.45507E-03	0.12422E-04
72	0.0000	0.40939E-03	0.11176E-04
73	0.0000	0.37704E-03	0.10292E-04
74	0.0000	0.35430E-03	0.96716E-05
75	0.0000	0.33842E-03	0.92381E-05
76	0.0000	0.32740E-03	0.89374E-05
77	0.0000	0.31980E-03	0.87299E-05
78	0.0000	0.31458E-03	0.85876E-05
79	0.0000	0.31102E-03	0.84904E-05
80	0.0000	0.30860E-03	0.84243E-05
81	0.0000	0.30697E-03	0.83796E-05
82	0.0000	0.30586E-03	0.83494E-05
83	0.0000	0.30512E-03	0.83292E-05
84	0.0000	0.30462E-03	0.83156E-05
85	0.0000	0.30429E-03	0.83066E-05
86	0.0000	0.30407E-03	0.83005E-05
87	0.0000	0.30392E-03	0.82966E-05
88	0.0000	0.30383E-03	0.82939E-05
89	0.0000	0.30376E-03	0.82921E-05
90	0.0000	0.30372E-03	0.82910E-05
91	0.0000	0.30369E-03	0.82902E-05
92	0.0000	0.30367E-03	0.82897E-05
93	0.0000	0.30366E-03	0.82892E-05

94	0.0000	0.30364E-03	0.82888E-05
95	0.0000	0.30362E-03	0.82883E-05
96	0.0000	0.30361E-03	0.82880E-05
97	0.0000	0.30361E-03	0.82880E-05
98	0.0000	0.30361E-03	0.82880E-05
99	0.0000	0.30361E-03	0.82880E-05
100	0.0000	0.30361E-03	0.82880E-05
101	0.0000	0.30361E-03	0.82880E-05
102	0.0000	0.30361E-03	0.82880E-05
103	0.0000	0.30361E-03	0.82880E-05
104	0.0000	0.30361E-03	0.82880E-05
105	0.0000	0.30361E-03	0.82880E-05
106	0.0000	0.30361E-03	0.82880E-05
107	0.0000	0.30361E-03	0.82880E-05
108	0.0000	0.30361E-03	0.82880E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 400.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.31835E-01	0.86904E-03
2	0.0000	0.57258E-01	0.15630E-02
3	0.0000	0.81532E-01	0.22257E-02
4	0.0000	0.10336	0.28214E-02
5	0.0000	0.12215	0.33346E-02
6	0.0000	0.13782	0.37623E-02
7	0.0000	0.15055	0.41097E-02
8	0.0000	0.16067	0.43859E-02
9	0.0000	0.16857	0.46015E-02
10	0.0000	0.17464	0.47673E-02
11	0.0000	0.17925	0.48931E-02
12	0.0000	0.18270	0.49874E-02
13	0.0000	0.18527	0.50574E-02
14	0.0000	0.18715	0.51089E-02
15	0.0000	0.18852	0.51464E-02
16	0.0000	0.18952	0.51735E-02
17	0.0000	0.19023	0.51930E-02
18	0.0000	0.19074	0.52069E-02
19	0.0000	0.19110	0.52167E-02
20	0.0000	0.19136	0.52237E-02
21	0.0000	0.16313	0.44530E-02
22	0.0000	0.14056	0.38372E-02
23	0.0000	0.11899	0.32482E-02
24	0.0000	0.99575E-01	0.27182E-02
25	0.0000	0.82841E-01	0.22614E-02
26	0.0000	0.68887E-01	0.18805E-02
27	0.0000	0.57551E-01	0.15710E-02
28	0.0000	0.48536E-01	0.13250E-02
29	0.0000	0.41496E-01	0.11328E-02
30	0.0000	0.36082E-01	0.98498E-03
31	0.0000	0.29313E-01	0.80020E-03
32	0.0000	0.24108E-01	0.65809E-03
33	0.0000	0.19792E-01	0.54030E-03
34	0.0000	0.16288E-01	0.44462E-03
35	0.0000	0.13491E-01	0.36828E-03
36	0.0000	0.11295E-01	0.30834E-03
37	0.0000	0.95953E-02	0.26193E-03
38	0.0000	0.82957E-02	0.22646E-03
39	0.0000	0.73134E-02	0.19964E-03
40	0.0000	0.65786E-02	0.17958E-03
41	0.0000	0.60340E-02	0.16472E-03
42	0.0000	0.56340E-02	0.15380E-03
43	0.0000	0.53423E-02	0.14583E-03
44	0.0000	0.51313E-02	0.14007E-03
45	0.0000	0.49795E-02	0.13593E-03
46	0.0000	0.48712E-02	0.13297E-03
47	0.0000	0.47942E-02	0.13087E-03
48	0.0000	0.47398E-02	0.12939E-03
49	0.0000	0.47016E-02	0.12835E-03
50	0.0000	0.46749E-02	0.12762E-03
51	0.0000	0.46563E-02	0.12711E-03
52	0.0000	0.46434E-02	0.12676E-03

53	0.0000	0.46345E-02	0.12651E-03
54	0.0000	0.46284E-02	0.12635E-03
55	0.0000	0.46242E-02	0.12623E-03
56	0.0000	0.46213E-02	0.12615E-03
57	0.0000	0.46193E-02	0.12610E-03
58	0.0000	0.46180E-02	0.12606E-03
59	0.0000	0.46171E-02	0.12604E-03
60	0.0000	0.46164E-02	0.12602E-03
61	0.0000	0.39008E-02	0.10649E-03
62	0.0000	0.33295E-02	0.90888E-04
63	0.0000	0.27840E-02	0.75999E-04
64	0.0000	0.22937E-02	0.62612E-04
65	0.0000	0.18713E-02	0.51083E-04
66	0.0000	0.15193E-02	0.41474E-04
67	0.0000	0.12334E-02	0.33670E-04
68	0.0000	0.10061E-02	0.27466E-04
69	0.0000	0.82868E-03	0.22621E-04
70	0.0000	0.69224E-03	0.18897E-04
71	0.0000	0.58872E-03	0.16071E-04
72	0.0000	0.51109E-03	0.13952E-04
73	0.0000	0.45350E-03	0.12380E-04
74	0.0000	0.41116E-03	0.11224E-04
75	0.0000	0.38030E-03	0.10381E-04
76	0.0000	0.35798E-03	0.97722E-05
77	0.0000	0.34195E-03	0.93347E-05
78	0.0000	0.33052E-03	0.90225E-05
79	0.0000	0.32241E-03	0.88011E-05
80	0.0000	0.31669E-03	0.86449E-05
81	0.0000	0.31267E-03	0.85354E-05
82	0.0000	0.30987E-03	0.84589E-05
83	0.0000	0.30792E-03	0.84058E-05
84	0.0000	0.30658E-03	0.83690E-05
85	0.0000	0.30565E-03	0.83436E-05
86	0.0000	0.30501E-03	0.83262E-05
87	0.0000	0.30457E-03	0.83142E-05
88	0.0000	0.30427E-03	0.83061E-05
89	0.0000	0.30407E-03	0.83006E-05
90	0.0000	0.30393E-03	0.82968E-05
91	0.0000	0.30384E-03	0.82942E-05
92	0.0000	0.30378E-03	0.82925E-05
93	0.0000	0.30373E-03	0.82914E-05
94	0.0000	0.30371E-03	0.82906E-05
95	0.0000	0.30369E-03	0.82901E-05
96	0.0000	0.30367E-03	0.82896E-05
97	0.0000	0.30365E-03	0.82890E-05
98	0.0000	0.30363E-03	0.82885E-05
99	0.0000	0.30361E-03	0.82880E-05
100	0.0000	0.30361E-03	0.82880E-05
101	0.0000	0.30361E-03	0.82880E-05
102	0.0000	0.30361E-03	0.82880E-05
103	0.0000	0.30361E-03	0.82880E-05
104	0.0000	0.30361E-03	0.82880E-05
105	0.0000	0.30361E-03	0.82880E-05
106	0.0000	0.30361E-03	0.82880E-05
107	0.0000	0.30361E-03	0.82880E-05
108	0.0000	0.30361E-03	0.82880E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 500.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.20317E-01	0.55462E-03
2	0.0000	0.40598E-01	0.11083E-02
3	0.0000	0.61987E-01	0.16921E-02
4	0.0000	0.82859E-01	0.22619E-02
5	0.0000	0.10216	0.27888E-02
6	0.0000	0.11930	0.32568E-02
7	0.0000	0.13406	0.36595E-02
8	0.0000	0.14643	0.39973E-02
9	0.0000	0.15659	0.42747E-02
10	0.0000	0.16478	0.44983E-02
11	0.0000	0.17128	0.46757E-02

12	0.0000	0.17637	0.48145E-02
13	0.0000	0.18030	0.49218E-02
14	0.0000	0.18330	0.50039E-02
15	0.0000	0.18558	0.50660E-02
16	0.0000	0.18729	0.51126E-02
17	0.0000	0.18856	0.51472E-02
18	0.0000	0.18949	0.51728E-02
19	0.0000	0.19018	0.51916E-02
20	0.0000	0.19068	0.52053E-02
21	0.0000	0.17292	0.47203E-02
22	0.0000	0.15508	0.42334E-02
23	0.0000	0.13618	0.37174E-02
24	0.0000	0.11769	0.32126E-02
25	0.0000	0.10056	0.27451E-02
26	0.0000	0.85327E-01	0.23293E-02
27	0.0000	0.72208E-01	0.19711E-02
28	0.0000	0.61198E-01	0.16706E-02
29	0.0000	0.52154E-01	0.14237E-02
30	0.0000	0.44862E-01	0.12246E-02
31	0.0000	0.37375E-01	0.10203E-02
32	0.0000	0.31149E-01	0.85031E-03
33	0.0000	0.25858E-01	0.70589E-03
34	0.0000	0.21435E-01	0.58514E-03
35	0.0000	0.17794E-01	0.48574E-03
36	0.0000	0.14839E-01	0.40509E-03
37	0.0000	0.12474E-01	0.34051E-03
38	0.0000	0.10603E-01	0.28945E-03
39	0.0000	0.91411E-02	0.24953E-03
40	0.0000	0.80097E-02	0.21865E-03
41	0.0000	0.71430E-02	0.19499E-03
42	0.0000	0.64849E-02	0.17703E-03
43	0.0000	0.59894E-02	0.16350E-03
44	0.0000	0.56192E-02	0.15339E-03
45	0.0000	0.53446E-02	0.14590E-03
46	0.0000	0.51424E-02	0.14038E-03
47	0.0000	0.49943E-02	0.13633E-03
48	0.0000	0.48865E-02	0.13339E-03
49	0.0000	0.48085E-02	0.13126E-03
50	0.0000	0.47524E-02	0.12973E-03
51	0.0000	0.47122E-02	0.12863E-03
52	0.0000	0.46835E-02	0.12785E-03
53	0.0000	0.46631E-02	0.12729E-03
54	0.0000	0.46488E-02	0.12690E-03
55	0.0000	0.46386E-02	0.12663E-03
56	0.0000	0.46315E-02	0.12643E-03
57	0.0000	0.46266E-02	0.12630E-03
58	0.0000	0.46231E-02	0.12620E-03
59	0.0000	0.46207E-02	0.12614E-03
60	0.0000	0.46190E-02	0.12609E-03
61	0.0000	0.41614E-02	0.11360E-03
62	0.0000	0.37050E-02	0.10114E-03
63	0.0000	0.32240E-02	0.88010E-04
64	0.0000	0.27548E-02	0.75201E-04
65	0.0000	0.23210E-02	0.63359E-04
66	0.0000	0.19357E-02	0.52842E-04
67	0.0000	0.16042E-02	0.43791E-04
68	0.0000	0.13261E-02	0.36201E-04
69	0.0000	0.10979E-02	0.29970E-04
70	0.0000	0.91385E-03	0.24946E-04
71	0.0000	0.76784E-03	0.20961E-04
72	0.0000	0.65359E-03	0.17842E-04
73	0.0000	0.56527E-03	0.15431E-04
74	0.0000	0.49774E-03	0.13587E-04
75	0.0000	0.44663E-03	0.12192E-04
76	0.0000	0.40828E-03	0.11145E-04
77	0.0000	0.37975E-03	0.10366E-04
78	0.0000	0.35868E-03	0.97914E-05
79	0.0000	0.34324E-03	0.93697E-05
80	0.0000	0.33198E-03	0.90624E-05
81	0.0000	0.32383E-03	0.88400E-05
82	0.0000	0.31796E-03	0.86797E-05
83	0.0000	0.31376E-03	0.85650E-05
84	0.0000	0.31076E-03	0.84832E-05
85	0.0000	0.30864E-03	0.84252E-05
86	0.0000	0.30713E-03	0.83842E-05
87	0.0000	0.30608E-03	0.83553E-05
88	0.0000	0.30534E-03	0.83351E-05
89	0.0000	0.30482E-03	0.83210E-05
90	0.0000	0.30446E-03	0.83112E-05

91	0.0000	0.30421E-03	0.83044E-05
92	0.0000	0.30404E-03	0.82996E-05
93	0.0000	0.30392E-03	0.82964E-05
94	0.0000	0.30384E-03	0.82942E-05
95	0.0000	0.30378E-03	0.82926E-05
96	0.0000	0.30374E-03	0.82914E-05
97	0.0000	0.30372E-03	0.82909E-05
98	0.0000	0.30370E-03	0.82903E-05
99	0.0000	0.30368E-03	0.82898E-05
100	0.0000	0.30366E-03	0.82892E-05
101	0.0000	0.30364E-03	0.82887E-05
102	0.0000	0.30362E-03	0.82881E-05
103	0.0000	0.30361E-03	0.82880E-05
104	0.0000	0.30361E-03	0.82880E-05
105	0.0000	0.30361E-03	0.82880E-05
106	0.0000	0.30361E-03	0.82880E-05
107	0.0000	0.30361E-03	0.82880E-05
108	0.0000	0.30361E-03	0.82880E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 600.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.12966E-01	0.35396E-03
2	0.0000	0.28498E-01	0.77795E-03
3	0.0000	0.46429E-01	0.12674E-02
4	0.0000	0.65271E-01	0.17818E-02
5	0.0000	0.83848E-01	0.22889E-02
6	0.0000	0.10132	0.27659E-02
7	0.0000	0.11717	0.31984E-02
8	0.0000	0.13111	0.35791E-02
9	0.0000	0.14309	0.39062E-02
10	0.0000	0.15317	0.41813E-02
11	0.0000	0.16150	0.44086E-02
12	0.0000	0.16827	0.45935E-02
13	0.0000	0.17370	0.47418E-02
14	0.0000	0.17801	0.48593E-02
15	0.0000	0.18138	0.49513E-02
16	0.0000	0.18399	0.50226E-02
17	0.0000	0.18600	0.50774E-02
18	0.0000	0.18753	0.51192E-02
19	0.0000	0.18868	0.51507E-02
20	0.0000	0.18955	0.51744E-02
21	0.0000	0.17863	0.48762E-02
22	0.0000	0.16525	0.45109E-02
23	0.0000	0.14960	0.40837E-02
24	0.0000	0.13304	0.36318E-02
25	0.0000	0.11665	0.31844E-02
26	0.0000	0.10120	0.27624E-02
27	0.0000	0.87155E-01	0.23792E-02
28	0.0000	0.74779E-01	0.20413E-02
29	0.0000	0.64138E-01	0.17508E-02
30	0.0000	0.55180E-01	0.15063E-02
31	0.0000	0.46690E-01	0.12746E-02
32	0.0000	0.39366E-01	0.10746E-02
33	0.0000	0.33032E-01	0.90172E-03
34	0.0000	0.27626E-01	0.75414E-03
35	0.0000	0.23072E-01	0.62981E-03
36	0.0000	0.19283E-01	0.52639E-03
37	0.0000	0.16170E-01	0.44141E-03
38	0.0000	0.13642E-01	0.37239E-03
39	0.0000	0.11610E-01	0.31694E-03
40	0.0000	0.99951E-02	0.27285E-03
41	0.0000	0.87232E-02	0.23813E-03
42	0.0000	0.77306E-02	0.21103E-03
43	0.0000	0.69626E-02	0.19006E-03
44	0.0000	0.63730E-02	0.17397E-03
45	0.0000	0.59239E-02	0.16171E-03
46	0.0000	0.55842E-02	0.15244E-03
47	0.0000	0.53289E-02	0.14547E-03
48	0.0000	0.51382E-02	0.14026E-03
49	0.0000	0.49967E-02	0.13640E-03

50	0.0000	0.48922E-02	0.13355E-03
51	0.0000	0.48155E-02	0.13145E-03
52	0.0000	0.47595E-02	0.12993E-03
53	0.0000	0.47187E-02	0.12881E-03
54	0.0000	0.46893E-02	0.12801E-03
55	0.0000	0.46680E-02	0.12743E-03
56	0.0000	0.46528E-02	0.12701E-03
57	0.0000	0.46419E-02	0.12671E-03
58	0.0000	0.46341E-02	0.12650E-03
59	0.0000	0.46286E-02	0.12635E-03
60	0.0000	0.46247E-02	0.12624E-03
61	0.0000	0.43306E-02	0.11822E-03
62	0.0000	0.39798E-02	0.10864E-03
63	0.0000	0.35756E-02	0.97608E-04
64	0.0000	0.31514E-02	0.86028E-04
65	0.0000	0.27335E-02	0.74618E-04
66	0.0000	0.23405E-02	0.63891E-04
67	0.0000	0.19843E-02	0.54168E-04
68	0.0000	0.16708E-02	0.45609E-04
69	0.0000	0.14015E-02	0.38258E-04
70	0.0000	0.11750E-02	0.32075E-04
71	0.0000	0.98785E-03	0.26967E-04
72	0.0000	0.83566E-03	0.22812E-04
73	0.0000	0.71360E-03	0.19480E-04
74	0.0000	0.61692E-03	0.16841E-04
75	0.0000	0.54118E-03	0.14773E-04
76	0.0000	0.48246E-03	0.13170E-04
77	0.0000	0.43736E-03	0.11939E-04
78	0.0000	0.40300E-03	0.11001E-04
79	0.0000	0.37704E-03	0.10292E-04
80	0.0000	0.35756E-03	0.97606E-05
81	0.0000	0.34304E-03	0.93644E-05
82	0.0000	0.33230E-03	0.90710E-05
83	0.0000	0.32438E-03	0.88551E-05
84	0.0000	0.31859E-03	0.86970E-05
85	0.0000	0.31438E-03	0.85819E-05
86	0.0000	0.31132E-03	0.84985E-05
87	0.0000	0.30912E-03	0.84383E-05
88	0.0000	0.30753E-03	0.83951E-05
89	0.0000	0.30640E-03	0.83642E-05
90	0.0000	0.30559E-03	0.83421E-05
91	0.0000	0.30502E-03	0.83265E-05
92	0.0000	0.30462E-03	0.83155E-05
93	0.0000	0.30433E-03	0.83077E-05
94	0.0000	0.30413E-03	0.83022E-05
95	0.0000	0.30399E-03	0.82983E-05
96	0.0000	0.30389E-03	0.82957E-05
97	0.0000	0.30382E-03	0.82938E-05
98	0.0000	0.30378E-03	0.82925E-05
99	0.0000	0.30374E-03	0.82916E-05
100	0.0000	0.30372E-03	0.82911E-05
101	0.0000	0.30370E-03	0.82905E-05
102	0.0000	0.30368E-03	0.82899E-05
103	0.0000	0.30366E-03	0.82894E-05
104	0.0000	0.30364E-03	0.82888E-05
105	0.0000	0.30362E-03	0.82882E-05
106	0.0000	0.30361E-03	0.82880E-05
107	0.0000	0.30361E-03	0.82880E-05
108	0.0000	0.30361E-03	0.82880E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 700.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.82750E-02	0.22589E-03
2	0.0000	0.19839E-01	0.54158E-03
3	0.0000	0.34344E-01	0.93753E-03
4	0.0000	0.50655E-01	0.13828E-02
5	0.0000	0.67706E-01	0.18482E-02
6	0.0000	0.84608E-01	0.23096E-02
7	0.0000	0.10069	0.27485E-02
8	0.0000	0.11548	0.31524E-02

9	0.0000	0.12872	0.35139E-02
10	0.0000	0.14031	0.38302E-02
11	0.0000	0.15025	0.41014E-02
12	0.0000	0.15862	0.43299E-02
13	0.0000	0.16556	0.45195E-02
14	0.0000	0.17125	0.46747E-02
15	0.0000	0.17584	0.48001E-02
16	0.0000	0.17951	0.49003E-02
17	0.0000	0.18242	0.49796E-02
18	0.0000	0.18469	0.50417E-02
19	0.0000	0.18646	0.50900E-02
20	0.0000	0.18782	0.51272E-02
21	0.0000	0.18148	0.49541E-02
22	0.0000	0.17195	0.46940E-02
23	0.0000	0.15961	0.43570E-02
24	0.0000	0.14550	0.39719E-02
25	0.0000	0.13062	0.35657E-02
26	0.0000	0.11579	0.31607E-02
27	0.0000	0.10162	0.27741E-02
28	0.0000	0.88556E-01	0.24174E-02
29	0.0000	0.76834E-01	0.20974E-02
30	0.0000	0.66567E-01	0.18171E-02
31	0.0000	0.57061E-01	0.15577E-02
32	0.0000	0.48662E-01	0.13284E-02
33	0.0000	0.41278E-01	0.11268E-02
34	0.0000	0.34862E-01	0.95167E-03
35	0.0000	0.29351E-01	0.80123E-03
36	0.0000	0.24672E-01	0.67349E-03
37	0.0000	0.20743E-01	0.56624E-03
38	0.0000	0.17480E-01	0.47717E-03
39	0.0000	0.14798E-01	0.40397E-03
40	0.0000	0.12616E-01	0.34439E-03
41	0.0000	0.10857E-01	0.29637E-03
42	0.0000	0.94516E-02	0.25801E-03
43	0.0000	0.83384E-02	0.22762E-03
44	0.0000	0.74637E-02	0.20375E-03
45	0.0000	0.67816E-02	0.18513E-03
46	0.0000	0.62536E-02	0.17071E-03
47	0.0000	0.58476E-02	0.15963E-03
48	0.0000	0.55374E-02	0.15116E-03
49	0.0000	0.53019E-02	0.14473E-03
50	0.0000	0.51242E-02	0.13988E-03
51	0.0000	0.49908E-02	0.13624E-03
52	0.0000	0.48912E-02	0.13352E-03
53	0.0000	0.48172E-02	0.13150E-03
54	0.0000	0.47625E-02	0.13001E-03
55	0.0000	0.47222E-02	0.12891E-03
56	0.0000	0.46927E-02	0.12810E-03
57	0.0000	0.46712E-02	0.12751E-03
58	0.0000	0.46556E-02	0.12709E-03
59	0.0000	0.46442E-02	0.12678E-03
60	0.0000	0.46360E-02	0.12656E-03
61	0.0000	0.44443E-02	0.12132E-03
62	0.0000	0.41803E-02	0.11411E-03
63	0.0000	0.38514E-02	0.10514E-03
64	0.0000	0.34829E-02	0.95077E-04
65	0.0000	0.30983E-02	0.84579E-04
66	0.0000	0.27176E-02	0.74186E-04
67	0.0000	0.23557E-02	0.64307E-04
68	0.0000	0.20229E-02	0.55220E-04
69	0.0000	0.17250E-02	0.47088E-04
70	0.0000	0.14644E-02	0.39976E-04
71	0.0000	0.12411E-02	0.33879E-04
72	0.0000	0.10529E-02	0.28742E-04
73	0.0000	0.89680E-03	0.24481E-04
74	0.0000	0.76906E-03	0.20994E-04
75	0.0000	0.66583E-03	0.18176E-04
76	0.0000	0.58332E-03	0.15924E-04
77	0.0000	0.51806E-03	0.14142E-04
78	0.0000	0.46691E-03	0.12746E-04
79	0.0000	0.42718E-03	0.11661E-04
80	0.0000	0.39656E-03	0.10825E-04
81	0.0000	0.37314E-03	0.10186E-04
82	0.0000	0.35534E-03	0.97001E-05
83	0.0000	0.34191E-03	0.93335E-05
84	0.0000	0.33184E-03	0.90585E-05
85	0.0000	0.32432E-03	0.88534E-05
86	0.0000	0.31875E-03	0.87012E-05
87	0.0000	0.31463E-03	0.85889E-05

88	0.0000	0.31161E-03	0.85064E-05
89	0.0000	0.30940E-03	0.84460E-05
90	0.0000	0.30779E-03	0.84021E-05
91	0.0000	0.30663E-03	0.83703E-05
92	0.0000	0.30578E-03	0.83473E-05
93	0.0000	0.30518E-03	0.83308E-05
94	0.0000	0.30474E-03	0.83189E-05
95	0.0000	0.30443E-03	0.83104E-05
96	0.0000	0.30421E-03	0.83044E-05
97	0.0000	0.30406E-03	0.83001E-05
98	0.0000	0.30394E-03	0.82970E-05
99	0.0000	0.30386E-03	0.82949E-05
100	0.0000	0.30381E-03	0.82935E-05
101	0.0000	0.30377E-03	0.82923E-05
102	0.0000	0.30375E-03	0.82918E-05
103	0.0000	0.30373E-03	0.82912E-05
104	0.0000	0.30371E-03	0.82906E-05
105	0.0000	0.30369E-03	0.82900E-05
106	0.0000	0.30366E-03	0.82895E-05
107	0.0000	0.30364E-03	0.82889E-05
108	0.0000	0.30362E-03	0.82883E-05
109	0.0000	0.30361E-03	0.82880E-05
110	0.0000	0.30361E-03	0.82880E-05
111	0.0000	0.30361E-03	0.82880E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 800.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.52811E-02	0.14416E-03
2	0.0000	0.13716E-01	0.37441E-03
3	0.0000	0.25137E-01	0.68619E-03
4	0.0000	0.38809E-01	0.10594E-02
5	0.0000	0.53899E-01	0.14713E-02
6	0.0000	0.69599E-01	0.18999E-02
7	0.0000	0.85210E-01	0.23261E-02
8	0.0000	0.10018	0.27347E-02
9	0.0000	0.11410	0.31148E-02
10	0.0000	0.12673	0.34596E-02
11	0.0000	0.13794	0.37656E-02
12	0.0000	0.14770	0.40320E-02
13	0.0000	0.15606	0.42602E-02
14	0.0000	0.16311	0.44526E-02
15	0.0000	0.16897	0.46127E-02
16	0.0000	0.17380	0.47443E-02
17	0.0000	0.17771	0.48513E-02
18	0.0000	0.18087	0.49374E-02
19	0.0000	0.18338	0.50060E-02
20	0.0000	0.18537	0.50602E-02
21	0.0000	0.18221	0.49741E-02
22	0.0000	0.17590	0.48017E-02
23	0.0000	0.16664	0.45490E-02
24	0.0000	0.15516	0.42356E-02
25	0.0000	0.14224	0.38829E-02
26	0.0000	0.12865	0.35118E-02
27	0.0000	0.11503	0.31401E-02
28	0.0000	0.10191	0.27819E-02
29	0.0000	0.89657E-01	0.24475E-02
30	0.0000	0.78516E-01	0.21433E-02
31	0.0000	0.68167E-01	0.18608E-02
32	0.0000	0.58823E-01	0.16058E-02
33	0.0000	0.50464E-01	0.13776E-02
34	0.0000	0.43069E-01	0.11757E-02
35	0.0000	0.36601E-01	0.99915E-03
36	0.0000	0.31007E-01	0.84643E-03
37	0.0000	0.26219E-01	0.71573E-03
38	0.0000	0.22164E-01	0.60503E-03
39	0.0000	0.18764E-01	0.51222E-03
40	0.0000	0.15941E-01	0.43515E-03
41	0.0000	0.13618E-01	0.37174E-03
42	0.0000	0.11724E-01	0.32004E-03
43	0.0000	0.10192E-01	0.27822E-03
44	0.0000	0.89633E-02	0.24468E-03
45	0.0000	0.79852E-02	0.21798E-03
46	0.0000	0.72122E-02	0.19688E-03

47	0.0000	0.66056E-02	0.18032E-03
48	0.0000	0.61327E-02	0.16741E-03
49	0.0000	0.57664E-02	0.15741E-03
50	0.0000	0.54843E-02	0.14971E-03
51	0.0000	0.52683E-02	0.14381E-03
52	0.0000	0.51038E-02	0.13932E-03
53	0.0000	0.49792E-02	0.13592E-03
54	0.0000	0.48853E-02	0.13336E-03
55	0.0000	0.48149E-02	0.13144E-03
56	0.0000	0.47623E-02	0.13000E-03
57	0.0000	0.47232E-02	0.12894E-03
58	0.0000	0.46943E-02	0.12815E-03
59	0.0000	0.46730E-02	0.12756E-03
60	0.0000	0.46573E-02	0.12714E-03
61	0.0000	0.45272E-02	0.12358E-03
62	0.0000	0.43293E-02	0.11818E-03
63	0.0000	0.40667E-02	0.11101E-03
64	0.0000	0.37552E-02	0.10251E-03
65	0.0000	0.34130E-02	0.93169E-04
66	0.0000	0.30581E-02	0.83480E-04
67	0.0000	0.27058E-02	0.73862E-04
68	0.0000	0.23684E-02	0.64652E-04
69	0.0000	0.20547E-02	0.56090E-04
70	0.0000	0.17704E-02	0.48328E-04
71	0.0000	0.15182E-02	0.41443E-04
72	0.0000	0.12986E-02	0.35450E-04
73	0.0000	0.11107E-02	0.30320E-04
74	0.0000	0.95222E-03	0.25994E-04
75	0.0000	0.82037E-03	0.22395E-04
76	0.0000	0.71199E-03	0.19436E-04
77	0.0000	0.62390E-03	0.17031E-04
78	0.0000	0.55303E-03	0.15097E-04
79	0.0000	0.49653E-03	0.13554E-04
80	0.0000	0.45189E-03	0.12336E-04
81	0.0000	0.41690E-03	0.11380E-04
82	0.0000	0.38967E-03	0.10637E-04
83	0.0000	0.36865E-03	0.10063E-04
84	0.0000	0.35251E-03	0.96228E-05
85	0.0000	0.34020E-03	0.92868E-05
86	0.0000	0.33087E-03	0.90321E-05
87	0.0000	0.32383E-03	0.88400E-05
88	0.0000	0.31856E-03	0.86959E-05
89	0.0000	0.31462E-03	0.85884E-05
90	0.0000	0.31169E-03	0.85085E-05
91	0.0000	0.30953E-03	0.84495E-05
92	0.0000	0.30793E-03	0.84060E-05
93	0.0000	0.30676E-03	0.83741E-05
94	0.0000	0.30591E-03	0.83508E-05
95	0.0000	0.30529E-03	0.83338E-05
96	0.0000	0.30484E-03	0.83215E-05
97	0.0000	0.30451E-03	0.83126E-05
98	0.0000	0.30428E-03	0.83062E-05
99	0.0000	0.30411E-03	0.83017E-05
100	0.0000	0.30399E-03	0.82983E-05
101	0.0000	0.30390E-03	0.82960E-05
102	0.0000	0.30385E-03	0.82944E-05
103	0.0000	0.30380E-03	0.82930E-05
104	0.0000	0.30377E-03	0.82924E-05
105	0.0000	0.30375E-03	0.82919E-05
106	0.0000	0.30373E-03	0.82913E-05
107	0.0000	0.30371E-03	0.82907E-05
108	0.0000	0.30369E-03	0.82901E-05
109	0.0000	0.30367E-03	0.82895E-05
110	0.0000	0.30364E-03	0.82889E-05
111	0.0000	0.30362E-03	0.82883E-05
112	0.0000	0.30361E-03	0.82880E-05
113	0.0000	0.30361E-03	0.82880E-05
114	0.0000	0.30361E-03	0.82880E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 900.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.33704E-02	0.92004E-04
2	0.0000	0.94262E-02	0.25732E-03
3	0.0000	0.18231E-01	0.49767E-03
4	0.0000	0.29403E-01	0.80263E-03
5	0.0000	0.42371E-01	0.11567E-02

6	0.0000	0.56490E-01	0.15421E-02
7	0.0000	0.71122E-01	0.19415E-02
8	0.0000	0.85700E-01	0.23394E-02
9	0.0000	0.99759E-01	0.27232E-02
10	0.0000	0.11295	0.30834E-02
11	0.0000	0.12504	0.34134E-02
12	0.0000	0.13590	0.37097E-02
13	0.0000	0.14547	0.39710E-02
14	0.0000	0.15377	0.41978E-02
15	0.0000	0.16088	0.43916E-02
16	0.0000	0.16687	0.45553E-02
17	0.0000	0.17187	0.46917E-02
18	0.0000	0.17599	0.48043E-02
19	0.0000	0.17936	0.48962E-02
20	0.0000	0.18208	0.49705E-02
21	0.0000	0.18126	0.49481E-02
22	0.0000	0.17759	0.48480E-02
23	0.0000	0.17111	0.46709E-02
24	0.0000	0.16222	0.44282E-02
25	0.0000	0.15148	0.41351E-02
26	0.0000	0.13953	0.38089E-02
27	0.0000	0.12697	0.34661E-02
28	0.0000	0.11434	0.31214E-02
29	0.0000	0.10209	0.27868E-02
30	0.0000	0.90535E-01	0.24714E-02
31	0.0000	0.79631E-01	0.21738E-02
32	0.0000	0.69562E-01	0.18989E-02
33	0.0000	0.60376E-01	0.16482E-02
34	0.0000	0.52100E-01	0.14222E-02
35	0.0000	0.44730E-01	0.12210E-02
36	0.0000	0.38238E-01	0.10438E-02
37	0.0000	0.32582E-01	0.88943E-03
38	0.0000	0.27705E-01	0.75628E-03
39	0.0000	0.23540E-01	0.64259E-03
40	0.0000	0.20017E-01	0.54643E-03
41	0.0000	0.17065E-01	0.46584E-03
42	0.0000	0.14613E-01	0.39889E-03
43	0.0000	0.12592E-01	0.34374E-03
44	0.0000	0.10941E-01	0.29867E-03
45	0.0000	0.96018E-02	0.26211E-03
46	0.0000	0.85238E-02	0.23268E-03
47	0.0000	0.76620E-02	0.20916E-03
48	0.0000	0.69776E-02	0.19048E-03
49	0.0000	0.64376E-02	0.17574E-03
50	0.0000	0.60142E-02	0.16418E-03
51	0.0000	0.56841E-02	0.15517E-03
52	0.0000	0.54282E-02	0.14818E-03
53	0.0000	0.52309E-02	0.14279E-03
54	0.0000	0.50795E-02	0.13866E-03
55	0.0000	0.49640E-02	0.13551E-03
56	0.0000	0.48762E-02	0.13311E-03
57	0.0000	0.48098E-02	0.13130E-03
58	0.0000	0.47599E-02	0.12994E-03
59	0.0000	0.47224E-02	0.12891E-03
60	0.0000	0.46944E-02	0.12815E-03
61	0.0000	0.45978E-02	0.12551E-03
62	0.0000	0.44464E-02	0.12138E-03
63	0.0000	0.42372E-02	0.11567E-03
64	0.0000	0.39779E-02	0.10859E-03
65	0.0000	0.36804E-02	0.10047E-03
66	0.0000	0.33588E-02	0.91688E-04
67	0.0000	0.30268E-02	0.82627E-04
68	0.0000	0.26970E-02	0.73623E-04
69	0.0000	0.23795E-02	0.64955E-04
70	0.0000	0.20819E-02	0.56831E-04
71	0.0000	0.18094E-02	0.49393E-04
72	0.0000	0.15649E-02	0.42719E-04
73	0.0000	0.13494E-02	0.36836E-04
74	0.0000	0.11625E-02	0.31735E-04
75	0.0000	0.10028E-02	0.27373E-04
76	0.0000	0.86794E-03	0.23693E-04
77	0.0000	0.75554E-03	0.20625E-04
78	0.0000	0.66283E-03	0.18094E-04
79	0.0000	0.58714E-03	0.16028E-04
80	0.0000	0.52592E-03	0.14357E-04
81	0.0000	0.47682E-03	0.13016E-04
82	0.0000	0.43776E-03	0.11950E-04
83	0.0000	0.40693E-03	0.11108E-04
84	0.0000	0.38276E-03	0.10449E-04

85	0.0000	0.36393E-03	0.99347E-05
86	0.0000	0.34937E-03	0.95370E-05
87	0.0000	0.33816E-03	0.92311E-05
88	0.0000	0.32959E-03	0.89971E-05
89	0.0000	0.32306E-03	0.88190E-05
90	0.0000	0.31812E-03	0.86842E-05
91	0.0000	0.31440E-03	0.85826E-05
92	0.0000	0.31161E-03	0.85064E-05
93	0.0000	0.30953E-03	0.84495E-05
94	0.0000	0.30798E-03	0.84072E-05
95	0.0000	0.30683E-03	0.83759E-05
96	0.0000	0.30598E-03	0.83527E-05
97	0.0000	0.30536E-03	0.83358E-05
98	0.0000	0.30490E-03	0.83233E-05
99	0.0000	0.30457E-03	0.83143E-05
100	0.0000	0.30433E-03	0.83077E-05
101	0.0000	0.30416E-03	0.83029E-05
102	0.0000	0.30403E-03	0.82994E-05
103	0.0000	0.30394E-03	0.82970E-05
104	0.0000	0.30388E-03	0.82952E-05
105	0.0000	0.30382E-03	0.82938E-05
106	0.0000	0.30380E-03	0.82931E-05
107	0.0000	0.30378E-03	0.82925E-05
108	0.0000	0.30375E-03	0.82919E-05
109	0.0000	0.30373E-03	0.82913E-05
110	0.0000	0.30371E-03	0.82907E-05
111	0.0000	0.30369E-03	0.82901E-05
112	0.0000	0.30367E-03	0.82896E-05
113	0.0000	0.30365E-03	0.82890E-05
114	0.0000	0.30362E-03	0.82884E-05
115	0.0000	0.30361E-03	0.82880E-05
116	0.0000	0.30361E-03	0.82880E-05

Pistol Range
Time: 1000.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.21509E-02	0.58717E-04
2	0.0000	0.64452E-02	0.17594E-03
3	0.0000	0.13117E-01	0.35808E-03
4	0.0000	0.22057E-01	0.60212E-03
5	0.0000	0.32940E-01	0.89919E-03
6	0.0000	0.45302E-01	0.12366E-02
7	0.0000	0.58622E-01	0.16003E-02
8	0.0000	0.72380E-01	0.19758E-02
9	0.0000	0.86106E-01	0.23505E-02
10	0.0000	0.99404E-01	0.27135E-02
11	0.0000	0.11197	0.30565E-02
12	0.0000	0.12358	0.33734E-02
13	0.0000	0.13410	0.36608E-02
14	0.0000	0.14348	0.39168E-02
15	0.0000	0.15171	0.41415E-02
16	0.0000	0.15884	0.43359E-02
17	0.0000	0.16492	0.45020E-02
18	0.0000	0.17006	0.46422E-02
19	0.0000	0.17435	0.47593E-02
20	0.0000	0.17790	0.48562E-02
21	0.0000	0.17888	0.48832E-02
22	0.0000	0.17742	0.48431E-02
23	0.0000	0.17337	0.47326E-02
24	0.0000	0.16691	0.45564E-02
25	0.0000	0.15841	0.43243E-02
26	0.0000	0.14833	0.40492E-02
27	0.0000	0.13720	0.37452E-02
28	0.0000	0.12550	0.34260E-02
29	0.0000	0.11371	0.31040E-02
30	0.0000	0.10219	0.27895E-02
31	0.0000	0.91065E-01	0.24859E-02
32	0.0000	0.80546E-01	0.21988E-02
33	0.0000	0.70752E-01	0.19314E-02
34	0.0000	0.61752E-01	0.16857E-02
35	0.0000	0.53586E-01	0.14628E-02
36	0.0000	0.46264E-01	0.12629E-02
37	0.0000	0.39771E-01	0.10857E-02
38	0.0000	0.34074E-01	0.93016E-03
39	0.0000	0.29125E-01	0.79506E-03
40	0.0000	0.24867E-01	0.67881E-03
41	0.0000	0.21236E-01	0.57970E-03
42	0.0000	0.18168E-01	0.49594E-03
43	0.0000	0.15596E-01	0.42575E-03

44	0.0000	0.13459E-01	0.36739E-03
45	0.0000	0.11695E-01	0.31925E-03
46	0.0000	0.10251E-01	0.27983E-03
47	0.0000	0.90766E-02	0.24777E-03
48	0.0000	0.81282E-02	0.22188E-03
49	0.0000	0.73672E-02	0.20111E-03
50	0.0000	0.67604E-02	0.18455E-03
51	0.0000	0.62794E-02	0.17142E-03
52	0.0000	0.59003E-02	0.16107E-03
53	0.0000	0.56031E-02	0.15296E-03
54	0.0000	0.53715E-02	0.14663E-03
55	0.0000	0.51918E-02	0.14172E-03
56	0.0000	0.50530E-02	0.13794E-03
57	0.0000	0.49464E-02	0.13503E-03
58	0.0000	0.48649E-02	0.13280E-03
59	0.0000	0.48028E-02	0.13111E-03
60	0.0000	0.47557E-02	0.12982E-03
61	0.0000	0.46718E-02	0.12753E-03
62	0.0000	0.45486E-02	0.12417E-03
63	0.0000	0.43787E-02	0.11953E-03
64	0.0000	0.41629E-02	0.11364E-03
65	0.0000	0.39073E-02	0.10666E-03
66	0.0000	0.36213E-02	0.98854E-04
67	0.0000	0.33160E-02	0.90520E-04
68	0.0000	0.30024E-02	0.81960E-04
69	0.0000	0.26908E-02	0.73453E-04
70	0.0000	0.23896E-02	0.65233E-04
71	0.0000	0.21057E-02	0.57481E-04
72	0.0000	0.18436E-02	0.50325E-04
73	0.0000	0.16062E-02	0.43845E-04
74	0.0000	0.13948E-02	0.38075E-04
75	0.0000	0.12094E-02	0.33014E-04
76	0.0000	0.10491E-02	0.28638E-04
77	0.0000	0.91218E-03	0.24901E-04
78	0.0000	0.79661E-03	0.21746E-04
79	0.0000	0.70010E-03	0.19111E-04
80	0.0000	0.62028E-03	0.16933E-04
81	0.0000	0.55489E-03	0.15147E-04
82	0.0000	0.50176E-03	0.13697E-04
83	0.0000	0.45895E-03	0.12528E-04
84	0.0000	0.42470E-03	0.11594E-04
85	0.0000	0.39750E-03	0.10851E-04
86	0.0000	0.37605E-03	0.10265E-04
87	0.0000	0.35922E-03	0.98061E-05
88	0.0000	0.34611E-03	0.94482E-05
89	0.0000	0.33595E-03	0.91708E-05
90	0.0000	0.32812E-03	0.89571E-05
91	0.0000	0.32211E-03	0.87931E-05
92	0.0000	0.31753E-03	0.86680E-05
93	0.0000	0.31405E-03	0.85730E-05
94	0.0000	0.31142E-03	0.85011E-05
95	0.0000	0.30944E-03	0.84470E-05
96	0.0000	0.30795E-03	0.84064E-05
97	0.0000	0.30684E-03	0.83761E-05
98	0.0000	0.30601E-03	0.83535E-05
99	0.0000	0.30540E-03	0.83368E-05
100	0.0000	0.30495E-03	0.83245E-05
101	0.0000	0.30461E-03	0.83154E-05
102	0.0000	0.30437E-03	0.83087E-05
103	0.0000	0.30419E-03	0.83039E-05
104	0.0000	0.30406E-03	0.83003E-05
105	0.0000	0.30397E-03	0.82978E-05
106	0.0000	0.30390E-03	0.82960E-05
107	0.0000	0.30385E-03	0.82945E-05
108	0.0000	0.30382E-03	0.82937E-05
109	0.0000	0.30380E-03	0.82932E-05
110	0.0000	0.30378E-03	0.82926E-05
111	0.0000	0.30376E-03	0.82920E-05
112	0.0000	0.30373E-03	0.82914E-05
113	0.0000	0.30371E-03	0.82908E-05
114	0.0000	0.30369E-03	0.82902E-05
115	0.0000	0.30367E-03	0.82896E-05
116	0.0000	0.30365E-03	0.82890E-05

TRNSPROF.DAT FILE
for
Lead at the Former Pistol Range, Kd = 773 ml/g, pH = 4.8, and Background Soil at 8.29 mg/kg

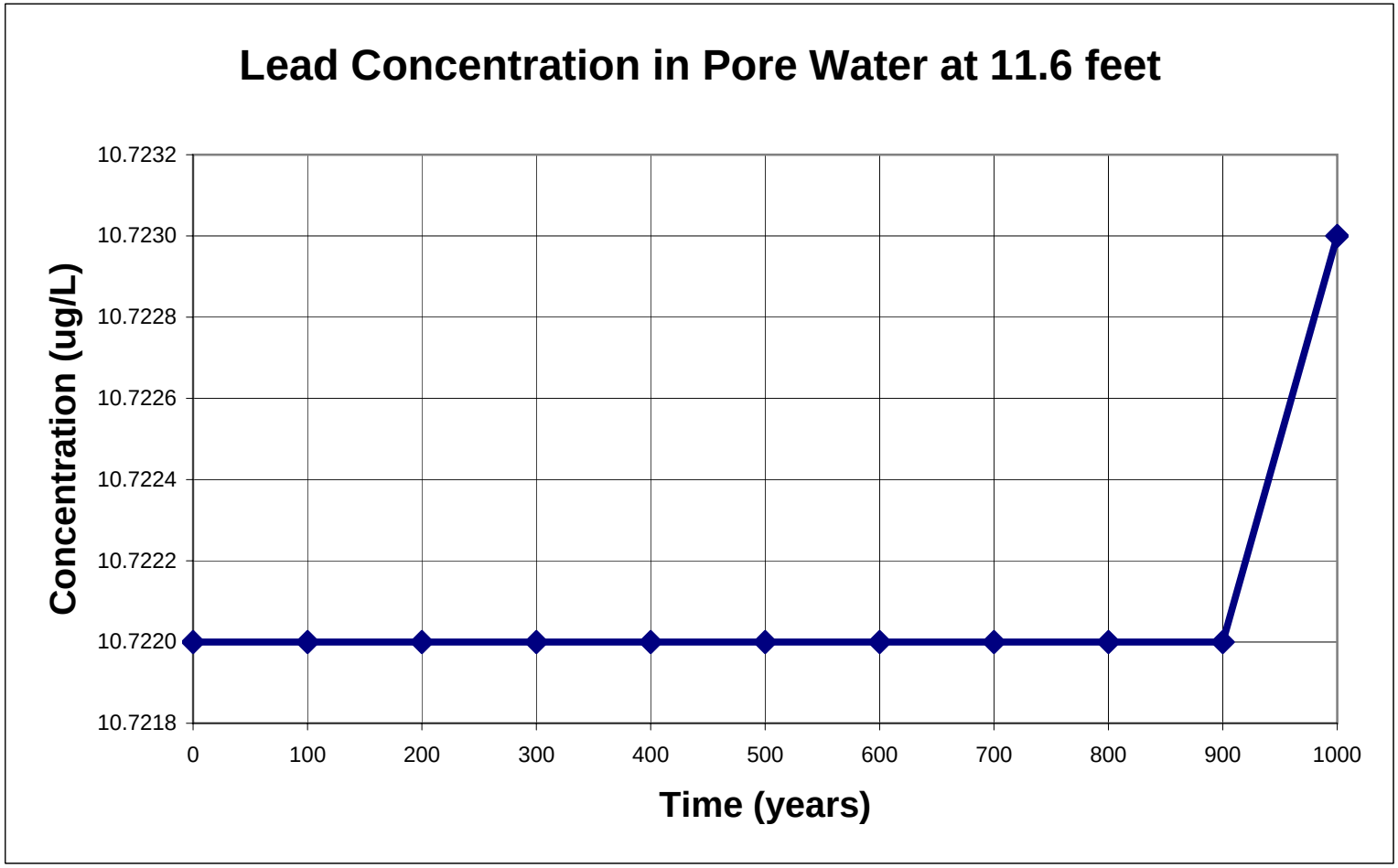
Liquid Phase Concentration [ug/l] for Polygon 1
(Cells by row, each column one time)

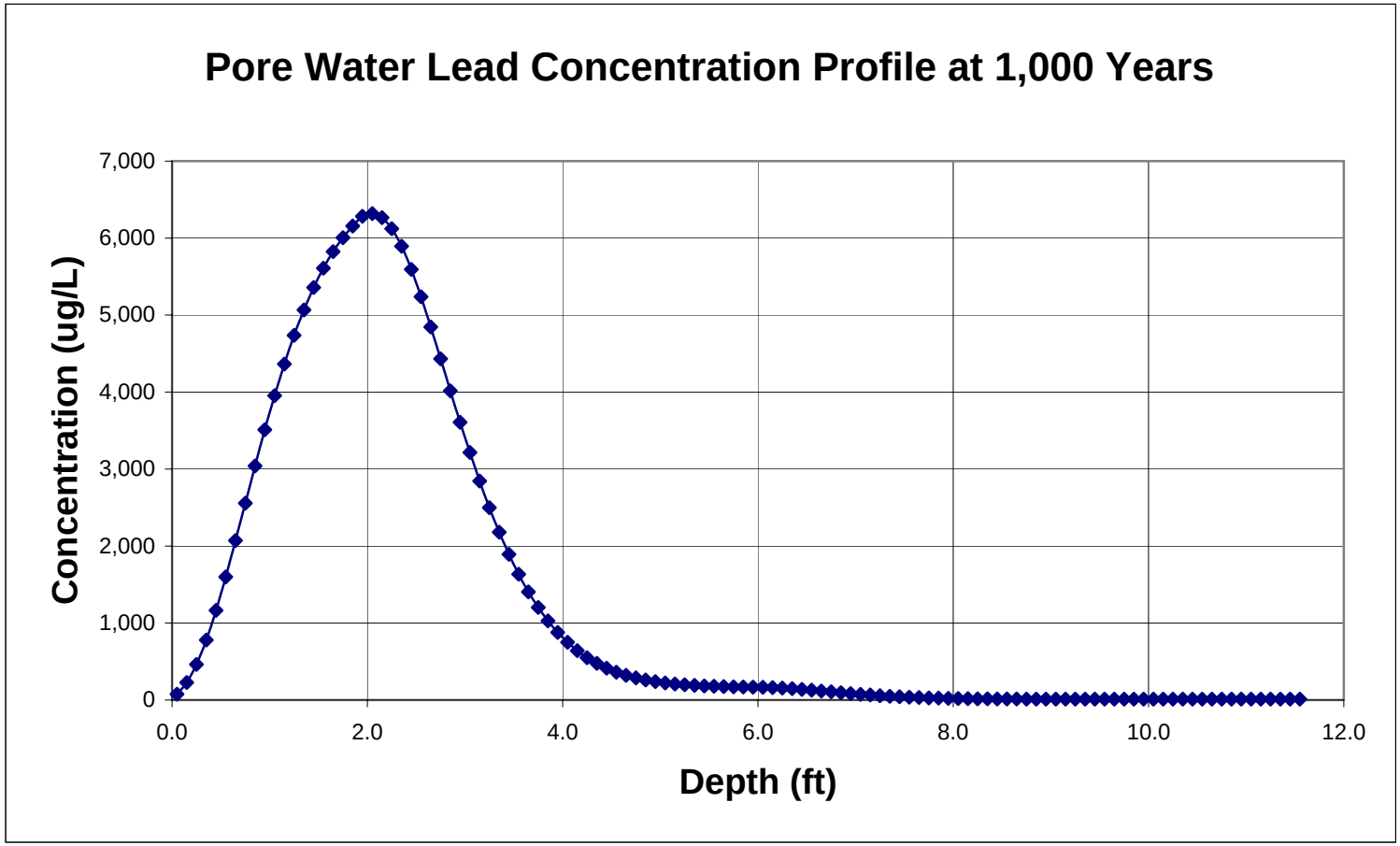
116	0	100	200	300	400	500	600	700	800	900	1000
0.05	6777.2	4325.2	2760.3	1761.6	1124.2	717.49	457.9	292.23	186.5	119.02	75.96
0.15	6777.2	5188.7	3862.5	2816.7	2022	1433.7	1006.4	700.62	484.37	332.88	227.61
0.25	6777.2	5754.5	4694.8	3718.8	2879.3	2189	1639.6	1212.8	887.7	643.81	463.23
0.35	6777.2	6122.5	5308.6	4458.4	3650	2926.1	2305	1788.8	1370.5	1038.3	778.94
0.45	6777.2	6360.2	5753	5046.4	4313.8	3607.7	2961	2391	1903.4	1496.3	1163.2
0.55	6777.2	6512.7	6069.7	5502.4	4867.2	4213.2	3578.1	2987.9	2457.9	1994.9	1599.8
0.65	6777.2	6610.2	6292.7	5849.2	5316.6	4734.2	4137.6	3555.6	3009.2	2511.6	2070.2
0.75	6777.2	6672.2	6447.9	6108.6	5673.8	5171.2	4630.2	4078.1	3537.7	3026.4	2556.1
0.85	6777.2	6711.4	6554.9	6299.9	5952.8	5530	5053.3	4545.8	4029.5	3523	3040.8
0.95	6777.2	6736.1	6628.1	6439.3	6167.3	5819.2	5409.2	4955	4475.6	3988.8	3510.4
1.05	6777.2	6751.7	6677.8	6539.9	6330	6048.7	5703.3	5305.8	4871.4	4415.8	3954.1
1.15	6777.2	6761.4	6711.3	6611.7	6452	6228.3	5942.5	5601.5	5216.1	4799.1	4364.1
1.25	6777.2	6767.5	6733.8	6662.5	6542.6	6367.2	6134.3	5846.7	5511.2	5137.2	4735.8
1.35	6777.2	6771.3	6748.8	6698.3	6609.2	6473.3	6286.3	6047.5	5760.1	5430.5	5067.1
1.45	6777.2	6773.6	6758.7	6723.2	6657.7	6553.7	6405.3	6209.7	5967.2	5681.3	5357.7
1.55	6777.2	6775.1	6765.3	6740.6	6692.7	6613.9	6497.6	6339.4	6137.5	5893	5609.2
1.65	6777.2	6776	6769.6	6752.5	6717.9	6658.8	6568.5	6441.9	6275.9	6069.5	5824
1.75	6777.2	6776.6	6772.4	6760.7	6735.9	6691.9	6622.5	6522.3	6387.3	6215.1	6005.4
1.85	6777.2	6776.9	6774.3	6766.3	6748.7	6716.2	6663.3	6584.8	6476	6334	6157
1.95	6777.2	6777.2	6775.5	6770.1	6757.7	6733.9	6693.9	6632.9	6546.2	6430.2	6282.3
2.05	729.45	2917.6	4313.1	5200.7	5760.7	6106.4	6308.1	6408.9	6434.8	6401.1	6317.2
2.15	729.45	2147.1	3330	4260.9	4964	5476.5	5835.6	6072.5	6211.8	6271.6	6265.3
2.25	729.45	1642.2	2587.7	3457.1	4202.1	4809.1	5283	5636.5	5884.9	6042.6	6122.3
2.35	729.45	1313.9	2040.1	2797.8	3516.4	4156.1	4698.3	5138.3	5479.4	5728.6	5894.4
2.45	729.45	1101.8	1643.7	2273.7	2925.5	3551.2	4119.5	4612.8	5023.2	5349.4	5594.2
2.55	729.45	965.65	1361.1	1867.1	2432.7	3013.3	3573.7	4088.9	4543.1	4927.4	5238.3
2.65	729.45	878.69	1162.2	1557.8	2032.4	2550	3077.8	3588.8	4062.2	4483.9	4845
2.75	729.45	823.4	1023.7	1326.5	1714	2161.2	2640.8	3127.3	3598.9	4038	4432.1

2.85	729.45	788.4	928.22	1155.9	1465.4	1841.8	2265	2713.4	3166.2	3605.2	4015.5
2.95	729.45	766.33	862.92	1031.5	1274.2	1584.3	1948.6	2350.8	2772.7	3197.2	3608.7
3.05	162.96	390.93	587.85	794.63	1035.2	1319.9	1648.8	2015.1	2407.3	2812.1	3215.9
3.15	162.96	310.07	465.83	642.39	851.35	1100	1390.2	1718.5	2077.3	2456.5	2844.5
3.25	162.96	257.34	376.22	521.62	698.96	913.18	1166.5	1457.7	1782.1	2132.2	2498.6
3.35	162.96	223.2	311.54	427.89	575.19	756.97	975.6	1231.1	1521	1839.9	2180.7
3.45	162.96	201.24	265.53	356.48	476.44	628.38	814.76	1036.5	1292.6	1579.6	1892.4
3.55	162.96	187.18	233.19	302.91	398.89	524.04	680.97	871.27	1095	1350.4	1633.8
3.65	162.96	178.23	210.71	263.27	338.85	440.51	571.04	732.53	925.91	1150.6	1404.5
3.75	162.96	172.56	195.21	234.27	292.96	374.46	481.75	617.3	782.71	978.37	1203.3
3.85	162.96	168.97	184.61	213.28	258.27	322.81	410.01	522.59	662.64	831.29	1028.5
3.95	162.96	166.72	177.42	198.23	232.32	282.86	352.97	445.53	562.94	706.9	878.15
4.05	162.96	165.3	172.58	187.53	213.09	252.25	308.05	383.41	480.91	602.64	749.94
4.15	162.96	164.42	169.33	179.98	198.96	229.01	273	333.78	414.02	516.03	641.58
4.25	162.96	163.87	167.16	174.69	188.66	211.51	245.88	294.47	359.92	444.68	550.77
4.35	162.96	163.52	165.72	171.01	181.21	198.44	225.06	263.58	316.53	386.37	475.28
4.45	162.96	163.31	164.77	168.46	175.85	188.74	209.2	239.49	281.99	339.08	413
4.55	162.96	163.18	164.14	166.7	172.02	181.6	197.2	220.84	254.7	301.01	362
4.65	162.96	163.1	163.73	165.5	169.3	176.37	188.19	206.5	233.27	270.58	320.53
4.75	162.96	163.05	163.47	164.68	167.39	172.56	181.45	195.55	216.57	246.41	287.04
4.85	162.96	163.02	163.29	164.12	166.04	169.81	176.46	187.24	203.64	227.34	260.17
4.95	162.96	163	163.18	163.74	165.09	167.83	172.77	180.96	193.67	212.39	238.74
5.05	162.96	162.99	163.11	163.49	164.44	166.41	170.06	176.25	186.05	200.73	221.75
5.15	162.96	162.98	163.06	163.32	163.98	165.39	168.08	172.73	180.24	191.69	208.37
5.25	162.96	162.97	163.03	163.2	163.66	164.68	166.64	170.12	175.84	184.73	197.87
5.35	162.96	162.97	163.01	163.13	163.45	164.17	165.6	168.18	172.52	179.38	189.69
5.45	162.96	162.96	163	163.08	163.3	163.81	164.85	166.76	170.04	175.3	183.34
5.55	162.96	162.96	162.99	163.04	163.2	163.56	164.31	165.72	168.18	172.2	178.44
5.65	162.96	162.96	162.98	163.02	163.13	163.38	163.92	164.96	166.8	169.86	174.68
5.75	162.96	162.96	162.97	163.01	163.08	163.26	163.65	164.41	165.78	168.09	171.8
5.85	162.96	162.96	162.96	163	163.05	163.18	163.46	164.01	165.02	166.77	169.61
5.95	162.96	162.96	162.96	162.99	163.03	163.12	163.32	163.72	164.47	165.78	167.95
6.05	10.722	65.808	100.96	123.41	137.76	146.96	152.93	156.95	159.88	162.37	164.98
6.15	10.722	46.411	76.208	99.707	117.58	130.84	140.54	147.62	152.89	157.02	160.63
6.25	10.722	33.7	57.512	79.443	98.317	113.86	126.27	136.01	143.61	149.64	154.63
6.35	10.722	25.434	43.723	62.827	80.999	97.285	111.29	123	132.61	140.48	147.01
6.45	10.722	20.096	33.741	49.619	66.085	81.965	96.531	109.42	120.53	129.97	137.98

6.55	10.722	16.668	26.625	39.375	53.653	68.359	82.654	95.971	107.99	118.61	127.88
6.65	10.722	14.479	21.617	31.585	43.557	56.651	70.074	83.191	95.553	106.89	117.1
6.75	10.722	13.087	18.13	25.758	35.531	46.832	59.002	71.436	83.638	95.243	106.03
6.85	10.722	12.206	15.726	21.46	29.264	38.77	49.493	60.916	72.562	84.03	95.023
6.95	10.722	11.65	14.082	18.329	24.446	32.272	41.494	51.716	62.521	73.521	84.389
7.05	10.722	11.301	12.965	16.07	20.79	27.116	34.886	43.828	53.613	63.898	74.361
7.15	10.722	11.082	12.213	14.457	18.049	23.081	29.511	37.183	45.86	55.263	65.104
7.25	10.722	10.946	11.708	13.315	16.015	19.962	25.201	31.67	39.224	47.654	56.721
7.35	10.722	10.861	11.371	12.512	14.52	17.577	21.786	27.159	33.627	41.054	49.256
7.45	10.722	10.808	11.148	11.951	13.43	15.772	19.112	23.513	28.971	35.412	42.71
7.55	10.722	10.775	11.001	11.562	12.642	14.418	17.038	20.6	25.144	30.651	37.048
7.65	10.722	10.755	10.904	11.294	12.076	13.411	15.445	18.295	22.033	26.681	32.213
7.75	10.722	10.742	10.84	11.109	11.672	12.667	14.232	16.489	19.53	23.408	28.132
7.85	10.722	10.734	10.799	10.984	11.386	12.121	13.315	15.086	17.535	20.735	24.724
7.95	10.722	10.73	10.772	10.898	11.184	11.724	12.627	14.004	15.958	18.573	21.905
8.05	10.722	10.727	10.754	10.84	11.042	11.436	12.114	13.177	14.722	16.839	19.596
8.15	10.722	10.725	10.743	10.801	10.943	11.229	11.735	12.549	13.761	15.459	17.719
8.25	10.722	10.724	10.736	10.775	10.874	11.08	11.455	12.074	13.019	14.371	16.207
8.35	10.722	10.723	10.731	10.758	10.827	10.974	11.251	11.719	12.449	13.517	14.998
8.45	10.722	10.723	10.728	10.746	10.794	10.899	11.102	11.453	12.014	12.852	14.038
8.55	10.722	10.722	10.726	10.738	10.771	10.846	10.994	11.256	11.684	12.338	13.28
8.65	10.722	10.722	10.725	10.733	10.756	10.809	10.916	11.111	11.436	11.942	12.686
8.75	10.722	10.722	10.724	10.73	10.745	10.783	10.86	11.004	11.25	11.639	12.223
8.85	10.722	10.722	10.723	10.727	10.738	10.765	10.82	10.926	11.111	11.409	11.864
8.95	10.722	10.722	10.723	10.726	10.733	10.752	10.792	10.87	11.007	11.234	11.587
9.05	10.722	10.722	10.722	10.725	10.73	10.743	10.772	10.828	10.931	11.103	11.375
9.15	10.722	10.722	10.722	10.724	10.728	10.737	10.757	10.799	10.874	11.004	11.213
9.25	10.722	10.722	10.722	10.723	10.726	10.733	10.747	10.777	10.833	10.931	11.091
9.35	10.722	10.722	10.722	10.723	10.725	10.73	10.74	10.762	10.803	10.876	10.998
9.45	10.722	10.722	10.722	10.722	10.725	10.728	10.735	10.751	10.781	10.836	10.928
9.55	10.722	10.722	10.722	10.722	10.724	10.726	10.732	10.743	10.765	10.806	10.875
9.65	10.722	10.722	10.722	10.722	10.723	10.726	10.729	10.738	10.754	10.784	10.836
9.75	10.722	10.722	10.722	10.722	10.723	10.725	10.728	10.734	10.745	10.768	10.807
9.85	10.722	10.722	10.722	10.722	10.722	10.724	10.727	10.731	10.74	10.756	10.785
9.95	10.722	10.722	10.722	10.722	10.722	10.723	10.726	10.729	10.735	10.747	10.769
10.05	10.722	10.722	10.722	10.722	10.722	10.723	10.725	10.727	10.732	10.741	10.757
10.15	10.722	10.722	10.722	10.722	10.722	10.722	10.724	10.727	10.73	10.737	10.749

10.25	10.722	10.722	10.722	10.722	10.722	10.722	10.724	10.726	10.728	10.733	10.742
10.35	10.722	10.722	10.722	10.722	10.722	10.722	10.723	10.725	10.728	10.731	10.738
10.45	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.725	10.727	10.729	10.735
10.55	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.724	10.726	10.728	10.732
10.65	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.723	10.725	10.728	10.73
10.75	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.725	10.727	10.729
10.85	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.724	10.726	10.729
10.95	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.723	10.725	10.728
11.05	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.725	10.727
11.15	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.724	10.726
11.25	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.723	10.725
11.35	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.725
11.45	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.724
11.55	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.722	10.723


Lead Concentration in Pore Water at 11.6 feet
Concentration (ug/L)
10.7232
10.7230
10.7228
10.7226
10.7224
10.7222
10.7220
10.7218
0
100
200
300
400
500
600
700
800
900
1000
Time (years)


Pore Water Lead Concentration Profile at 1,000 Years
Concentration (ug/L)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Depth (ft)

ATTACHMENT E-3

VLEACH FILES

pH = 5.2

Lead = 7.81 mg/kg

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==============GENERAL PROJECT INFORMATION============================
project title..........................Lead at the Pistol Range, 5.2 pH
number of polygons.....................1
timestep [years]......................0.05
total time of simulation [years]........1000.0
gw impact output interval [years].......50
transient profile plot interval [years].100
===============CONTAMINANT INFORMATION==============================
org.C distrib. coeff., Koc [ml/g].......1013000.
Henry's constant [dimensionless]........0.0
water solubility [mg/l]................40.0
free air diffusion coef.[sq.m/d]........0.7435
===============Polygon #1===============================================
title..................................Pistol Range
surface area [sq.ft]...................10000
vertical thickness of a cell [ft].......0.1
net recharge rate [ft/year]............1.25
dry bulk density [g/cm3]...............1.6
effective porosity [dim.less]...........0.422
volumetric water content [percent]......0.25
organic carbon content [dim.less].......0.001
contaminant conc. in recharge [mg/l]....0.0
upper BC for vapor [mg/l]..............-1.0,
lower BC for vapor [mg/l]..............0.0
number of cells........................116
plot SOILIMP,GWIMP [y/n]...............y
plot time, profile in SOILIMP [years]...50.0
======repeat the following line until all cells are assigned=========
top #, bottom #, init. conc. [ug/kg]....1,20,5240000.0
top #, bottom #, init. conc. [ug/kg]....21,30,564000.0
top #, bottom #, init. conc. [ug/kg]....31,60,126000.0
top #, bottom #, init. conc. [ug/kg]....61,116,7810.0
```

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|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
```

Lead at the Pistol Range, 5.2 pH
  1 polygons.
Timestep = 0.05 years. Simulation length = 1000.00 years.
Printout every 50.00 years. Vertical profile stored every 100.00 years.
Koc = 0.10130E+07ml/g, 35.774 cu.ft./g
Kh = 0.0000 (dimensionless).
Aqueous solubility = 40.000 mg/l, 1.1327 g/cu.ft
Free air diffusion coefficient = .74350 sq. m/day, 2921.2 sq.ft./yr

Polygon 1
Pistol Range

Polygon area = 10000. sq. ft.
116 cells, each cell 0.10 ft. thick.
Soil Properties:
 Bulk density = 1.600g/ml, 45307.199g/cu.ft.
 Porosity = 0.422 Volumetric water content = 0.2500
 Organic carbon content = 0.001000
Recharge Rate = 1.2500 ft/yr
Conc. in recharge water = 0.0000 m g/l, 0.0000 g/cu.ft
Atmospheric concentration = -1.00000000 mg/l, -0.02831700 g/cu.ft
Water table has a fixed concentration of 0.0000 mg/l, 0.0000 g/cu.ft.
  with respect to gas diffusion.
Initial Mass and Concentration:

cell	total mass [g/cu.ft]	equiv.c_liq[ug/l]
1	237.40	0.33536E+08
2	237.40	0.33536E+08
3	237.40	0.33536E+08
4	237.40	0.33536E+08
5	237.40	0.33536E+08
6	237.40	0.33536E+08
7	237.40	0.33536E+08
8	237.40	0.33536E+08
9	237.40	0.33536E+08
10	237.40	0.33536E+08
11	237.40	0.33536E+08
12	237.40	0.33536E+08
13	237.40	0.33536E+08
14	237.40	0.33536E+08
15	237.40	0.33536E+08
16	237.40	0.33536E+08
17	237.40	0.33536E+08
18	237.40	0.33536E+08
19	237.40	0.33536E+08
20	237.40	0.33536E+08
21	25.552	0.36096E+07
22	25.552	0.36096E+07
23	25.552	0.36096E+07
24	25.552	0.36096E+07
25	25.552	0.36096E+07
26	25.552	0.36096E+07
27	25.552	0.36096E+07
28	25.552	0.36096E+07
29	25.552	0.36096E+07
30	25.552	0.36096E+07
31	5.7085	0.80640E+06
32	5.7085	0.80640E+06
33	5.7085	0.80640E+06

34	5.7085	0.80640E+06
35	5.7085	0.80640E+06
36	5.7085	0.80640E+06
37	5.7085	0.80640E+06
38	5.7085	0.80640E+06
39	5.7085	0.80640E+06
40	5.7085	0.80640E+06
41	5.7085	0.80640E+06
42	5.7085	0.80640E+06
43	5.7085	0.80640E+06
44	5.7085	0.80640E+06
45	5.7085	0.80640E+06
46	5.7085	0.80640E+06
47	5.7085	0.80640E+06
48	5.7085	0.80640E+06
49	5.7085	0.80640E+06
50	5.7085	0.80640E+06
51	5.7085	0.80640E+06
52	5.7085	0.80640E+06
53	5.7085	0.80640E+06
54	5.7085	0.80640E+06
55	5.7085	0.80640E+06
56	5.7085	0.80640E+06
57	5.7085	0.80640E+06
58	5.7085	0.80640E+06
59	5.7085	0.80640E+06
60	5.7085	0.80640E+06
61	0.35384	49984.
62	0.35384	49984.
63	0.35384	49984.
64	0.35384	49984.
65	0.35384	49984.
66	0.35384	49984.
67	0.35384	49984.
68	0.35384	49984.
69	0.35384	49984.
70	0.35384	49984.
71	0.35384	49984.
72	0.35384	49984.
73	0.35384	49984.
74	0.35384	49984.
75	0.35384	49984.
76	0.35384	49984.
77	0.35384	49984.
78	0.35384	49984.
79	0.35384	49984.
80	0.35384	49984.
81	0.35384	49984.
82	0.35384	49984.
83	0.35384	49984.
84	0.35384	49984.
85	0.35384	49984.
86	0.35384	49984.
87	0.35384	49984.
88	0.35384	49984.
89	0.35384	49984.
90	0.35384	49984.
91	0.35384	49984.
92	0.35384	49984.
93	0.35384	49984.
94	0.35384	49984.
95	0.35384	49984.
96	0.35384	49984.
97	0.35384	49984.
98	0.35384	49984.
99	0.35384	49984.
100	0.35384	49984.
101	0.35384	49984.
102	0.35384	49984.
103	0.35384	49984.
104	0.35384	49984.
105	0.35384	49984.
106	0.35384	49984.
107	0.35384	49984.
108	0.35384	49984.
109	0.35384	49984.
110	0.35384	49984.
111	0.35384	49984.
112	0.35384	49984.

113	0.35384	49984.
114	0.35384	49984.
115	0.35384	49984.
116	0.35384	49984.

```
|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)                        |
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
```

Lead at the Pistol Range, 5.2 pH

```
Polygon   1
At time =       0.00, total mass in vadose zone =     519.46    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80112E-01g/sq.ft.
Mass sorbed           =       519.38    g/sq.ft.


Polygon   1
At time =      50.0000, total mass in vadose zone =     519.49    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80117E-01g/sq.ft.
Mass sorbed           =       519.41    g/sq.ft.

Since last printout at time =       0.0000
               Change in Total Mass =     0.26855E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13643E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13643E-01g/sq.ft.
               Mass discrepancy =     0.40499E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.26855E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13643E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13643E-01g/sq.ft.
               Mass discrepancy =     0.40499E-01g/sq.ft.


Polygon   1
At time =     100.0000, total mass in vadose zone =     519.52    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80121E-01g/sq.ft.
Mass sorbed           =       519.44    g/sq.ft.

Since last printout at time =      50.0000
               Change in Total Mass =     0.26245E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13645E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13645E-01g/sq.ft.
               Mass discrepancy =     0.39890E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.53101E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.27288E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.27288E-01g/sq.ft.
               Mass discrepancy =     0.80388E-01g/sq.ft.


Polygon   1
At time =     150.0000, total mass in vadose zone =     519.54    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
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Mass in liquid phase  =      0.80124E-01g/sq.ft.
Mass sorbed           =       519.46    g/sq.ft.

Since last printout at time =     100.0000
               Change in Total Mass =     0.24963E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13646E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13646E-01g/sq.ft.
               Mass discrepancy =     0.38610E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.78064E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.40933E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.40933E-01g/sq.ft.
               Mass discrepancy =     0.11900    g/sq.ft.


Polygon   1
At time =     200.0000, total mass in vadose zone =     519.57    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80129E-01g/sq.ft.
Mass sorbed           =       519.49    g/sq.ft.

Since last printout at time =     150.0000
               Change in Total Mass =     0.26245E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13648E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13648E-01g/sq.ft.
               Mass discrepancy =     0.39893E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.10431    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.54582E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.54582E-01g/sq.ft.
               Mass discrepancy =     0.15889    g/sq.ft.


Polygon   1
At time =     250.0000, total mass in vadose zone =     519.59    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80133E-01g/sq.ft.
Mass sorbed           =       519.51    g/sq.ft.

Since last printout at time =     200.0000
               Change in Total Mass =     0.26001E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13649E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13649E-01g/sq.ft.
               Mass discrepancy =     0.39650E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.13031    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.68231E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.68231E-01g/sq.ft.
               Mass discrepancy =     0.19854    g/sq.ft.


Polygon   1
At time =     300.0000, total mass in vadose zone =     519.62    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80137E-01g/sq.ft.
Mass sorbed           =       519.54    g/sq.ft.

Since last printout at time =     250.0000
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                Change in Total Mass =     0.26489E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.13651E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.13651E-01g/sq.ft.
                Mass discrepancy =     0.40140E-01g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =     0.15680    g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.81881E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.81881E-01g/sq.ft.
                Mass discrepancy =     0.23868    g/sq.ft.


Polygon   1
At time =     350.0000, total mass in vadose zone =     519.65    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80141E-01g/sq.ft.
Mass sorbed           =       519.57    g/sq.ft.

Since last printout at time =     300.0000
                Change in Total Mass =     0.26245E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.13653E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.13653E-01g/sq.ft.
                Mass discrepancy =     0.39898E-01g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =     0.18304    g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.95531E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.95531E-01g/sq.ft.
                Mass discrepancy =     0.27858    g/sq.ft.


Polygon   1
At time =     400.0000, total mass in vadose zone =     519.67    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80145E-01g/sq.ft.
Mass sorbed           =       519.59    g/sq.ft.

Since last printout at time =     350.0000
                Change in Total Mass =     0.26184E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.13654E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.13654E-01g/sq.ft.
                Mass discrepancy =     0.39838E-01g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =     0.20923    g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.10919    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.10919    g/sq.ft.
                Mass discrepancy =     0.31842    g/sq.ft.


Polygon   1
At time =     450.0000, total mass in vadose zone =     519.70    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80149E-01g/sq.ft.
Mass sorbed           =       519.62    g/sq.ft.

Since last printout at time =     400.0000
                Change in Total Mass =     0.26123E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.13656E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
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                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13656E-01g/sq.ft.
               Mass discrepancy =     0.39779E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.23535    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.12284    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.12284    g/sq.ft.
               Mass discrepancy =     0.35820    g/sq.ft.


Polygon   1
At time =     500.0000, total mass in vadose zone =     519.73    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80153E-01g/sq.ft.
Mass sorbed           =       519.65    g/sq.ft.

Since last printout at time =     450.0000
               Change in Total Mass =     0.26306E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13657E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13657E-01g/sq.ft.
               Mass discrepancy =     0.39964E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.26166    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13651    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13651    g/sq.ft.
               Mass discrepancy =     0.39817    g/sq.ft.


Polygon   1
At time =     550.0000, total mass in vadose zone =     519.75    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80157E-01g/sq.ft.
Mass sorbed           =       519.67    g/sq.ft.

Since last printout at time =     500.0000
               Change in Total Mass =     0.26306E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13659E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13659E-01g/sq.ft.
               Mass discrepancy =     0.39965E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.28796    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.15017    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.15017    g/sq.ft.
               Mass discrepancy =     0.43814    g/sq.ft.


Polygon   1
At time =     600.0000, total mass in vadose zone =     519.78    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80161E-01g/sq.ft.
Mass sorbed           =       519.70    g/sq.ft.

Since last printout at time =     550.0000
               Change in Total Mass =     0.27710E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13661E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13661E-01g/sq.ft.
               Mass discrepancy =     0.41371E-01g/sq.ft.
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```
Since beginning of run at time = 0.0
               Change in Total Mass =     0.31567    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.16384    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.16384    g/sq.ft.
               Mass discrepancy =     0.47951    g/sq.ft.


Polygon   1
At time =     650.0000, total mass in vadose zone =     519.81    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80165E-01g/sq.ft.
Mass sorbed           =       519.73    g/sq.ft.

Since last printout at time =     600.0000
               Change in Total Mass =     0.26245E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13662E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13662E-01g/sq.ft.
               Mass discrepancy =     0.39907E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.34192    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17750    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17750    g/sq.ft.
               Mass discrepancy =     0.51942    g/sq.ft.


Polygon   1
At time =     700.0000, total mass in vadose zone =     519.83    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80169E-01g/sq.ft.
Mass sorbed           =       519.75    g/sq.ft.

Since last printout at time =     650.0000
               Change in Total Mass =     0.26062E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13664E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13664E-01g/sq.ft.
               Mass discrepancy =     0.39726E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.36798    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.19116    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.19116    g/sq.ft.
               Mass discrepancy =     0.55915    g/sq.ft.


Polygon   1
At time =     750.0000, total mass in vadose zone =     519.86    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80173E-01g/sq.ft.
Mass sorbed           =       519.78    g/sq.ft.

Since last printout at time =     700.0000
               Change in Total Mass =     0.26306E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13665E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13665E-01g/sq.ft.
               Mass discrepancy =     0.39971E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.39429    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.20483    g/sq.ft.
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                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.20483    g/sq.ft.
               Mass discrepancy =     0.59912    g/sq.ft.


Polygon   1
At time =     800.0000, total mass in vadose zone =     519.88    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80177E-01g/sq.ft.
Mass sorbed           =       519.80    g/sq.ft.

Since last printout at time =     750.0000
               Change in Total Mass =     0.26245E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13667E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13667E-01g/sq.ft.
               Mass discrepancy =     0.39912E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.42053    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.21849    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.21849    g/sq.ft.
               Mass discrepancy =     0.63903    g/sq.ft.


Polygon   1
At time =     850.0000, total mass in vadose zone =     519.91    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80181E-01g/sq.ft.
Mass sorbed           =       519.83    g/sq.ft.

Since last printout at time =     800.0000
               Change in Total Mass =     0.25940E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13669E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13669E-01g/sq.ft.
               Mass discrepancy =     0.39608E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.44647    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.23216    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.23216    g/sq.ft.
               Mass discrepancy =     0.67863    g/sq.ft.


Polygon   1
At time =     900.0000, total mass in vadose zone =     519.94    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80185E-01g/sq.ft.
Mass sorbed           =       519.86    g/sq.ft.

Since last printout at time =     850.0000
               Change in Total Mass =     0.26062E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13670E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13670E-01g/sq.ft.
               Mass discrepancy =     0.39732E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.47253    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.24582    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.24582    g/sq.ft.
               Mass discrepancy =     0.71836    g/sq.ft.
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```
Polygon   1
At time =     950.0000, total mass in vadose zone =     519.96    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80189E-01g/sq.ft.
Mass sorbed           =       519.88    g/sq.ft.

Since last printout at time =     900.0000
               Change in Total Mass =     0.26428E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13672E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13672E-01g/sq.ft.
               Mass discrepancy =     0.40100E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.49896    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.25950    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.25950    g/sq.ft.
               Mass discrepancy =     0.75846    g/sq.ft.


Polygon   1
At time =    1000.0000, total mass in vadose zone =     519.99    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80193E-01g/sq.ft.
Mass sorbed           =       519.91    g/sq.ft.

Since last printout at time =     950.0000
               Change in Total Mass =     0.26245E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13673E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13673E-01g/sq.ft.
               Mass discrepancy =     0.39918E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.52521    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.27318    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.27318    g/sq.ft.
               Mass discrepancy =     0.79838    g/sq.ft.


GROUNDWATER IMPACT OF POLYGON   1

 Time        Mass flux (g/yr/sq.ft.)      Total Mass(g/yr)
     50.00         0.27288E-03               2.7288
    100.00         0.27291E-03               2.7291
    150.00         0.27294E-03               2.7294
    200.00         0.27297E-03               2.7297
    250.00         0.27300E-03               2.7300
    300.00         0.27304E-03               2.7304
    350.00         0.27307E-03               2.7307
    400.00         0.27310E-03               2.7310
    450.00         0.27313E-03               2.7313
    500.00         0.27316E-03               2.7316
    550.00         0.27320E-03               2.7320
    600.00         0.27323E-03               2.7323
    650.00         0.27326E-03               2.7326
    700.00         0.27329E-03               2.7329
    750.00         0.27332E-03               2.7332
    800.00         0.27335E-03               2.7335
    850.00         0.27339E-03               2.7339
    900.00         0.27342E-03               2.7342
    950.00         0.27345E-03               2.7345
   1000.00         0.27348E-03               2.7348
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TOTAL GROUNDWATER IMPACT
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Time (yr)	Mass (g/yr)	Cumulative Mass (g)
50.00	2.7288	136.43
100.00	2.7291	272.88
150.00	2.7294	409.34
200.00	2.7297	545.82
250.00	2.7300	682.31
300.00	2.7304	818.82
350.00	2.7307	955.35
400.00	2.7310	1091.9
450.00	2.7313	1228.4
500.00	2.7316	1365.0
550.00	2.7320	1501.6
600.00	2.7323	1638.2
650.00	2.7326	1774.8
700.00	2.7329	1911.5
750.00	2.7332	2048.1
800.00	2.7335	2184.8
850.00	2.7339	2321.5
900.00	2.7342	2458.2
950.00	2.7345	2594.9
1000.00	2.7348	2731.6

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|-------------------------------------------------------------|
|                VLEACH (Version 2.2a, 1996)                  |
|                                                             |
|                            By:                              |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)                        |
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|                                                             |
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
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Pistol Range
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.14645	0.52390E-02
2	0.0000	0.14645	0.52390E-02
3	0.0000	0.14645	0.52390E-02
4	0.0000	0.14645	0.52390E-02
5	0.0000	0.14645	0.52390E-02
6	0.0000	0.14645	0.52390E-02
7	0.0000	0.14645	0.52390E-02
8	0.0000	0.14645	0.52390E-02
9	0.0000	0.14645	0.52390E-02
10	0.0000	0.14645	0.52390E-02
11	0.0000	0.14645	0.52390E-02
12	0.0000	0.14645	0.52390E-02
13	0.0000	0.14645	0.52390E-02
14	0.0000	0.14645	0.52390E-02
15	0.0000	0.14645	0.52390E-02
16	0.0000	0.14645	0.52390E-02
17	0.0000	0.14645	0.52390E-02
18	0.0000	0.14645	0.52390E-02
19	0.0000	0.14645	0.52390E-02
20	0.0000	0.14645	0.52390E-02
21	0.0000	0.15763E-01	0.56389E-03
22	0.0000	0.15763E-01	0.56389E-03
23	0.0000	0.15763E-01	0.56389E-03
24	0.0000	0.15763E-01	0.56389E-03
25	0.0000	0.15763E-01	0.56389E-03
26	0.0000	0.15763E-01	0.56389E-03
27	0.0000	0.15763E-01	0.56389E-03
28	0.0000	0.15763E-01	0.56389E-03
29	0.0000	0.15763E-01	0.56389E-03
30	0.0000	0.15763E-01	0.56389E-03
31	0.0000	0.35215E-02	0.12598E-03
32	0.0000	0.35215E-02	0.12598E-03
33	0.0000	0.35215E-02	0.12598E-03
34	0.0000	0.35215E-02	0.12598E-03
35	0.0000	0.35215E-02	0.12598E-03
36	0.0000	0.35215E-02	0.12598E-03
37	0.0000	0.35215E-02	0.12598E-03
38	0.0000	0.35215E-02	0.12598E-03
39	0.0000	0.35215E-02	0.12598E-03
40	0.0000	0.35215E-02	0.12598E-03
41	0.0000	0.35215E-02	0.12598E-03
42	0.0000	0.35215E-02	0.12598E-03
43	0.0000	0.35215E-02	0.12598E-03
44	0.0000	0.35215E-02	0.12598E-03
45	0.0000	0.35215E-02	0.12598E-03
46	0.0000	0.35215E-02	0.12598E-03
47	0.0000	0.35215E-02	0.12598E-03
48	0.0000	0.35215E-02	0.12598E-03
49	0.0000	0.35215E-02	0.12598E-03
50	0.0000	0.35215E-02	0.12598E-03
51	0.0000	0.35215E-02	0.12598E-03
52	0.0000	0.35215E-02	0.12598E-03
53	0.0000	0.35215E-02	0.12598E-03
54	0.0000	0.35215E-02	0.12598E-03
55	0.0000	0.35215E-02	0.12598E-03
56	0.0000	0.35215E-02	0.12598E-03
57	0.0000	0.35215E-02	0.12598E-03
58	0.0000	0.35215E-02	0.12598E-03

59	0.0000	0.35215E-02	0.12598E-03
60	0.0000	0.35215E-02	0.12598E-03
61	0.0000	0.21828E-03	0.78085E-05
62	0.0000	0.21828E-03	0.78085E-05
63	0.0000	0.21828E-03	0.78085E-05
64	0.0000	0.21828E-03	0.78085E-05
65	0.0000	0.21828E-03	0.78085E-05
66	0.0000	0.21828E-03	0.78085E-05
67	0.0000	0.21828E-03	0.78085E-05
68	0.0000	0.21828E-03	0.78085E-05
69	0.0000	0.21828E-03	0.78085E-05
70	0.0000	0.21828E-03	0.78085E-05
71	0.0000	0.21828E-03	0.78085E-05
72	0.0000	0.21828E-03	0.78085E-05
73	0.0000	0.21828E-03	0.78085E-05
74	0.0000	0.21828E-03	0.78085E-05
75	0.0000	0.21828E-03	0.78085E-05
76	0.0000	0.21828E-03	0.78085E-05
77	0.0000	0.21828E-03	0.78085E-05
78	0.0000	0.21828E-03	0.78085E-05
79	0.0000	0.21828E-03	0.78085E-05
80	0.0000	0.21828E-03	0.78085E-05
81	0.0000	0.21828E-03	0.78085E-05
82	0.0000	0.21828E-03	0.78085E-05
83	0.0000	0.21828E-03	0.78085E-05
84	0.0000	0.21828E-03	0.78085E-05
85	0.0000	0.21828E-03	0.78085E-05
86	0.0000	0.21828E-03	0.78085E-05
87	0.0000	0.21828E-03	0.78085E-05
88	0.0000	0.21828E-03	0.78085E-05
89	0.0000	0.21828E-03	0.78085E-05
90	0.0000	0.21828E-03	0.78085E-05
91	0.0000	0.21828E-03	0.78085E-05
92	0.0000	0.21828E-03	0.78085E-05
93	0.0000	0.21828E-03	0.78085E-05
94	0.0000	0.21828E-03	0.78085E-05
95	0.0000	0.21828E-03	0.78085E-05
96	0.0000	0.21828E-03	0.78085E-05
97	0.0000	0.21828E-03	0.78085E-05
98	0.0000	0.21828E-03	0.78085E-05
99	0.0000	0.21828E-03	0.78085E-05
100	0.0000	0.21828E-03	0.78085E-05
101	0.0000	0.21828E-03	0.78085E-05
102	0.0000	0.21828E-03	0.78085E-05
103	0.0000	0.21828E-03	0.78085E-05
104	0.0000	0.21828E-03	0.78085E-05
105	0.0000	0.21828E-03	0.78085E-05
106	0.0000	0.21828E-03	0.78085E-05
107	0.0000	0.21828E-03	0.78085E-05
108	0.0000	0.21828E-03	0.78085E-05
109	0.0000	0.21828E-03	0.78085E-05
110	0.0000	0.21828E-03	0.78085E-05
111	0.0000	0.21828E-03	0.78085E-05
112	0.0000	0.21828E-03	0.78085E-05
113	0.0000	0.21828E-03	0.78085E-05
114	0.0000	0.21828E-03	0.78085E-05
115	0.0000	0.21828E-03	0.78085E-05
116	0.0000	0.21828E-03	0.78085E-05

Pistol Range
Time: 100.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.10397	0.37193E-02
2	0.0000	0.11981	0.42860E-02
3	0.0000	0.12981	0.46439E-02
4	0.0000	0.13610	0.48689E-02
5	0.0000	0.14004	0.50097E-02
6	0.0000	0.14249	0.50975E-02
7	0.0000	0.14402	0.51521E-02
8	0.0000	0.14496	0.51858E-02
9	0.0000	0.14555	0.52067E-02
10	0.0000	0.14591	0.52195E-02
11	0.0000	0.14613	0.52274E-02
12	0.0000	0.14626	0.52323E-02
13	0.0000	0.14634	0.52352E-02
14	0.0000	0.14639	0.52370E-02
15	0.0000	0.14642	0.52381E-02
16	0.0000	0.14644	0.52388E-02
17	0.0000	0.14645	0.52392E-02

18	0.0000	0.14646	0.52394E-02
19	0.0000	0.14647	0.52396E-02
20	0.0000	0.14647	0.52399E-02
21	0.0000	0.53692E-01	0.19208E-02
22	0.0000	0.39558E-01	0.14151E-02
23	0.0000	0.30630E-01	0.10958E-02
24	0.0000	0.25018E-01	0.89499E-03
25	0.0000	0.21505E-01	0.76932E-03
26	0.0000	0.19315E-01	0.69097E-03
27	0.0000	0.17954E-01	0.64230E-03
28	0.0000	0.17112E-01	0.61215E-03
29	0.0000	0.16592E-01	0.59354E-03
30	0.0000	0.16271E-01	0.58208E-03
31	0.0000	0.73838E-02	0.26415E-03
32	0.0000	0.59393E-02	0.21247E-03
33	0.0000	0.50292E-02	0.17991E-03
34	0.0000	0.44585E-02	0.15950E-03
35	0.0000	0.41020E-02	0.14674E-03
36	0.0000	0.38802E-02	0.13881E-03
37	0.0000	0.37426E-02	0.13389E-03
38	0.0000	0.36575E-02	0.13084E-03
39	0.0000	0.36051E-02	0.12897E-03
40	0.0000	0.35728E-02	0.12781E-03
41	0.0000	0.35530E-02	0.12710E-03
42	0.0000	0.35409E-02	0.12667E-03
43	0.0000	0.35335E-02	0.12641E-03
44	0.0000	0.35290E-02	0.12625E-03
45	0.0000	0.35263E-02	0.12615E-03
46	0.0000	0.35246E-02	0.12609E-03
47	0.0000	0.35236E-02	0.12605E-03
48	0.0000	0.35230E-02	0.12603E-03
49	0.0000	0.35226E-02	0.12602E-03
50	0.0000	0.35224E-02	0.12601E-03
51	0.0000	0.35223E-02	0.12601E-03
52	0.0000	0.35223E-02	0.12601E-03
53	0.0000	0.35223E-02	0.12601E-03
54	0.0000	0.35223E-02	0.12601E-03
55	0.0000	0.35223E-02	0.12601E-03
56	0.0000	0.35223E-02	0.12601E-03
57	0.0000	0.35223E-02	0.12601E-03
58	0.0000	0.35223E-02	0.12601E-03
59	0.0000	0.35223E-02	0.12601E-03
60	0.0000	0.35223E-02	0.12601E-03
61	0.0000	0.11770E-02	0.42106E-04
62	0.0000	0.81976E-03	0.29326E-04
63	0.0000	0.59407E-03	0.21252E-04
64	0.0000	0.45220E-03	0.16177E-04
65	0.0000	0.36340E-03	0.13000E-04
66	0.0000	0.30804E-03	0.11020E-04
67	0.0000	0.27365E-03	0.97893E-05
68	0.0000	0.25235E-03	0.90274E-05
69	0.0000	0.23920E-03	0.85569E-05
70	0.0000	0.23110E-03	0.82672E-05
71	0.0000	0.22612E-03	0.80892E-05
72	0.0000	0.22307E-03	0.79801E-05
73	0.0000	0.22121E-03	0.79134E-05
74	0.0000	0.22007E-03	0.78727E-05
75	0.0000	0.21938E-03	0.78480E-05
76	0.0000	0.21896E-03	0.78329E-05
77	0.0000	0.21870E-03	0.78238E-05
78	0.0000	0.21855E-03	0.78182E-05
79	0.0000	0.21845E-03	0.78148E-05
80	0.0000	0.21840E-03	0.78128E-05
81	0.0000	0.21836E-03	0.78116E-05
82	0.0000	0.21834E-03	0.78109E-05
83	0.0000	0.21833E-03	0.78104E-05
84	0.0000	0.21833E-03	0.78104E-05
85	0.0000	0.21833E-03	0.78104E-05
86	0.0000	0.21833E-03	0.78104E-05
87	0.0000	0.21833E-03	0.78104E-05
88	0.0000	0.21833E-03	0.78104E-05
89	0.0000	0.21833E-03	0.78104E-05
90	0.0000	0.21833E-03	0.78104E-05
91	0.0000	0.21833E-03	0.78104E-05
92	0.0000	0.21833E-03	0.78104E-05
93	0.0000	0.21833E-03	0.78104E-05
94	0.0000	0.21833E-03	0.78104E-05
95	0.0000	0.21833E-03	0.78104E-05
96	0.0000	0.21833E-03	0.78104E-05

97	0.0000	0.21833E-03	0.78104E-05
98	0.0000	0.21833E-03	0.78104E-05
99	0.0000	0.21833E-03	0.78104E-05
100	0.0000	0.21833E-03	0.78104E-05
101	0.0000	0.21833E-03	0.78104E-05
102	0.0000	0.21833E-03	0.78104E-05
103	0.0000	0.21833E-03	0.78104E-05
104	0.0000	0.21833E-03	0.78104E-05
105	0.0000	0.21833E-03	0.78104E-05
106	0.0000	0.21833E-03	0.78104E-05
107	0.0000	0.21833E-03	0.78104E-05
108	0.0000	0.21833E-03	0.78104E-05
109	0.0000	0.21833E-03	0.78104E-05
110	0.0000	0.21833E-03	0.78104E-05
111	0.0000	0.21833E-03	0.78104E-05
112	0.0000	0.21833E-03	0.78104E-05
113	0.0000	0.21833E-03	0.78104E-05
114	0.0000	0.21833E-03	0.78104E-05
115	0.0000	0.21833E-03	0.78104E-05
116	0.0000	0.21833E-03	0.78104E-05

Pistol Range
Time: 200.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.73811E-01	0.26405E-02
2	0.0000	0.96300E-01	0.34450E-02
3	0.0000	0.11222	0.40145E-02
4	0.0000	0.12331	0.44114E-02
5	0.0000	0.13095	0.46844E-02
6	0.0000	0.13614	0.48703E-02
7	0.0000	0.13965	0.49957E-02
8	0.0000	0.14199	0.50795E-02
9	0.0000	0.14355	0.51352E-02
10	0.0000	0.14458	0.51720E-02
11	0.0000	0.14525	0.51961E-02
12	0.0000	0.14569	0.52119E-02
13	0.0000	0.14598	0.52221E-02
14	0.0000	0.14616	0.52288E-02
15	0.0000	0.14628	0.52330E-02
16	0.0000	0.14636	0.52358E-02
17	0.0000	0.14641	0.52375E-02
18	0.0000	0.14644	0.52386E-02
19	0.0000	0.14646	0.52394E-02
20	0.0000	0.14647	0.52399E-02
21	0.0000	0.80615E-01	0.28839E-02
22	0.0000	0.60552E-01	0.21661E-02
23	0.0000	0.46349E-01	0.16581E-02
24	0.0000	0.36451E-01	0.13040E-02
25	0.0000	0.29640E-01	0.10603E-02
26	0.0000	0.25004E-01	0.89448E-03
27	0.0000	0.21878E-01	0.78264E-03
28	0.0000	0.19786E-01	0.70782E-03
29	0.0000	0.18397E-01	0.65812E-03
30	0.0000	0.17480E-01	0.62531E-03
31	0.0000	0.10708E-01	0.38306E-03
32	0.0000	0.84349E-02	0.30175E-03
33	0.0000	0.68487E-02	0.24500E-03
34	0.0000	0.57559E-02	0.20591E-03
35	0.0000	0.50111E-02	0.17927E-03
36	0.0000	0.45083E-02	0.16128E-03
37	0.0000	0.41715E-02	0.14923E-03
38	0.0000	0.39475E-02	0.14122E-03
39	0.0000	0.37995E-02	0.13592E-03
40	0.0000	0.37023E-02	0.13244E-03
41	0.0000	0.36387E-02	0.13017E-03
42	0.0000	0.35974E-02	0.12869E-03
43	0.0000	0.35706E-02	0.12773E-03
44	0.0000	0.35533E-02	0.12711E-03
45	0.0000	0.35422E-02	0.12672E-03
46	0.0000	0.35350E-02	0.12646E-03
47	0.0000	0.35305E-02	0.12630E-03
48	0.0000	0.35276E-02	0.12619E-03
49	0.0000	0.35257E-02	0.12613E-03
50	0.0000	0.35246E-02	0.12609E-03
51	0.0000	0.35239E-02	0.12606E-03
52	0.0000	0.35235E-02	0.12605E-03
53	0.0000	0.35232E-02	0.12604E-03
54	0.0000	0.35231E-02	0.12603E-03
55	0.0000	0.35231E-02	0.12603E-03

56	0.0000	0.35231E-02	0.12603E-03
57	0.0000	0.35231E-02	0.12603E-03
58	0.0000	0.35231E-02	0.12603E-03
59	0.0000	0.35231E-02	0.12603E-03
60	0.0000	0.35231E-02	0.12603E-03
61	0.0000	0.18579E-02	0.66464E-04
62	0.0000	0.13506E-02	0.48316E-04
63	0.0000	0.99151E-03	0.35470E-04
64	0.0000	0.74124E-03	0.26517E-04
65	0.0000	0.56905E-03	0.20357E-04
66	0.0000	0.45185E-03	0.16164E-04
67	0.0000	0.37281E-03	0.13337E-04
68	0.0000	0.31993E-03	0.11445E-04
69	0.0000	0.28480E-03	0.10188E-04
70	0.0000	0.26162E-03	0.93590E-05
71	0.0000	0.24640E-03	0.88146E-05
72	0.0000	0.23646E-03	0.84590E-05
73	0.0000	0.23000E-03	0.82279E-05
74	0.0000	0.22582E-03	0.80783E-05
75	0.0000	0.22312E-03	0.79818E-05
76	0.0000	0.22139E-03	0.79198E-05
77	0.0000	0.22028E-03	0.78802E-05
78	0.0000	0.21957E-03	0.78548E-05
79	0.0000	0.21912E-03	0.78387E-05
80	0.0000	0.21883E-03	0.78284E-05
81	0.0000	0.21865E-03	0.78220E-05
82	0.0000	0.21854E-03	0.78179E-05
83	0.0000	0.21847E-03	0.78154E-05
84	0.0000	0.21842E-03	0.78138E-05
85	0.0000	0.21840E-03	0.78129E-05
86	0.0000	0.21838E-03	0.78123E-05
87	0.0000	0.21838E-03	0.78122E-05
88	0.0000	0.21838E-03	0.78122E-05
89	0.0000	0.21838E-03	0.78122E-05
90	0.0000	0.21838E-03	0.78122E-05
91	0.0000	0.21838E-03	0.78122E-05
92	0.0000	0.21838E-03	0.78122E-05
93	0.0000	0.21838E-03	0.78122E-05
94	0.0000	0.21838E-03	0.78122E-05
95	0.0000	0.21838E-03	0.78122E-05
96	0.0000	0.21838E-03	0.78122E-05
97	0.0000	0.21838E-03	0.78122E-05
98	0.0000	0.21838E-03	0.78122E-05
99	0.0000	0.21838E-03	0.78122E-05
100	0.0000	0.21838E-03	0.78122E-05
101	0.0000	0.21838E-03	0.78122E-05
102	0.0000	0.21838E-03	0.78122E-05
103	0.0000	0.21838E-03	0.78122E-05
104	0.0000	0.21838E-03	0.78122E-05
105	0.0000	0.21838E-03	0.78122E-05
106	0.0000	0.21838E-03	0.78122E-05
107	0.0000	0.21838E-03	0.78122E-05
108	0.0000	0.21838E-03	0.78122E-05
109	0.0000	0.21838E-03	0.78122E-05
110	0.0000	0.21838E-03	0.78122E-05
111	0.0000	0.21838E-03	0.78122E-05
112	0.0000	0.21838E-03	0.78122E-05
113	0.0000	0.21838E-03	0.78122E-05
114	0.0000	0.21838E-03	0.78122E-05
115	0.0000	0.21838E-03	0.78122E-05
116	0.0000	0.21838E-03	0.78122E-05

Pistol Range
Time: 300.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.52400E-01	0.18745E-02
2	0.0000	0.76349E-01	0.27313E-02
3	0.0000	0.95125E-01	0.34030E-02
4	0.0000	0.10943	0.39147E-02
5	0.0000	0.12009	0.42959E-02
6	0.0000	0.12788	0.45749E-02
7	0.0000	0.13350	0.47759E-02
8	0.0000	0.13751	0.49191E-02
9	0.0000	0.14032	0.50199E-02
10	0.0000	0.14229	0.50902E-02
11	0.0000	0.14365	0.51388E-02
12	0.0000	0.14458	0.51722E-02
13	0.0000	0.14522	0.51949E-02
14	0.0000	0.14565	0.52104E-02

15	0.0000	0.14594	0.52207E-02
16	0.0000	0.14613	0.52277E-02
17	0.0000	0.14626	0.52323E-02
18	0.0000	0.14635	0.52355E-02
19	0.0000	0.14641	0.52375E-02
20	0.0000	0.14644	0.52389E-02
21	0.0000	0.99710E-01	0.35670E-02
22	0.0000	0.78356E-01	0.28031E-02
23	0.0000	0.61611E-01	0.22040E-02
24	0.0000	0.48853E-01	0.17477E-02
25	0.0000	0.39348E-01	0.14076E-02
26	0.0000	0.32392E-01	0.11588E-02
27	0.0000	0.27378E-01	0.97942E-03
28	0.0000	0.23809E-01	0.85174E-03
29	0.0000	0.21296E-01	0.76183E-03
30	0.0000	0.19543E-01	0.69912E-03
31	0.0000	0.13950E-01	0.49905E-03
32	0.0000	0.11116E-01	0.39766E-03
33	0.0000	0.89788E-02	0.32120E-03
34	0.0000	0.73983E-02	0.26466E-03
35	0.0000	0.62481E-02	0.22352E-03
36	0.0000	0.54223E-02	0.19398E-03
37	0.0000	0.48364E-02	0.17301E-03
38	0.0000	0.44247E-02	0.15829E-03
39	0.0000	0.41381E-02	0.14804E-03
40	0.0000	0.39402E-02	0.14095E-03
41	0.0000	0.38044E-02	0.13610E-03
42	0.0000	0.37119E-02	0.13279E-03
43	0.0000	0.36492E-02	0.13055E-03
44	0.0000	0.36070E-02	0.12904E-03
45	0.0000	0.35787E-02	0.12802E-03
46	0.0000	0.35598E-02	0.12735E-03
47	0.0000	0.35473E-02	0.12690E-03
48	0.0000	0.35389E-02	0.12660E-03
49	0.0000	0.35335E-02	0.12640E-03
50	0.0000	0.35299E-02	0.12628E-03
51	0.0000	0.35275E-02	0.12619E-03
52	0.0000	0.35260E-02	0.12614E-03
53	0.0000	0.35251E-02	0.12611E-03
54	0.0000	0.35245E-02	0.12608E-03
55	0.0000	0.35242E-02	0.12607E-03
56	0.0000	0.35239E-02	0.12606E-03
57	0.0000	0.35239E-02	0.12606E-03
58	0.0000	0.35239E-02	0.12606E-03
59	0.0000	0.35239E-02	0.12606E-03
60	0.0000	0.35239E-02	0.12606E-03
61	0.0000	0.23415E-02	0.83765E-04
62	0.0000	0.18013E-02	0.64438E-04
63	0.0000	0.13777E-02	0.49285E-04
64	0.0000	0.10550E-02	0.37741E-04
65	0.0000	0.81459E-03	0.29141E-04
66	0.0000	0.63870E-03	0.22848E-04
67	0.0000	0.51190E-03	0.18313E-04
68	0.0000	0.42164E-03	0.15084E-04
69	0.0000	0.35809E-03	0.12810E-04
70	0.0000	0.31377E-03	0.11225E-04
71	0.0000	0.28311E-03	0.10128E-04
72	0.0000	0.26206E-03	0.93747E-05
73	0.0000	0.24770E-03	0.88612E-05
74	0.0000	0.23797E-03	0.85132E-05
75	0.0000	0.23142E-03	0.82785E-05
76	0.0000	0.22702E-03	0.81212E-05
77	0.0000	0.22408E-03	0.80162E-05
78	0.0000	0.22213E-03	0.79464E-05
79	0.0000	0.22084E-03	0.79001E-05
80	0.0000	0.21998E-03	0.78696E-05
81	0.0000	0.21942E-03	0.78496E-05
82	0.0000	0.21906E-03	0.78365E-05
83	0.0000	0.21882E-03	0.78280E-05
84	0.0000	0.21867E-03	0.78225E-05
85	0.0000	0.21857E-03	0.78190E-05
86	0.0000	0.21850E-03	0.78167E-05
87	0.0000	0.21847E-03	0.78153E-05
88	0.0000	0.21845E-03	0.78146E-05
89	0.0000	0.21843E-03	0.78140E-05
90	0.0000	0.21843E-03	0.78140E-05
91	0.0000	0.21843E-03	0.78140E-05
92	0.0000	0.21843E-03	0.78140E-05
93	0.0000	0.21843E-03	0.78140E-05

94	0.0000	0.21843E-03	0.78140E-05
95	0.0000	0.21843E-03	0.78140E-05
96	0.0000	0.21843E-03	0.78140E-05
97	0.0000	0.21843E-03	0.78140E-05
98	0.0000	0.21843E-03	0.78140E-05
99	0.0000	0.21843E-03	0.78140E-05
100	0.0000	0.21843E-03	0.78140E-05
101	0.0000	0.21843E-03	0.78140E-05
102	0.0000	0.21843E-03	0.78140E-05
103	0.0000	0.21843E-03	0.78140E-05
104	0.0000	0.21843E-03	0.78140E-05
105	0.0000	0.21843E-03	0.78140E-05
106	0.0000	0.21843E-03	0.78140E-05
107	0.0000	0.21843E-03	0.78140E-05
108	0.0000	0.21843E-03	0.78140E-05
109	0.0000	0.21843E-03	0.78140E-05
110	0.0000	0.21843E-03	0.78140E-05
111	0.0000	0.21843E-03	0.78140E-05
112	0.0000	0.21843E-03	0.78140E-05
113	0.0000	0.21843E-03	0.78140E-05
114	0.0000	0.21843E-03	0.78140E-05
115	0.0000	0.21843E-03	0.78140E-05
116	0.0000	0.21843E-03	0.78140E-05

Pistol Range
Time: 400.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.37201E-01	0.13308E-02
2	0.0000	0.59870E-01	0.21417E-02
3	0.0000	0.79370E-01	0.28393E-02
4	0.0000	0.95443E-01	0.34143E-02
5	0.0000	0.10827	0.38734E-02
6	0.0000	0.11827	0.42309E-02
7	0.0000	0.12590	0.45038E-02
8	0.0000	0.13162	0.47086E-02
9	0.0000	0.13586	0.48601E-02
10	0.0000	0.13895	0.49709E-02
11	0.0000	0.14119	0.50510E-02
12	0.0000	0.14280	0.51084E-02
13	0.0000	0.14394	0.51491E-02
14	0.0000	0.14474	0.51778E-02
15	0.0000	0.14530	0.51979E-02
16	0.0000	0.14569	0.52119E-02
17	0.0000	0.14596	0.52215E-02
18	0.0000	0.14615	0.52282E-02
19	0.0000	0.14627	0.52327E-02
20	0.0000	0.14636	0.52358E-02
21	0.0000	0.11322	0.40504E-02
22	0.0000	0.93034E-01	0.33282E-02
23	0.0000	0.75659E-01	0.27066E-02
24	0.0000	0.61335E-01	0.21942E-02
25	0.0000	0.49896E-01	0.17849E-02
26	0.0000	0.40985E-01	0.14662E-02
27	0.0000	0.34184E-01	0.12229E-02
28	0.0000	0.29078E-01	0.10402E-02
29	0.0000	0.25300E-01	0.90508E-03
30	0.0000	0.22538E-01	0.80628E-03
31	0.0000	0.17432E-01	0.62360E-03
32	0.0000	0.14106E-01	0.50464E-03
33	0.0000	0.11460E-01	0.40998E-03
34	0.0000	0.94010E-02	0.33631E-03
35	0.0000	0.78272E-02	0.28001E-03
36	0.0000	0.66433E-02	0.23765E-03
37	0.0000	0.57647E-02	0.20622E-03
38	0.0000	0.51204E-02	0.18318E-03
39	0.0000	0.46529E-02	0.16645E-03
40	0.0000	0.43168E-02	0.15443E-03
41	0.0000	0.40773E-02	0.14586E-03
42	0.0000	0.39078E-02	0.13980E-03
43	0.0000	0.37888E-02	0.13554E-03
44	0.0000	0.37058E-02	0.13257E-03
45	0.0000	0.36481E-02	0.13051E-03
46	0.0000	0.36084E-02	0.12908E-03
47	0.0000	0.35811E-02	0.12811E-03
48	0.0000	0.35624E-02	0.12744E-03
49	0.0000	0.35497E-02	0.12699E-03
50	0.0000	0.35412E-02	0.12668E-03
51	0.0000	0.35354E-02	0.12647E-03
52	0.0000	0.35315E-02	0.12633E-03

53	0.0000	0.35289E-02	0.12624E-03
54	0.0000	0.35273E-02	0.12618E-03
55	0.0000	0.35262E-02	0.12614E-03
56	0.0000	0.35254E-02	0.12612E-03
57	0.0000	0.35251E-02	0.12610E-03
58	0.0000	0.35247E-02	0.12609E-03
59	0.0000	0.35247E-02	0.12609E-03
60	0.0000	0.35247E-02	0.12609E-03
61	0.0000	0.26852E-02	0.96057E-04
62	0.0000	0.21737E-02	0.77760E-04
63	0.0000	0.17337E-02	0.62022E-04
64	0.0000	0.13711E-02	0.49050E-04
65	0.0000	0.10816E-02	0.38694E-04
66	0.0000	0.85617E-03	0.30628E-04
67	0.0000	0.68409E-03	0.24472E-04
68	0.0000	0.55494E-03	0.19852E-04
69	0.0000	0.45937E-03	0.16433E-04
70	0.0000	0.38952E-03	0.13934E-04
71	0.0000	0.33900E-03	0.12127E-04
72	0.0000	0.30283E-03	0.10833E-04
73	0.0000	0.27713E-03	0.99141E-05
74	0.0000	0.25903E-03	0.92663E-05
75	0.0000	0.24635E-03	0.88129E-05
76	0.0000	0.23754E-03	0.84976E-05
77	0.0000	0.23145E-03	0.82797E-05
78	0.0000	0.22726E-03	0.81298E-05
79	0.0000	0.22439E-03	0.80272E-05
80	0.0000	0.22244E-03	0.79573E-05
81	0.0000	0.22111E-03	0.79099E-05
82	0.0000	0.22022E-03	0.78779E-05
83	0.0000	0.21962E-03	0.78564E-05
84	0.0000	0.21921E-03	0.78420E-05
85	0.0000	0.21895E-03	0.78325E-05
86	0.0000	0.21877E-03	0.78261E-05
87	0.0000	0.21865E-03	0.78220E-05
88	0.0000	0.21858E-03	0.78193E-05
89	0.0000	0.21853E-03	0.78176E-05
90	0.0000	0.21850E-03	0.78167E-05
91	0.0000	0.21848E-03	0.78159E-05
92	0.0000	0.21848E-03	0.78158E-05
93	0.0000	0.21848E-03	0.78158E-05
94	0.0000	0.21848E-03	0.78158E-05
95	0.0000	0.21848E-03	0.78158E-05
96	0.0000	0.21848E-03	0.78158E-05
97	0.0000	0.21848E-03	0.78158E-05
98	0.0000	0.21848E-03	0.78158E-05
99	0.0000	0.21848E-03	0.78158E-05
100	0.0000	0.21848E-03	0.78158E-05
101	0.0000	0.21848E-03	0.78158E-05
102	0.0000	0.21848E-03	0.78158E-05
103	0.0000	0.21848E-03	0.78158E-05
104	0.0000	0.21848E-03	0.78158E-05
105	0.0000	0.21848E-03	0.78158E-05
106	0.0000	0.21848E-03	0.78158E-05
107	0.0000	0.21848E-03	0.78158E-05
108	0.0000	0.21848E-03	0.78158E-05
109	0.0000	0.21848E-03	0.78158E-05
110	0.0000	0.21848E-03	0.78158E-05
111	0.0000	0.21848E-03	0.78158E-05
112	0.0000	0.21848E-03	0.78158E-05
113	0.0000	0.21848E-03	0.78158E-05
114	0.0000	0.21848E-03	0.78158E-05
115	0.0000	0.21848E-03	0.78158E-05
116	0.0000	0.21848E-03	0.78158E-05

Pistol Range
Time: 500.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.26410E-01	0.94477E-03
2	0.0000	0.46527E-01	0.16644E-02
3	0.0000	0.65363E-01	0.23383E-02
4	0.0000	0.82030E-01	0.29345E-02
5	0.0000	0.96184E-01	0.34408E-02
6	0.0000	0.10783	0.38576E-02
7	0.0000	0.11719	0.41923E-02
8	0.0000	0.12455	0.44555E-02
9	0.0000	0.13024	0.46590E-02
10	0.0000	0.13457	0.48140E-02
11	0.0000	0.13783	0.49306E-02

12	0.0000	0.14025	0.50173E-02
13	0.0000	0.14203	0.50811E-02
14	0.0000	0.14334	0.51276E-02
15	0.0000	0.14428	0.51613E-02
16	0.0000	0.14495	0.51854E-02
17	0.0000	0.14543	0.52027E-02
18	0.0000	0.14577	0.52149E-02
19	0.0000	0.14602	0.52235E-02
20	0.0000	0.14618	0.52295E-02
21	0.0000	0.12274	0.43907E-02
22	0.0000	0.10487	0.37514E-02
23	0.0000	0.88112E-01	0.31521E-02
24	0.0000	0.73279E-01	0.26215E-02
25	0.0000	0.60675E-01	0.21706E-02
26	0.0000	0.50296E-01	0.17993E-02
27	0.0000	0.41961E-01	0.15011E-02
28	0.0000	0.35403E-01	0.12665E-02
29	0.0000	0.30332E-01	0.10851E-02
30	0.0000	0.26469E-01	0.94690E-03
31	0.0000	0.21356E-01	0.76398E-03
32	0.0000	0.17514E-01	0.62654E-03
33	0.0000	0.14349E-01	0.51332E-03
34	0.0000	0.11796E-01	0.42199E-03
35	0.0000	0.97736E-02	0.34964E-03
36	0.0000	0.81970E-02	0.29324E-03
37	0.0000	0.69853E-02	0.24989E-03
38	0.0000	0.60656E-02	0.21699E-03
39	0.0000	0.53755E-02	0.19230E-03
40	0.0000	0.48628E-02	0.17396E-03
41	0.0000	0.44856E-02	0.16047E-03
42	0.0000	0.42103E-02	0.15062E-03
43	0.0000	0.40109E-02	0.14348E-03
44	0.0000	0.38676E-02	0.13836E-03
45	0.0000	0.37652E-02	0.13470E-03
46	0.0000	0.36925E-02	0.13210E-03
47	0.0000	0.36412E-02	0.13026E-03
48	0.0000	0.36052E-02	0.12897E-03
49	0.0000	0.35801E-02	0.12807E-03
50	0.0000	0.35626E-02	0.12745E-03
51	0.0000	0.35505E-02	0.12701E-03
52	0.0000	0.35422E-02	0.12672E-03
53	0.0000	0.35365E-02	0.12651E-03
54	0.0000	0.35326E-02	0.12637E-03
55	0.0000	0.35300E-02	0.12628E-03
56	0.0000	0.35282E-02	0.12622E-03
57	0.0000	0.35271E-02	0.12618E-03
58	0.0000	0.35263E-02	0.12615E-03
59	0.0000	0.35259E-02	0.12614E-03
60	0.0000	0.35256E-02	0.12612E-03
61	0.0000	0.29295E-02	0.10480E-03
62	0.0000	0.24755E-02	0.88556E-04
63	0.0000	0.20504E-02	0.73350E-04
64	0.0000	0.16744E-02	0.59898E-04
65	0.0000	0.13550E-02	0.48473E-04
66	0.0000	0.10921E-02	0.39069E-04
67	0.0000	0.88109E-03	0.31520E-04
68	0.0000	0.71508E-03	0.25581E-04
69	0.0000	0.58675E-03	0.20990E-04
70	0.0000	0.48898E-03	0.17493E-04
71	0.0000	0.41547E-03	0.14863E-04
72	0.0000	0.36081E-03	0.12907E-04
73	0.0000	0.32057E-03	0.11468E-04
74	0.0000	0.29123E-03	0.10418E-04
75	0.0000	0.27000E-03	0.96588E-05
76	0.0000	0.25475E-03	0.91134E-05
77	0.0000	0.24388E-03	0.87245E-05
78	0.0000	0.23618E-03	0.84489E-05
79	0.0000	0.23075E-03	0.82548E-05
80	0.0000	0.22695E-03	0.81187E-05
81	0.0000	0.22429E-03	0.80238E-05
82	0.0000	0.22245E-03	0.79580E-05
83	0.0000	0.22118E-03	0.79125E-05
84	0.0000	0.22031E-03	0.78813E-05
85	0.0000	0.21971E-03	0.78599E-05
86	0.0000	0.21931E-03	0.78454E-05
87	0.0000	0.21903E-03	0.78355E-05
88	0.0000	0.21885E-03	0.78289E-05
89	0.0000	0.21872E-03	0.78245E-05
90	0.0000	0.21864E-03	0.78216E-05

91	0.0000	0.21859E-03	0.78197E-05
92	0.0000	0.21856E-03	0.78187E-05
93	0.0000	0.21854E-03	0.78178E-05
94	0.0000	0.21853E-03	0.78176E-05
95	0.0000	0.21853E-03	0.78176E-05
96	0.0000	0.21853E-03	0.78176E-05
97	0.0000	0.21853E-03	0.78176E-05
98	0.0000	0.21853E-03	0.78176E-05
99	0.0000	0.21853E-03	0.78176E-05
100	0.0000	0.21853E-03	0.78176E-05
101	0.0000	0.21853E-03	0.78176E-05
102	0.0000	0.21853E-03	0.78176E-05
103	0.0000	0.21853E-03	0.78176E-05
104	0.0000	0.21853E-03	0.78176E-05
105	0.0000	0.21853E-03	0.78176E-05
106	0.0000	0.21853E-03	0.78176E-05
107	0.0000	0.21853E-03	0.78176E-05
108	0.0000	0.21853E-03	0.78176E-05
109	0.0000	0.21853E-03	0.78176E-05
110	0.0000	0.21853E-03	0.78176E-05
111	0.0000	0.21853E-03	0.78176E-05
112	0.0000	0.21853E-03	0.78176E-05
113	0.0000	0.21853E-03	0.78176E-05
114	0.0000	0.21853E-03	0.78176E-05
115	0.0000	0.21853E-03	0.78176E-05
116	0.0000	0.21853E-03	0.78176E-05

Pistol Range
Time: 600.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.18749E-01	0.67072E-03
2	0.0000	0.35887E-01	0.12838E-02
3	0.0000	0.53240E-01	0.19046E-02
4	0.0000	0.69617E-01	0.24905E-02
5	0.0000	0.84329E-01	0.30167E-02
6	0.0000	0.97063E-01	0.34723E-02
7	0.0000	0.10776	0.38551E-02
8	0.0000	0.11655	0.41693E-02
9	0.0000	0.12361	0.44220E-02
10	0.0000	0.12920	0.46219E-02
11	0.0000	0.13355	0.47776E-02
12	0.0000	0.13690	0.48973E-02
13	0.0000	0.13944	0.49884E-02
14	0.0000	0.14136	0.50569E-02
15	0.0000	0.14278	0.51079E-02
16	0.0000	0.14384	0.51456E-02
17	0.0000	0.14461	0.51733E-02
18	0.0000	0.14518	0.51935E-02
19	0.0000	0.14558	0.52080E-02
20	0.0000	0.14588	0.52185E-02
21	0.0000	0.12936	0.46275E-02
22	0.0000	0.11421	0.40857E-02
23	0.0000	0.98831E-01	0.35356E-02
24	0.0000	0.84291E-01	0.30154E-02
25	0.0000	0.71215E-01	0.25476E-02
26	0.0000	0.59889E-01	0.21424E-02
27	0.0000	0.50364E-01	0.18017E-02
28	0.0000	0.42544E-01	0.15219E-02
29	0.0000	0.36251E-01	0.12968E-02
30	0.0000	0.31275E-01	0.11188E-02
31	0.0000	0.25829E-01	0.92399E-03
32	0.0000	0.21413E-01	0.76603E-03
33	0.0000	0.17695E-01	0.63300E-03
34	0.0000	0.14619E-01	0.52297E-03
35	0.0000	0.12117E-01	0.43346E-03
36	0.0000	0.10112E-01	0.36174E-03
37	0.0000	0.85275E-02	0.30506E-03
38	0.0000	0.72910E-02	0.26083E-03
39	0.0000	0.63371E-02	0.22670E-03
40	0.0000	0.56089E-02	0.20065E-03
41	0.0000	0.50583E-02	0.18095E-03
42	0.0000	0.46456E-02	0.16619E-03
43	0.0000	0.43389E-02	0.15522E-03
44	0.0000	0.41127E-02	0.14713E-03
45	0.0000	0.39470E-02	0.14120E-03
46	0.0000	0.38264E-02	0.13689E-03
47	0.0000	0.37392E-02	0.13377E-03
48	0.0000	0.36765E-02	0.13152E-03
49	0.0000	0.36317E-02	0.12992E-03

50	0.0000	0.35998E-02	0.12878E-03
51	0.0000	0.35772E-02	0.12797E-03
52	0.0000	0.35613E-02	0.12740E-03
53	0.0000	0.35501E-02	0.12700E-03
54	0.0000	0.35424E-02	0.12672E-03
55	0.0000	0.35370E-02	0.12653E-03
56	0.0000	0.35333E-02	0.12640E-03
57	0.0000	0.35308E-02	0.12631E-03
58	0.0000	0.35290E-02	0.12625E-03
59	0.0000	0.35279E-02	0.12621E-03
60	0.0000	0.35272E-02	0.12618E-03
61	0.0000	0.31035E-02	0.11102E-03
62	0.0000	0.27165E-02	0.97179E-04
63	0.0000	0.23248E-02	0.83166E-04
64	0.0000	0.19551E-02	0.69942E-04
65	0.0000	0.16231E-02	0.58065E-04
66	0.0000	0.13358E-02	0.47786E-04
67	0.0000	0.10943E-02	0.39147E-04
68	0.0000	0.89614E-03	0.32058E-04
69	0.0000	0.73675E-03	0.26356E-04
70	0.0000	0.61071E-03	0.21847E-04
71	0.0000	0.51251E-03	0.18334E-04
72	0.0000	0.43700E-03	0.15633E-04
73	0.0000	0.37959E-03	0.13579E-04
74	0.0000	0.33639E-03	0.12034E-04
75	0.0000	0.30419E-03	0.10882E-04
76	0.0000	0.28040E-03	0.10031E-04
77	0.0000	0.26294E-03	0.94064E-05
78	0.0000	0.25024E-03	0.89518E-05
79	0.0000	0.24104E-03	0.86230E-05
80	0.0000	0.23443E-03	0.83866E-05
81	0.0000	0.22971E-03	0.82175E-05
82	0.0000	0.22635E-03	0.80974E-05
83	0.0000	0.22397E-03	0.80123E-05
84	0.0000	0.22230E-03	0.79525E-05
85	0.0000	0.22113E-03	0.79106E-05
86	0.0000	0.22031E-03	0.78813E-05
87	0.0000	0.21974E-03	0.78610E-05
88	0.0000	0.21935E-03	0.78470E-05
89	0.0000	0.21908E-03	0.78374E-05
90	0.0000	0.21890E-03	0.78309E-05
91	0.0000	0.21878E-03	0.78265E-05
92	0.0000	0.21870E-03	0.78235E-05
93	0.0000	0.21864E-03	0.78216E-05
94	0.0000	0.21861E-03	0.78205E-05
95	0.0000	0.21859E-03	0.78196E-05
96	0.0000	0.21858E-03	0.78194E-05
97	0.0000	0.21858E-03	0.78194E-05
98	0.0000	0.21858E-03	0.78194E-05
99	0.0000	0.21858E-03	0.78194E-05
100	0.0000	0.21858E-03	0.78194E-05
101	0.0000	0.21858E-03	0.78194E-05
102	0.0000	0.21858E-03	0.78194E-05
103	0.0000	0.21858E-03	0.78194E-05
104	0.0000	0.21858E-03	0.78194E-05
105	0.0000	0.21858E-03	0.78194E-05
106	0.0000	0.21858E-03	0.78194E-05
107	0.0000	0.21858E-03	0.78194E-05
108	0.0000	0.21858E-03	0.78194E-05
109	0.0000	0.21858E-03	0.78194E-05
110	0.0000	0.21858E-03	0.78194E-05
111	0.0000	0.21858E-03	0.78194E-05
112	0.0000	0.21858E-03	0.78194E-05
113	0.0000	0.21858E-03	0.78194E-05
114	0.0000	0.21858E-03	0.78194E-05
115	0.0000	0.21858E-03	0.78194E-05
116	0.0000	0.21858E-03	0.78194E-05

Pistol Range
Time: 700.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.13311E-01	0.47617E-03
2	0.0000	0.27505E-01	0.98395E-03
3	0.0000	0.42959E-01	0.15368E-02
4	0.0000	0.58438E-01	0.20906E-02
5	0.0000	0.73080E-01	0.26143E-02
6	0.0000	0.86350E-01	0.30890E-02
7	0.0000	0.97982E-01	0.35052E-02
8	0.0000	0.10791	0.38602E-02

9	0.0000	0.11619	0.41564E-02
10	0.0000	0.12296	0.43987E-02
11	0.0000	0.12841	0.45938E-02
12	0.0000	0.13274	0.47486E-02
13	0.0000	0.13613	0.48698E-02
14	0.0000	0.13875	0.49636E-02
15	0.0000	0.14076	0.50355E-02
16	0.0000	0.14228	0.50900E-02
17	0.0000	0.14343	0.51311E-02
18	0.0000	0.14429	0.51617E-02
19	0.0000	0.14492	0.51844E-02
20	0.0000	0.14539	0.52012E-02
21	0.0000	0.13386	0.47885E-02
22	0.0000	0.12144	0.43443E-02
23	0.0000	0.10783	0.38574E-02
24	0.0000	0.94143E-01	0.33678E-02
25	0.0000	0.81171E-01	0.29038E-02
26	0.0000	0.69396E-01	0.24825E-02
27	0.0000	0.59062E-01	0.21129E-02
28	0.0000	0.50238E-01	0.17972E-02
29	0.0000	0.42874E-01	0.15337E-02
30	0.0000	0.36844E-01	0.13180E-02
31	0.0000	0.30876E-01	0.11046E-02
32	0.0000	0.25838E-01	0.92430E-03
33	0.0000	0.21528E-01	0.77014E-03
34	0.0000	0.17898E-01	0.64026E-03
35	0.0000	0.14883E-01	0.53243E-03
36	0.0000	0.12415E-01	0.44413E-03
37	0.0000	0.10420E-01	0.37275E-03
38	0.0000	0.88264E-02	0.31575E-03
39	0.0000	0.75684E-02	0.27075E-03
40	0.0000	0.65854E-02	0.23558E-03
41	0.0000	0.58247E-02	0.20837E-03
42	0.0000	0.52414E-02	0.18750E-03
43	0.0000	0.47979E-02	0.17164E-03
44	0.0000	0.44633E-02	0.15967E-03
45	0.0000	0.42127E-02	0.15070E-03
46	0.0000	0.40263E-02	0.14404E-03
47	0.0000	0.38886E-02	0.13911E-03
48	0.0000	0.37875E-02	0.13549E-03
49	0.0000	0.37136E-02	0.13285E-03
50	0.0000	0.36600E-02	0.13093E-03
51	0.0000	0.36212E-02	0.12954E-03
52	0.0000	0.35933E-02	0.12855E-03
53	0.0000	0.35734E-02	0.12783E-03
54	0.0000	0.35592E-02	0.12733E-03
55	0.0000	0.35492E-02	0.12697E-03
56	0.0000	0.35421E-02	0.12671E-03
57	0.0000	0.35371E-02	0.12654E-03
58	0.0000	0.35337E-02	0.12641E-03
59	0.0000	0.35313E-02	0.12633E-03
60	0.0000	0.35297E-02	0.12627E-03
61	0.0000	0.32282E-02	0.11548E-03
62	0.0000	0.29071E-02	0.10400E-03
63	0.0000	0.25579E-02	0.91507E-04
64	0.0000	0.22083E-02	0.79000E-04
65	0.0000	0.18778E-02	0.67175E-04
66	0.0000	0.15782E-02	0.56459E-04
67	0.0000	0.13157E-02	0.47067E-04
68	0.0000	0.10917E-02	0.39055E-04
69	0.0000	0.90489E-03	0.32371E-04
70	0.0000	0.75201E-03	0.26902E-04
71	0.0000	0.62897E-03	0.22500E-04
72	0.0000	0.53136E-03	0.19009E-04
73	0.0000	0.45493E-03	0.16274E-04
74	0.0000	0.39576E-03	0.14158E-04
75	0.0000	0.35042E-03	0.12536E-04
76	0.0000	0.31601E-03	0.11305E-04
77	0.0000	0.29012E-03	0.10379E-04
78	0.0000	0.27079E-03	0.96872E-05
79	0.0000	0.25647E-03	0.91748E-05
80	0.0000	0.24592E-03	0.87976E-05
81	0.0000	0.23821E-03	0.85217E-05
82	0.0000	0.23260E-03	0.83210E-05
83	0.0000	0.22855E-03	0.81759E-05
84	0.0000	0.22563E-03	0.80715E-05
85	0.0000	0.22354E-03	0.79968E-05
86	0.0000	0.22205E-03	0.79436E-05
87	0.0000	0.22100E-03	0.79059E-05

88	0.0000	0.22025E-03	0.78793E-05
89	0.0000	0.21973E-03	0.78606E-05
90	0.0000	0.21937E-03	0.78476E-05
91	0.0000	0.21911E-03	0.78385E-05
92	0.0000	0.21894E-03	0.78323E-05
93	0.0000	0.21882E-03	0.78280E-05
94	0.0000	0.21874E-03	0.78252E-05
95	0.0000	0.21869E-03	0.78233E-05
96	0.0000	0.21866E-03	0.78223E-05
97	0.0000	0.21863E-03	0.78213E-05
98	0.0000	0.21863E-03	0.78213E-05
99	0.0000	0.21863E-03	0.78213E-05
100	0.0000	0.21863E-03	0.78213E-05
101	0.0000	0.21863E-03	0.78213E-05
102	0.0000	0.21863E-03	0.78213E-05
103	0.0000	0.21863E-03	0.78213E-05
104	0.0000	0.21863E-03	0.78213E-05
105	0.0000	0.21863E-03	0.78213E-05
106	0.0000	0.21863E-03	0.78213E-05
107	0.0000	0.21863E-03	0.78213E-05
108	0.0000	0.21863E-03	0.78213E-05
109	0.0000	0.21863E-03	0.78213E-05
110	0.0000	0.21863E-03	0.78213E-05
111	0.0000	0.21863E-03	0.78213E-05
112	0.0000	0.21863E-03	0.78213E-05
113	0.0000	0.21863E-03	0.78213E-05
114	0.0000	0.21863E-03	0.78213E-05
115	0.0000	0.21863E-03	0.78213E-05
116	0.0000	0.21863E-03	0.78213E-05

Pistol Range
Time: 800.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.94496E-02	0.33804E-03
2	0.0000	0.20966E-01	0.75003E-03
3	0.0000	0.34382E-01	0.12300E-02
4	0.0000	0.48584E-01	0.17380E-02
5	0.0000	0.62676E-01	0.22421E-02
6	0.0000	0.76006E-01	0.27190E-02
7	0.0000	0.88156E-01	0.31536E-02
8	0.0000	0.98904E-01	0.35382E-02
9	0.0000	0.10818	0.38699E-02
10	0.0000	0.11601	0.41502E-02
11	0.0000	0.12251	0.43827E-02
12	0.0000	0.12782	0.45726E-02
13	0.0000	0.13209	0.47254E-02
14	0.0000	0.13549	0.48469E-02
15	0.0000	0.13816	0.49424E-02
16	0.0000	0.14023	0.50167E-02
17	0.0000	0.14183	0.50739E-02
18	0.0000	0.14306	0.51176E-02
19	0.0000	0.14398	0.51508E-02
20	0.0000	0.14468	0.51757E-02
21	0.0000	0.13677	0.48927E-02
22	0.0000	0.12688	0.45389E-02
23	0.0000	0.11519	0.41209E-02
24	0.0000	0.10273	0.36750E-02
25	0.0000	0.90308E-01	0.32307E-02
26	0.0000	0.78525E-01	0.28091E-02
27	0.0000	0.67763E-01	0.24241E-02
28	0.0000	0.58229E-01	0.20831E-02
29	0.0000	0.49995E-01	0.17885E-02
30	0.0000	0.43033E-01	0.15394E-02
31	0.0000	0.36464E-01	0.13044E-02
32	0.0000	0.30780E-01	0.11011E-02
33	0.0000	0.25857E-01	0.92500E-03
34	0.0000	0.21647E-01	0.77438E-03
35	0.0000	0.18092E-01	0.64721E-03
36	0.0000	0.15128E-01	0.54119E-03
37	0.0000	0.12687E-01	0.45385E-03
38	0.0000	0.10699E-01	0.38274E-03
39	0.0000	0.90980E-02	0.32547E-03
40	0.0000	0.78216E-02	0.27981E-03
41	0.0000	0.68138E-02	0.24375E-03
42	0.0000	0.60253E-02	0.21555E-03
43	0.0000	0.54136E-02	0.19366E-03
44	0.0000	0.49428E-02	0.17682E-03
45	0.0000	0.45832E-02	0.16396E-03
46	0.0000	0.43105E-02	0.15420E-03

47	0.0000	0.41050E-02	0.14685E-03
48	0.0000	0.39512E-02	0.14135E-03
49	0.0000	0.38367E-02	0.13725E-03
50	0.0000	0.37520E-02	0.13422E-03
51	0.0000	0.36897E-02	0.13199E-03
52	0.0000	0.36440E-02	0.13036E-03
53	0.0000	0.36108E-02	0.12917E-03
54	0.0000	0.35867E-02	0.12831E-03
55	0.0000	0.35693E-02	0.12769E-03
56	0.0000	0.35568E-02	0.12724E-03
57	0.0000	0.35479E-02	0.12692E-03
58	0.0000	0.35415E-02	0.12669E-03
59	0.0000	0.35371E-02	0.12653E-03
60	0.0000	0.35339E-02	0.12642E-03
61	0.0000	0.33185E-02	0.11871E-03
62	0.0000	0.30571E-02	0.10936E-03
63	0.0000	0.27533E-02	0.98495E-04
64	0.0000	0.24321E-02	0.87005E-04
65	0.0000	0.21137E-02	0.75613E-04
66	0.0000	0.18126E-02	0.64842E-04
67	0.0000	0.15382E-02	0.55028E-04
68	0.0000	0.12956E-02	0.46347E-04
69	0.0000	0.10862E-02	0.38858E-04
70	0.0000	0.90939E-03	0.32532E-04
71	0.0000	0.76271E-03	0.27285E-04
72	0.0000	0.64295E-03	0.23001E-04
73	0.0000	0.54655E-03	0.19552E-04
74	0.0000	0.46992E-03	0.16811E-04
75	0.0000	0.40969E-03	0.14656E-04
76	0.0000	0.36283E-03	0.12980E-04
77	0.0000	0.32673E-03	0.11688E-04
78	0.0000	0.29914E-03	0.10701E-04
79	0.0000	0.27823E-03	0.99532E-05
80	0.0000	0.26249E-03	0.93904E-05
81	0.0000	0.25074E-03	0.89698E-05
82	0.0000	0.24201E-03	0.86574E-05
83	0.0000	0.23556E-03	0.84269E-05
84	0.0000	0.23083E-03	0.82578E-05
85	0.0000	0.22738E-03	0.81343E-05
86	0.0000	0.22487E-03	0.80446E-05
87	0.0000	0.22306E-03	0.79798E-05
88	0.0000	0.22176E-03	0.79331E-05
89	0.0000	0.22083E-03	0.78998E-05
90	0.0000	0.22016E-03	0.78760E-05
91	0.0000	0.21969E-03	0.78592E-05
92	0.0000	0.21936E-03	0.78473E-05
93	0.0000	0.21913E-03	0.78391E-05
94	0.0000	0.21897E-03	0.78333E-05
95	0.0000	0.21886E-03	0.78294E-05
96	0.0000	0.21879E-03	0.78268E-05
97	0.0000	0.21874E-03	0.78250E-05
98	0.0000	0.21871E-03	0.78240E-05
99	0.0000	0.21868E-03	0.78231E-05
100	0.0000	0.21868E-03	0.78231E-05
101	0.0000	0.21868E-03	0.78231E-05
102	0.0000	0.21868E-03	0.78231E-05
103	0.0000	0.21868E-03	0.78231E-05
104	0.0000	0.21868E-03	0.78231E-05
105	0.0000	0.21868E-03	0.78231E-05
106	0.0000	0.21868E-03	0.78231E-05
107	0.0000	0.21868E-03	0.78231E-05
108	0.0000	0.21868E-03	0.78231E-05
109	0.0000	0.21868E-03	0.78231E-05
110	0.0000	0.21868E-03	0.78231E-05
111	0.0000	0.21868E-03	0.78231E-05
112	0.0000	0.21868E-03	0.78231E-05
113	0.0000	0.21868E-03	0.78231E-05
114	0.0000	0.21868E-03	0.78231E-05
115	0.0000	0.21868E-03	0.78231E-05
116	0.0000	0.21868E-03	0.78231E-05

Pistol Range
Time: 900.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.67085E-02	0.23999E-03
2	0.0000	0.15907E-01	0.56903E-03
3	0.0000	0.27322E-01	0.97740E-03
4	0.0000	0.40048E-01	0.14327E-02
5	0.0000	0.53253E-01	0.19051E-02

6	0.0000	0.66255E-01	0.23702E-02
7	0.0000	0.78547E-01	0.28099E-02
8	0.0000	0.89796E-01	0.32123E-02
9	0.0000	0.99812E-01	0.35706E-02
10	0.0000	0.10853	0.38826E-02
11	0.0000	0.11597	0.41488E-02
12	0.0000	0.12221	0.43720E-02
13	0.0000	0.12737	0.45565E-02
14	0.0000	0.13157	0.47068E-02
15	0.0000	0.13496	0.48279E-02
16	0.0000	0.13765	0.49242E-02
17	0.0000	0.13977	0.50001E-02
18	0.0000	0.14143	0.50594E-02
19	0.0000	0.14271	0.51053E-02
20	0.0000	0.14370	0.51406E-02
21	0.0000	0.13846	0.49533E-02
22	0.0000	0.13082	0.46800E-02
23	0.0000	0.12107	0.43309E-02
24	0.0000	0.11003	0.39361E-02
25	0.0000	0.98484E-01	0.35231E-02
26	0.0000	0.87058E-01	0.31144E-02
27	0.0000	0.76218E-01	0.27266E-02
28	0.0000	0.66275E-01	0.23709E-02
29	0.0000	0.57406E-01	0.20536E-02
30	0.0000	0.49675E-01	0.17771E-02
31	0.0000	0.42511E-01	0.15208E-02
32	0.0000	0.36198E-01	0.12949E-02
33	0.0000	0.30661E-01	0.10969E-02
34	0.0000	0.25861E-01	0.92513E-03
35	0.0000	0.21748E-01	0.77799E-03
36	0.0000	0.18264E-01	0.65337E-03
37	0.0000	0.15347E-01	0.54902E-03
38	0.0000	0.12931E-01	0.46260E-03
39	0.0000	0.10951E-01	0.39177E-03
40	0.0000	0.93447E-02	0.33429E-03
41	0.0000	0.80533E-02	0.28809E-03
42	0.0000	0.70246E-02	0.25130E-03
43	0.0000	0.62122E-02	0.22223E-03
44	0.0000	0.55756E-02	0.19946E-03
45	0.0000	0.50807E-02	0.18175E-03
46	0.0000	0.46986E-02	0.16809E-03
47	0.0000	0.44057E-02	0.15761E-03
48	0.0000	0.41826E-02	0.14963E-03
49	0.0000	0.40137E-02	0.14358E-03
50	0.0000	0.38865E-02	0.13903E-03
51	0.0000	0.37913E-02	0.13563E-03
52	0.0000	0.37205E-02	0.13309E-03
53	0.0000	0.36680E-02	0.13122E-03
54	0.0000	0.36293E-02	0.12983E-03
55	0.0000	0.36009E-02	0.12882E-03
56	0.0000	0.35802E-02	0.12808E-03
57	0.0000	0.35652E-02	0.12754E-03
58	0.0000	0.35543E-02	0.12715E-03
59	0.0000	0.35464E-02	0.12687E-03
60	0.0000	0.35408E-02	0.12667E-03
61	0.0000	0.33854E-02	0.12111E-03
62	0.0000	0.31750E-02	0.11358E-03
63	0.0000	0.29155E-02	0.10430E-03
64	0.0000	0.26269E-02	0.93974E-04
65	0.0000	0.23280E-02	0.83280E-04
66	0.0000	0.20339E-02	0.72761E-04
67	0.0000	0.17561E-02	0.62823E-04
68	0.0000	0.15020E-02	0.53733E-04
69	0.0000	0.12758E-02	0.45640E-04
70	0.0000	0.10789E-02	0.38597E-04
71	0.0000	0.91093E-03	0.32587E-04
72	0.0000	0.77004E-03	0.27547E-04
73	0.0000	0.65366E-03	0.23384E-04
74	0.0000	0.55882E-03	0.19991E-04
75	0.0000	0.48248E-03	0.17260E-04
76	0.0000	0.42170E-03	0.15086E-04
77	0.0000	0.37380E-03	0.13372E-04
78	0.0000	0.33640E-03	0.12034E-04
79	0.0000	0.30745E-03	0.10999E-04
80	0.0000	0.28522E-03	0.10203E-04
81	0.0000	0.26826E-03	0.95967E-05
82	0.0000	0.25542E-03	0.91375E-05
83	0.0000	0.24577E-03	0.87920E-05
84	0.0000	0.23855E-03	0.85336E-05

85	0.0000	0.23318E-03	0.83415E-05
86	0.0000	0.22920E-03	0.81995E-05
87	0.0000	0.22628E-03	0.80950E-05
88	0.0000	0.22414E-03	0.80185E-05
89	0.0000	0.22259E-03	0.79627E-05
90	0.0000	0.22146E-03	0.79223E-05
91	0.0000	0.22064E-03	0.78932E-05
92	0.0000	0.22006E-03	0.78723E-05
93	0.0000	0.21964E-03	0.78573E-05
94	0.0000	0.21934E-03	0.78467E-05
95	0.0000	0.21914E-03	0.78393E-05
96	0.0000	0.21899E-03	0.78341E-05
97	0.0000	0.21889E-03	0.78306E-05
98	0.0000	0.21883E-03	0.78282E-05
99	0.0000	0.21878E-03	0.78266E-05
100	0.0000	0.21875E-03	0.78256E-05
101	0.0000	0.21873E-03	0.78249E-05
102	0.0000	0.21873E-03	0.78249E-05
103	0.0000	0.21873E-03	0.78249E-05
104	0.0000	0.21873E-03	0.78249E-05
105	0.0000	0.21873E-03	0.78249E-05
106	0.0000	0.21873E-03	0.78249E-05
107	0.0000	0.21873E-03	0.78249E-05
108	0.0000	0.21873E-03	0.78249E-05
109	0.0000	0.21873E-03	0.78249E-05
110	0.0000	0.21873E-03	0.78249E-05
111	0.0000	0.21873E-03	0.78249E-05
112	0.0000	0.21873E-03	0.78249E-05
113	0.0000	0.21873E-03	0.78249E-05
114	0.0000	0.21873E-03	0.78249E-05
115	0.0000	0.21873E-03	0.78249E-05
116	0.0000	0.21873E-03	0.78249E-05

Pistol Range
Time: 1000.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.47626E-02	0.17037E-03
2	0.0000	0.12018E-01	0.42993E-03
3	0.0000	0.21575E-01	0.77182E-03
4	0.0000	0.32761E-01	0.11720E-02
5	0.0000	0.44867E-01	0.16051E-02
6	0.0000	0.57245E-01	0.20479E-02
7	0.0000	0.69358E-01	0.24812E-02
8	0.0000	0.80801E-01	0.28905E-02
9	0.0000	0.91299E-01	0.32661E-02
10	0.0000	0.10070	0.36024E-02
11	0.0000	0.10894	0.38971E-02
12	0.0000	0.11603	0.41507E-02
13	0.0000	0.12203	0.43654E-02
14	0.0000	0.12704	0.45445E-02
15	0.0000	0.13116	0.46920E-02
16	0.0000	0.13451	0.48120E-02
17	0.0000	0.13721	0.49087E-02
18	0.0000	0.13937	0.49857E-02
19	0.0000	0.14107	0.50465E-02
20	0.0000	0.14240	0.50941E-02
21	0.0000	0.13918	0.49791E-02
22	0.0000	0.13351	0.47760E-02
23	0.0000	0.12559	0.44928E-02
24	0.0000	0.11607	0.41523E-02
25	0.0000	0.10562	0.37785E-02
26	0.0000	0.94841E-01	0.33928E-02
27	0.0000	0.84230E-01	0.30132E-02
28	0.0000	0.74166E-01	0.26532E-02
29	0.0000	0.64907E-01	0.23220E-02
30	0.0000	0.56599E-01	0.20248E-02
31	0.0000	0.48908E-01	0.17496E-02
32	0.0000	0.42018E-01	0.15031E-02
33	0.0000	0.35896E-01	0.12841E-02
34	0.0000	0.30515E-01	0.10916E-02
35	0.0000	0.25841E-01	0.92441E-03
36	0.0000	0.21824E-01	0.78072E-03
37	0.0000	0.18410E-01	0.65860E-03
38	0.0000	0.15539E-01	0.55589E-03
39	0.0000	0.13149E-01	0.47038E-03
40	0.0000	0.11178E-01	0.39988E-03
41	0.0000	0.95684E-02	0.34230E-03
42	0.0000	0.82654E-02	0.29568E-03
43	0.0000	0.72194E-02	0.25826E-03

44	0.0000	0.63864E-02	0.22847E-03
45	0.0000	0.57282E-02	0.20492E-03
46	0.0000	0.52119E-02	0.18645E-03
47	0.0000	0.48096E-02	0.17206E-03
48	0.0000	0.44983E-02	0.16092E-03
49	0.0000	0.42588E-02	0.15235E-03
50	0.0000	0.40757E-02	0.14580E-03
51	0.0000	0.39365E-02	0.14082E-03
52	0.0000	0.38313E-02	0.13706E-03
53	0.0000	0.37521E-02	0.13423E-03
54	0.0000	0.36929E-02	0.13211E-03
55	0.0000	0.36488E-02	0.13053E-03
56	0.0000	0.36160E-02	0.12936E-03
57	0.0000	0.35919E-02	0.12850E-03
58	0.0000	0.35742E-02	0.12786E-03
59	0.0000	0.35613E-02	0.12740E-03
60	0.0000	0.35519E-02	0.12706E-03
61	0.0000	0.34375E-02	0.12297E-03
62	0.0000	0.32689E-02	0.11694E-03
63	0.0000	0.30497E-02	0.10910E-03
64	0.0000	0.27948E-02	0.99979E-04
65	0.0000	0.25198E-02	0.90142E-04
66	0.0000	0.22392E-02	0.80106E-04
67	0.0000	0.19651E-02	0.70297E-04
68	0.0000	0.17063E-02	0.61039E-04
69	0.0000	0.14689E-02	0.52549E-04
70	0.0000	0.12565E-02	0.44951E-04
71	0.0000	0.10704E-02	0.38293E-04
72	0.0000	0.91034E-03	0.32566E-04
73	0.0000	0.77484E-03	0.27719E-04
74	0.0000	0.66181E-03	0.23675E-04
75	0.0000	0.56874E-03	0.20346E-04
76	0.0000	0.49302E-03	0.17637E-04
77	0.0000	0.43207E-03	0.15457E-04
78	0.0000	0.38349E-03	0.13719E-04
79	0.0000	0.34513E-03	0.12346E-04
80	0.0000	0.31509E-03	0.11272E-04
81	0.0000	0.29174E-03	0.10437E-04
82	0.0000	0.27374E-03	0.97927E-05
83	0.0000	0.25995E-03	0.92993E-05
84	0.0000	0.24945E-03	0.89238E-05
85	0.0000	0.24151E-03	0.86397E-05
86	0.0000	0.23554E-03	0.84260E-05
87	0.0000	0.23107E-03	0.82662E-05
88	0.0000	0.22774E-03	0.81472E-05
89	0.0000	0.22528E-03	0.80591E-05
90	0.0000	0.22347E-03	0.79942E-05
91	0.0000	0.22214E-03	0.79466E-05
92	0.0000	0.22117E-03	0.79119E-05
93	0.0000	0.22046E-03	0.78866E-05
94	0.0000	0.21995E-03	0.78684E-05
95	0.0000	0.21958E-03	0.78553E-05
96	0.0000	0.21932E-03	0.78460E-05
97	0.0000	0.21914E-03	0.78394E-05
98	0.0000	0.21901E-03	0.78347E-05
99	0.0000	0.21892E-03	0.78316E-05
100	0.0000	0.21886E-03	0.78294E-05
101	0.0000	0.21883E-03	0.78282E-05
102	0.0000	0.21880E-03	0.78271E-05
103	0.0000	0.21879E-03	0.78267E-05
104	0.0000	0.21879E-03	0.78267E-05
105	0.0000	0.21879E-03	0.78267E-05
106	0.0000	0.21879E-03	0.78267E-05
107	0.0000	0.21879E-03	0.78267E-05
108	0.0000	0.21879E-03	0.78267E-05
109	0.0000	0.21879E-03	0.78267E-05
110	0.0000	0.21879E-03	0.78267E-05
111	0.0000	0.21879E-03	0.78267E-05
112	0.0000	0.21879E-03	0.78267E-05
113	0.0000	0.21879E-03	0.78267E-05
114	0.0000	0.21879E-03	0.78267E-05
115	0.0000	0.21879E-03	0.78267E-05
116	0.0000	0.21879E-03	0.78267E-05

TRNSPROF.DAT FILE
for
Lead at the Former Pistol Range, Kd = 1013 ml/g, pH = 5.2, and Background Soil at 7.81 mg/kg

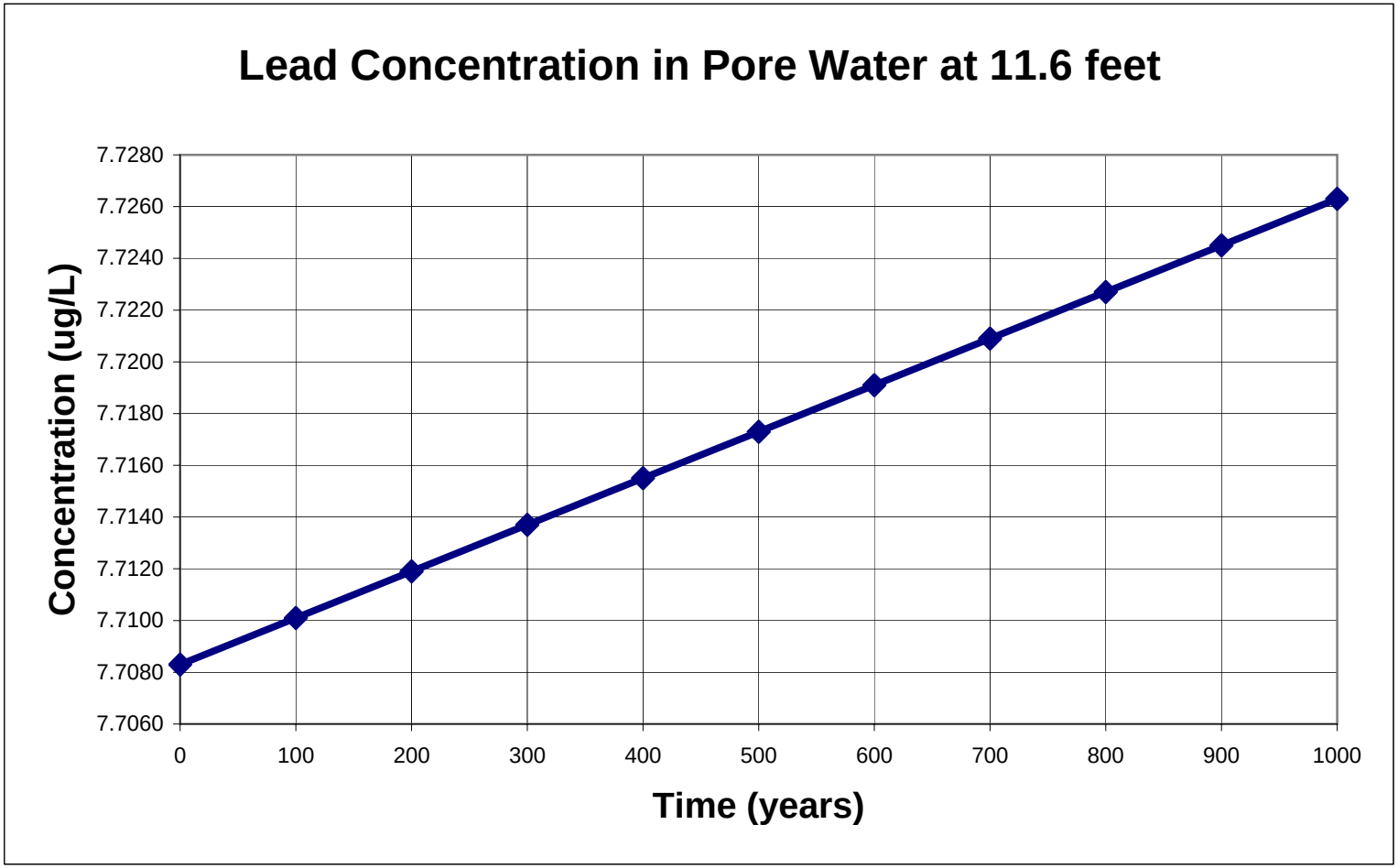
Liquid Phase Concentration [ug/l] for Polygon 1
(Cells by row, each column one time)

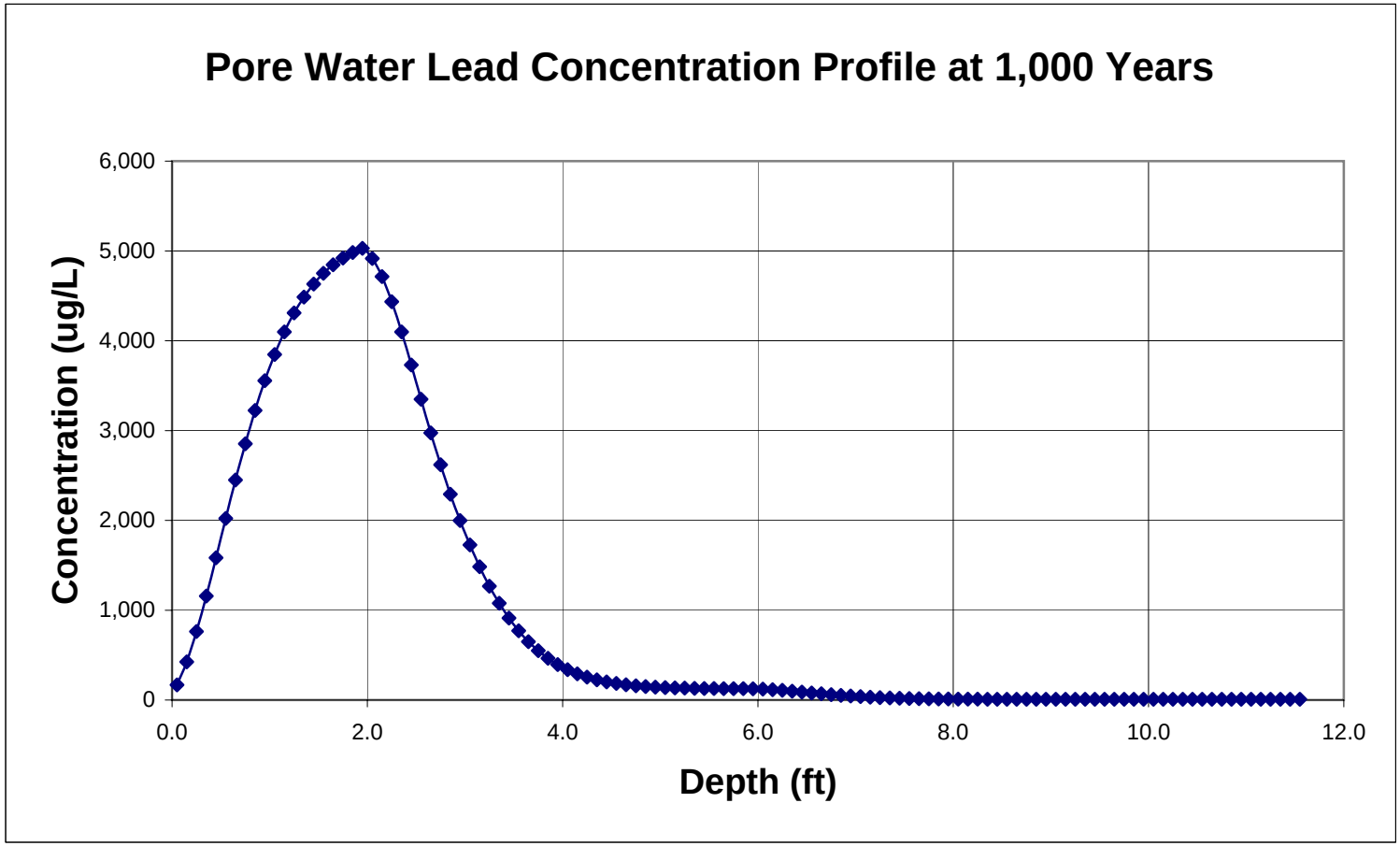
116	0	100	200	300	400	500	600	700	800	900	1000
0.05	5171.8	3671.6	2606.6	1850.5	1313.7	932.65	662.11	470.06	333.71	236.91	168.19
0.15	5171.8	4230.9	3400.8	2696.2	2114.3	1643.1	1267.3	971.32	740.41	561.73	424.41
0.25	5171.8	4584.3	3963	3359.3	2802.9	2308.3	1880.1	1517.1	1214.2	964.86	761.92
0.35	5171.8	4806.4	4354.7	3864.5	3370.5	2896.8	2458.5	2063.7	1715.7	1414.3	1156.9
0.45	5171.8	4945.4	4624.3	4240.8	3823.7	3396.7	2978	2580.8	2213.4	1880.6	1584.5
0.55	5171.8	5032.1	4807.8	4516.2	4176.6	3808.1	3427.7	3049.4	2684.1	2339.8	2021.6
0.65	5171.8	5085.9	4931.6	4714.6	4446	4138.5	3805.6	3460.2	3113.2	2773.9	2449.3
0.75	5171.8	5119.3	5014.3	4855.9	4648.1	4398.3	4115.8	3810.7	3492.7	3171.1	2853.4
0.85	5171.8	5139.9	5069.3	4955.4	4797.8	4599.2	4365.3	4103	3820.2	3524.8	3224.2
0.95	5171.8	5152.6	5105.6	5024.8	4907.1	4752.2	4562.6	4342.3	4096.9	3832.7	3556.1
1.05	5171.8	5160.3	5129.4	5072.8	4986.2	4867.3	4716.3	4534.9	4326.5	4095.5	3847.1
1.15	5171.8	5165.1	5145	5105.8	5042.8	4952.9	4834.5	4687.6	4513.9	4315.9	4097.5
1.25	5171.8	5168	5155.1	5128.3	5083	5015.9	4924.4	4807.3	4664.8	4498	4309.4
1.35	5171.8	5169.8	5161.7	5143.5	5111.4	5061.8	4992	4899.9	4784.7	4646.4	4486.2
1.45	5171.8	5170.9	5165.9	5153.7	5131.2	5095	5042.4	4970.9	4878.9	4765.9	4631.8
1.55	5171.8	5171.5	5168.6	5160.6	5145	5118.9	5079.6	5024.7	4952.3	4861	4750.3
1.65	5171.8	5172	5170.3	5165.2	5154.5	5135.9	5106.9	5065.2	5008.8	4936	4845.7
1.75	5171.8	5172.2	5171.4	5168.3	5161.1	5148	5126.8	5095.5	5052	4994.5	4921.7
1.85	5171.8	5172.4	5172.1	5170.3	5165.6	5156.5	5141.2	5117.9	5084.7	5039.8	4981.7
1.95	5171.8	5172.6	5172.6	5171.6	5168.6	5162.4	5151.5	5134.4	5109.3	5074.6	5028.7
2.05	556.66	1896.1	2846.9	3521.2	3998.4	4334.3	4568.1	4727	4829.9	4889.7	4915.2
2.15	556.66	1397	2138.3	2767.1	3285.4	3703.3	4033.3	4288.5	4480.7	4620	4714.7
2.25	556.66	1081.7	1636.8	2175.8	2671.9	3111.6	3490.2	3807.9	4068	4275.4	4435.1
2.35	556.66	883.5	1287.2	1725.2	2166	2587.8	2976.7	3324.6	3627.9	3885.6	4099
2.45	556.66	759.45	1046.7	1389.5	1762	2142.7	2514.9	2866.5	3189.2	3477.9	3730
2.55	556.66	682.1	883	1143.9	1447.4	1776.2	2115	2450.7	2773.1	3074.4	3349.3
2.65	556.66	634.05	772.6	966.86	1207.2	1481.8	1778.6	2085.7	2393	2691.6	2974.6
2.75	556.66	604.3	698.73	840.81	1026.9	1250.2	1502.4	1774.1	2056.3	2340.5	2619.1

2.85	556.66	585.92	649.67	752.05	893.46	1071.2	1280.2	1514.1	1765.5	2027.3	2292.2
2.95	556.66	574.61	617.28	690.15	795.93	934.74	1104.4	1301.1	1519.7	1754.3	1998.8
3.05	124.36	260.76	378.14	492.65	615.59	754.18	912.14	1090.4	1287.7	1501.2	1727.2
3.15	124.36	209.74	297.87	392.55	498.16	618.5	756.2	912.44	1087	1278.3	1483.9
3.25	124.36	177.6	241.86	317.08	404.72	506.73	624.87	760.26	913.13	1082.8	1267.6
3.35	124.36	157.45	203.27	261.27	331.99	416.57	516.26	632.05	764.44	913.26	1077.6
3.45	124.36	144.86	176.96	220.65	276.41	345.15	427.89	525.6	638.9	768.01	912.55
3.55	124.36	137.03	159.21	191.49	234.6	289.47	357.09	438.43	534.24	644.99	770.71
3.65	124.36	132.17	147.31	170.79	203.58	246.68	301.14	367.97	448.03	541.98	650.15
3.75	124.36	129.16	139.4	156.26	180.83	214.2	257.48	311.7	377.83	456.66	548.75
3.85	124.36	127.31	134.18	146.14	164.32	189.83	223.79	267.27	321.29	386.74	464.34
3.95	124.36	126.17	130.74	139.15	152.45	171.73	198.07	232.56	276.22	330	394.75
4.05	124.36	125.47	128.5	134.35	143.99	158.41	178.63	205.7	240.63	284.4	337.9
4.15	124.36	125.05	127.04	131.08	138	148.68	164.06	185.1	212.78	248.07	291.89
4.25	124.36	124.78	126.09	128.87	133.8	141.64	153.23	169.43	191.18	219.38	254.95
4.35	124.36	124.62	125.48	127.38	130.87	136.58	145.24	157.62	174.55	196.9	225.53
4.45	124.36	124.53	125.09	126.38	128.83	132.97	139.39	148.77	161.85	179.42	202.29
4.55	124.36	124.47	124.84	125.71	127.43	130.4	135.13	142.19	152.22	165.93	184.05
4.65	124.36	124.43	124.68	125.27	126.46	128.59	132.05	137.32	144.97	155.59	169.85
4.75	124.36	124.41	124.57	124.98	125.81	127.32	129.83	133.75	139.53	147.71	158.85
4.85	124.36	124.4	124.51	124.78	125.36	126.43	128.25	131.14	135.49	141.74	150.4
4.95	124.36	124.39	124.47	124.66	125.05	125.81	127.12	129.25	132.5	137.25	143.93
5.05	124.36	124.39	124.44	124.57	124.85	125.38	126.33	127.88	130.3	133.89	139.02
5.15	124.36	124.39	124.43	124.52	124.71	125.09	125.77	126.9	128.69	131.39	135.3
5.25	124.36	124.39	124.42	124.49	124.62	124.89	125.37	126.19	127.51	129.53	132.5
5.35	124.36	124.39	124.42	124.47	124.56	124.75	125.1	125.69	126.66	128.17	130.41
5.45	124.36	124.39	124.42	124.45	124.52	124.66	124.91	125.34	126.05	127.16	128.85
5.55	124.36	124.39	124.42	124.45	124.5	124.6	124.78	125.09	125.61	126.43	127.7
5.65	124.36	124.39	124.42	124.45	124.49	124.56	124.69	124.91	125.29	125.9	126.85
5.75	124.36	124.39	124.42	124.45	124.47	124.53	124.63	124.79	125.07	125.52	126.22
5.85	124.36	124.39	124.42	124.45	124.47	124.52	124.59	124.71	124.91	125.24	125.76
5.95	124.36	124.39	124.42	124.45	124.47	124.5	124.56	124.65	124.8	125.04	125.43
6.05	7.7083	41.566	65.611	82.69	94.825	103.45	109.6	114	117.19	119.56	121.39
6.15	7.7083	28.949	47.696	63.611	76.762	87.42	95.932	102.66	107.96	112.13	115.44
6.25	7.7083	20.979	35.015	48.652	61.226	72.409	82.098	90.332	97.231	102.96	107.7
6.35	7.7083	15.969	26.177	37.257	48.421	59.129	69.045	77.986	85.889	92.768	98.696
6.45	7.7083	12.833	20.096	28.767	38.197	47.851	57.32	66.313	74.643	82.211	88.986

6.55	7.7083	10.878	15.957	22.555	30.235	38.568	47.173	55.735	64.01	71.827	79.078
6.65	7.7083	9.6637	13.165	18.077	24.158	31.115	38.645	46.463	54.321	62.017	69.395
6.75	7.7083	8.9115	11.298	14.89	19.597	25.253	31.647	38.553	45.752	53.043	60.256
6.85	7.7083	8.4471	10.058	12.646	16.222	20.721	26.018	31.956	38.36	45.054	51.875
6.95	7.7083	8.1611	9.2389	11.08	13.756	17.268	21.567	26.557	32.115	38.101	44.374
7.05	7.7083	7.9854	8.7015	9.9978	11.972	14.672	18.099	22.212	26.935	32.169	37.802
7.15	7.7083	7.8777	8.3505	9.2544	10.694	12.742	15.432	18.765	22.706	27.194	32.148
7.25	7.7083	7.8119	8.1223	8.7475	9.7868	11.321	13.405	16.066	19.301	23.084	27.363
7.35	7.7083	7.7717	7.9746	8.4039	9.1474	10.285	11.879	13.976	16.595	19.735	23.371
7.45	7.7083	7.7473	7.8794	8.1723	8.6998	9.5348	10.742	12.375	14.468	17.038	20.085
7.55	7.7083	7.7324	7.8182	8.017	8.3886	8.9965	9.902	11.16	12.813	14.892	17.411
7.65	7.7083	7.7233	7.779	7.9133	8.1734	8.6126	9.2857	10.245	11.538	13.201	15.258
7.75	7.7083	7.7179	7.754	7.8444	8.0254	8.3405	8.8369	9.5629	10.564	11.88	13.543
7.85	7.7083	7.7146	7.7381	7.7987	7.9242	8.1488	8.5123	9.0571	9.8255	10.858	12.188
7.95	7.7083	7.7125	7.728	7.7687	7.8552	8.0145	8.2789	8.6847	9.2699	10.072	11.127
8.05	7.7083	7.7113	7.7216	7.7489	7.8084	7.9208	8.1121	8.4123	8.8546	9.4735	10.303
8.15	7.7083	7.7107	7.7176	7.7359	7.7768	7.8559	7.9934	8.2142	8.5463	9.0202	9.667
8.25	7.7083	7.7102	7.7151	7.7275	7.7556	7.811	7.9095	8.071	8.3188	8.6791	9.18
8.35	7.7083	7.7101	7.7136	7.7221	7.7414	7.7802	7.8504	7.9679	8.1518	8.4241	8.8093
8.45	7.7083	7.7101	7.7127	7.7186	7.7319	7.759	7.809	7.8942	8.0299	8.2345	8.5289
8.55	7.7083	7.7101	7.712	7.7164	7.7257	7.7447	7.7802	7.8416	7.9413	8.0942	8.3179
8.65	7.7083	7.7101	7.7119	7.715	7.7216	7.735	7.7601	7.8044	7.8774	7.9911	8.1601
8.75	7.7083	7.7101	7.7119	7.7143	7.719	7.7284	7.7463	7.7781	7.8313	7.9156	8.0427
8.85	7.7083	7.7101	7.7119	7.7137	7.7173	7.7241	7.7368	7.7597	7.7984	7.8605	7.9557
8.95	7.7083	7.7101	7.7119	7.7137	7.7164	7.7212	7.7304	7.7468	7.775	7.8207	7.8916
9.05	7.7083	7.7101	7.7119	7.7137	7.7156	7.7194	7.7261	7.7379	7.7583	7.7919	7.8446
9.15	7.7083	7.7101	7.7119	7.7137	7.7155	7.7183	7.7231	7.7318	7.7466	7.7712	7.8103
9.25	7.7083	7.7101	7.7119	7.7137	7.7155	7.7175	7.7213	7.7276	7.7385	7.7565	7.7854
9.35	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7202	7.7248	7.7328	7.746	7.7674
9.45	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7193	7.7229	7.7289	7.7387	7.7545
9.55	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7219	7.7264	7.7336	7.7453
9.65	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.721	7.7246	7.7301	7.7388
9.75	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7236	7.7277	7.7342
9.85	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7262	7.7311
9.95	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7252	7.729
10.05	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7277
10.15	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7267

10.25	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
10.35	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
10.45	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
10.55	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
10.65	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
10.75	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
10.85	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
10.95	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
11.05	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
11.15	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
11.25	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
11.35	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
11.45	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263
11.55	7.7083	7.7101	7.7119	7.7137	7.7155	7.7173	7.7191	7.7209	7.7227	7.7245	7.7263


Lead Concentration in Pore Water at 11.6 feet
Concentration (ug/L)
7.7280
7.7260
7.7240
7.7220
7.7200
7.7180
7.7160
7.7140
7.7120
7.7100
7.7080
7.7060
0
100
200
300
400
500
600
700
800
900
1000
Time (years)


Pore Water Lead Concentration Profile at 1,000 Years
Concentration (ug/L)
6,000
5,000
4,000
3,000
2,000
1,000
0
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Depth (ft)

ATTACHMENT E-4

VLEACH FILES

pH = 5.2

Lead = 8.29 mg/kg

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==============GENERAL PROJECT INFORMATION============================
project title..........................Lead at the Pistol Range, 5.2 pH
number of polygons.....................1
timestep [years]......................0.05
total time of simulation [years]........1000.0
gw impact output interval [years].......50
transient profile plot interval [years].100
===============CONTAMINANT INFORMATION==============================
org.C distrib. coeff., Koc [ml/g].......1013000.
Henry's constant [dimensionless]........0.0
water solubility [mg/l]................40.0
free air diffusion coef.[sq.m/d]........0.7435
===============Polygon #1============================================
title..................................Pistol Range
surface area [sq.ft]...................10000
vertical thickness of a cell [ft].......0.1
net recharge rate [ft/year]............1.25
dry bulk density [g/cm3]...............1.6
effective porosity [dim.less]...........0.422
volumetric water content [percent]......0.25
organic carbon content [dim.less].......0.001
contaminant conc. in recharge [mg/l]....0.0
upper BC for vapor [mg/l]..............-1.0,
lower BC for vapor [mg/l]..............0.0
number of cells........................116
plot SOILIMP,GWIMP [y/n]...............y
plot time, profile in SOILIMP [years]...50.0
======repeat the following line until all cells are assigned=========
top #, bottom #, init. conc. [ug/kg]....1,20,5240000.0
top #, bottom #, init. conc. [ug/kg]....21,30,564000.0
top #, bottom #, init. conc. [ug/kg]....31,60,126000.0
top #, bottom #, init. conc. [ug/kg]....61,116,8290.0
```

```
|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
```

Lead at the Pistol Range, 5.2 pH
  1 polygons.
Timestep = 0.05 years. Simulation length = 1000.00 years.
Printout every 50.00 years. Vertical profile stored every 100.00 years.
Koc = 0.10130E+07ml/g, 35.774 cu.ft./g
Kh = 0.0000 (dimensionless).
Aqueous solubility = 40.000 mg/l, 1.1327 g/cu.ft
Free air diffusion coefficient = .74350 sq. m/day, 2921.2 sq.ft./yr

Polygon 1
Pistol Range

Polygon area = 10000. sq. ft.
116 cells, each cell 0.10 ft. thick.
Soil Properties:
 Bulk density = 1.600g/ml, 45307.199g/cu.ft.
 Porosity = 0.422 Volumetric water content = 0.2500
 Organic carbon content = 0.001000
Recharge Rate = 1.2500 ft/yr
Conc. in recharge water = 0.0000 m g/l, 0.0000 g/cu.ft
Atmospheric concentration = -1.00000000 mg/l, -0.02831700 g/cu.ft
Water table has a fixed concentration of 0.0000 mg/l, 0.0000 g/cu.ft.
  with respect to gas diffusion.
Initial Mass and Concentration:

cell	total mass [g/cu.ft]	equiv.c_liq[ug/l]
1	237.40	0.33536E+08
2	237.40	0.33536E+08
3	237.40	0.33536E+08
4	237.40	0.33536E+08
5	237.40	0.33536E+08
6	237.40	0.33536E+08
7	237.40	0.33536E+08
8	237.40	0.33536E+08
9	237.40	0.33536E+08
10	237.40	0.33536E+08
11	237.40	0.33536E+08
12	237.40	0.33536E+08
13	237.40	0.33536E+08
14	237.40	0.33536E+08
15	237.40	0.33536E+08
16	237.40	0.33536E+08
17	237.40	0.33536E+08
18	237.40	0.33536E+08
19	237.40	0.33536E+08
20	237.40	0.33536E+08
21	25.552	0.36096E+07
22	25.552	0.36096E+07
23	25.552	0.36096E+07
24	25.552	0.36096E+07
25	25.552	0.36096E+07
26	25.552	0.36096E+07
27	25.552	0.36096E+07
28	25.552	0.36096E+07
29	25.552	0.36096E+07
30	25.552	0.36096E+07
31	5.7085	0.80640E+06
32	5.7085	0.80640E+06
33	5.7085	0.80640E+06

34	5.7085	0.80640E+06
35	5.7085	0.80640E+06
36	5.7085	0.80640E+06
37	5.7085	0.80640E+06
38	5.7085	0.80640E+06
39	5.7085	0.80640E+06
40	5.7085	0.80640E+06
41	5.7085	0.80640E+06
42	5.7085	0.80640E+06
43	5.7085	0.80640E+06
44	5.7085	0.80640E+06
45	5.7085	0.80640E+06
46	5.7085	0.80640E+06
47	5.7085	0.80640E+06
48	5.7085	0.80640E+06
49	5.7085	0.80640E+06
50	5.7085	0.80640E+06
51	5.7085	0.80640E+06
52	5.7085	0.80640E+06
53	5.7085	0.80640E+06
54	5.7085	0.80640E+06
55	5.7085	0.80640E+06
56	5.7085	0.80640E+06
57	5.7085	0.80640E+06
58	5.7085	0.80640E+06
59	5.7085	0.80640E+06
60	5.7085	0.80640E+06
61	0.37558	53056.
62	0.37558	53056.
63	0.37558	53056.
64	0.37558	53056.
65	0.37558	53056.
66	0.37558	53056.
67	0.37558	53056.
68	0.37558	53056.
69	0.37558	53056.
70	0.37558	53056.
71	0.37558	53056.
72	0.37558	53056.
73	0.37558	53056.
74	0.37558	53056.
75	0.37558	53056.
76	0.37558	53056.
77	0.37558	53056.
78	0.37558	53056.
79	0.37558	53056.
80	0.37558	53056.
81	0.37558	53056.
82	0.37558	53056.
83	0.37558	53056.
84	0.37558	53056.
85	0.37558	53056.
86	0.37558	53056.
87	0.37558	53056.
88	0.37558	53056.
89	0.37558	53056.
90	0.37558	53056.
91	0.37558	53056.
92	0.37558	53056.
93	0.37558	53056.
94	0.37558	53056.
95	0.37558	53056.
96	0.37558	53056.
97	0.37558	53056.
98	0.37558	53056.
99	0.37558	53056.
100	0.37558	53056.
101	0.37558	53056.
102	0.37558	53056.
103	0.37558	53056.
104	0.37558	53056.
105	0.37558	53056.
106	0.37558	53056.
107	0.37558	53056.
108	0.37558	53056.
109	0.37558	53056.
110	0.37558	53056.
111	0.37558	53056.
112	0.37558	53056.

113	0.37558	53056.
114	0.37558	53056.
115	0.37558	53056.
116	0.37558	53056.

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|-------------------------------------------------------------|
|                VLEACH (Version 2.2c, 1998/2006)             |
|                                                             |
|                            By:                              |
|        Thomas Harter, Univ. of California, Davis            |
|                                                             |
|                 based on the program by:                    |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)                        |
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
```

Lead at the Pistol Range, 5.2 pH

```
Polygon   1
At time =       0.00, total mass in vadose zone =     519.58    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80131E-01g/sq.ft.
Mass sorbed           =       519.50    g/sq.ft.


Polygon   1
At time =      50.0000, total mass in vadose zone =     519.61    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80135E-01g/sq.ft.
Mass sorbed           =       519.53    g/sq.ft.

Since last printout at time =       0.0000
               Change in Total Mass =     0.26917E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14482E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14482E-01g/sq.ft.
               Mass discrepancy =     0.41398E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.26917E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14482E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14482E-01g/sq.ft.
               Mass discrepancy =     0.41398E-01g/sq.ft.


Polygon   1
At time =     100.0000, total mass in vadose zone =     519.64    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80139E-01g/sq.ft.
Mass sorbed           =       519.56    g/sq.ft.

Since last printout at time =      50.0000
               Change in Total Mass =     0.25330E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14483E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14483E-01g/sq.ft.
               Mass discrepancy =     0.39813E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.52246E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.28965E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.28965E-01g/sq.ft.
               Mass discrepancy =     0.81211E-01g/sq.ft.


Polygon   1
At time =     150.0000, total mass in vadose zone =     519.66    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
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Mass in liquid phase  =      0.80143E-01g/sq.ft.
Mass sorbed           =       519.58    g/sq.ft.

Since last printout at time =     100.0000
               Change in Total Mass =     0.26245E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14485E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14485E-01g/sq.ft.
               Mass discrepancy =     0.40730E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.78491E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.43449E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.43449E-01g/sq.ft.
               Mass discrepancy =     0.12194    g/sq.ft.


Polygon   1
At time =     200.0000, total mass in vadose zone =     519.69    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80147E-01g/sq.ft.
Mass sorbed           =       519.61    g/sq.ft.

Since last printout at time =     150.0000
               Change in Total Mass =     0.25452E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14486E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14486E-01g/sq.ft.
               Mass discrepancy =     0.39938E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.10394    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.57936E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.57936E-01g/sq.ft.
               Mass discrepancy =     0.16188    g/sq.ft.


Polygon   1
At time =     250.0000, total mass in vadose zone =     519.71    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80151E-01g/sq.ft.
Mass sorbed           =       519.63    g/sq.ft.

Since last printout at time =     200.0000
               Change in Total Mass =     0.25208E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14488E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14488E-01g/sq.ft.
               Mass discrepancy =     0.39695E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.12915    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.72426E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.72426E-01g/sq.ft.
               Mass discrepancy =     0.20158    g/sq.ft.


Polygon   1
At time =     300.0000, total mass in vadose zone =     519.74    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80155E-01g/sq.ft.
Mass sorbed           =       519.66    g/sq.ft.

Since last printout at time =     250.0000
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                Change in Total Mass =     0.25269E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.14489E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.14489E-01g/sq.ft.
                Mass discrepancy =     0.39758E-01g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =     0.15442    g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.86917E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.86917E-01g/sq.ft.
                Mass discrepancy =     0.24134    g/sq.ft.


Polygon   1
At time =     350.0000, total mass in vadose zone =     519.76    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80158E-01g/sq.ft.
Mass sorbed           =       519.68    g/sq.ft.

Since last printout at time =     300.0000
                Change in Total Mass =     0.25574E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.14491E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.14491E-01g/sq.ft.
                Mass discrepancy =     0.40065E-01g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =     0.17999    g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.10141    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.10141    g/sq.ft.
                Mass discrepancy =     0.28140    g/sq.ft.


Polygon   1
At time =     400.0000, total mass in vadose zone =     519.79    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80162E-01g/sq.ft.
Mass sorbed           =       519.71    g/sq.ft.

Since last printout at time =     350.0000
                Change in Total Mass =     0.25269E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.14493E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.14493E-01g/sq.ft.
                Mass discrepancy =     0.39761E-01g/sq.ft.

Since beginning of run at time = 0.0
                Change in Total Mass =     0.20526    g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.11590    g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
                     Diffusion in from water table =      0.0000    g/sq.ft.
                Total inflow at boundaries =    -0.11590    g/sq.ft.
                Mass discrepancy =     0.32116    g/sq.ft.


Polygon   1
At time =     450.0000, total mass in vadose zone =     519.81    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80166E-01g/sq.ft.
Mass sorbed           =       519.73    g/sq.ft.

Since last printout at time =     400.0000
                Change in Total Mass =     0.25452E-01g/sq.ft.
                     Advection in from atmosphere =       0.0000    g/sq.ft.
                     Advection in from water table =    -0.14494E-01g/sq.ft.
                     Diffusion in from atmosphere =       0.0000    g/sq.ft.
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                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14494E-01g/sq.ft.
               Mass discrepancy =     0.39946E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.23071    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.13039    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.13039    g/sq.ft.
               Mass discrepancy =     0.36111    g/sq.ft.


Polygon   1
At time =     500.0000, total mass in vadose zone =     519.84    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80170E-01g/sq.ft.
Mass sorbed           =       519.76    g/sq.ft.

Since last printout at time =     450.0000
               Change in Total Mass =     0.25208E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14496E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14496E-01g/sq.ft.
               Mass discrepancy =     0.39703E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.25592    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14489    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14489    g/sq.ft.
               Mass discrepancy =     0.40081    g/sq.ft.


Polygon   1
At time =     550.0000, total mass in vadose zone =     519.87    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80174E-01g/sq.ft.
Mass sorbed           =       519.78    g/sq.ft.

Since last printout at time =     500.0000
               Change in Total Mass =     0.25452E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14497E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14497E-01g/sq.ft.
               Mass discrepancy =     0.39949E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.28137    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.15939    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.15939    g/sq.ft.
               Mass discrepancy =     0.44076    g/sq.ft.


Polygon   1
At time =     600.0000, total mass in vadose zone =     519.89    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80178E-01g/sq.ft.
Mass sorbed           =       519.81    g/sq.ft.

Since last printout at time =     550.0000
               Change in Total Mass =     0.25574E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14499E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14499E-01g/sq.ft.
               Mass discrepancy =     0.40073E-01g/sq.ft.
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Since beginning of run at time = 0.0
               Change in Total Mass =     0.30695    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.17389    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.17389    g/sq.ft.
               Mass discrepancy =     0.48084    g/sq.ft.


Polygon   1
At time =     650.0000, total mass in vadose zone =     519.92    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80182E-01g/sq.ft.
Mass sorbed           =       519.84    g/sq.ft.

Since last printout at time =     600.0000
               Change in Total Mass =     0.25574E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14501E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14501E-01g/sq.ft.
               Mass discrepancy =     0.40074E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.33252    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.18839    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.18839    g/sq.ft.
               Mass discrepancy =     0.52091    g/sq.ft.


Polygon   1
At time =     700.0000, total mass in vadose zone =     519.94    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80186E-01g/sq.ft.
Mass sorbed           =       519.86    g/sq.ft.

Since last printout at time =     650.0000
               Change in Total Mass =     0.25146E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14502E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14502E-01g/sq.ft.
               Mass discrepancy =     0.39649E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.35767    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.20289    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.20289    g/sq.ft.
               Mass discrepancy =     0.56055    g/sq.ft.


Polygon   1
At time =     750.0000, total mass in vadose zone =     519.97    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80190E-01g/sq.ft.
Mass sorbed           =       519.89    g/sq.ft.

Since last printout at time =     700.0000
               Change in Total Mass =     0.25574E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14504E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14504E-01g/sq.ft.
               Mass discrepancy =     0.40078E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.38324    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.21739    g/sq.ft.
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                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.21739    g/sq.ft.
               Mass discrepancy =     0.60063    g/sq.ft.


Polygon   1
At time =     800.0000, total mass in vadose zone =     519.99    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80194E-01g/sq.ft.
Mass sorbed           =       519.91    g/sq.ft.

Since last printout at time =     750.0000
               Change in Total Mass =     0.25330E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14505E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14505E-01g/sq.ft.
               Mass discrepancy =     0.39835E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.40857    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.23189    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.23189    g/sq.ft.
               Mass discrepancy =     0.64046    g/sq.ft.


Polygon   1
At time =     850.0000, total mass in vadose zone =     520.02    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80198E-01g/sq.ft.
Mass sorbed           =       519.94    g/sq.ft.

Since last printout at time =     800.0000
               Change in Total Mass =     0.26123E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14507E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14507E-01g/sq.ft.
               Mass discrepancy =     0.40630E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.43469    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.24640    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.24640    g/sq.ft.
               Mass discrepancy =     0.68109    g/sq.ft.


Polygon   1
At time =     900.0000, total mass in vadose zone =     520.04    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80202E-01g/sq.ft.
Mass sorbed           =       519.96    g/sq.ft.

Since last printout at time =     850.0000
               Change in Total Mass =     0.25635E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14509E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14509E-01g/sq.ft.
               Mass discrepancy =     0.40143E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.46033    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.26091    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.26091    g/sq.ft.
               Mass discrepancy =     0.72124    g/sq.ft.
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```
Polygon   1
At time =     950.0000, total mass in vadose zone =     520.07    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80206E-01g/sq.ft.
Mass sorbed           =       519.99    g/sq.ft.

Since last printout at time =     900.0000
               Change in Total Mass =     0.25269E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14510E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14510E-01g/sq.ft.
               Mass discrepancy =     0.39779E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.48560    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.27543    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.27543    g/sq.ft.
               Mass discrepancy =     0.76102    g/sq.ft.


Polygon   1
At time =    1000.0000, total mass in vadose zone =     520.09    g/sq.ft.
Mass in gas phase     =       0.0000    g/sq.ft.
Mass in liquid phase  =      0.80209E-01g/sq.ft.
Mass sorbed           =       520.01    g/sq.ft.

Since last printout at time =     950.0000
               Change in Total Mass =     0.25330E-01g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.14512E-01g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.14512E-01g/sq.ft.
               Mass discrepancy =     0.39841E-01g/sq.ft.

Since beginning of run at time = 0.0
               Change in Total Mass =     0.51093    g/sq.ft.
                    Advection in from atmosphere =       0.0000    g/sq.ft.
                    Advection in from water table =    -0.28994    g/sq.ft.
                    Diffusion in from atmosphere =       0.0000    g/sq.ft.
                    Diffusion in from water table =      0.0000    g/sq.ft.
               Total inflow at boundaries =    -0.28994    g/sq.ft.
               Mass discrepancy =     0.80086    g/sq.ft.


GROUNDWATER IMPACT OF POLYGON   1

 Time        Mass flux (g/yr/sq.ft.)      Total Mass(g/yr)
     50.00         0.28965E-03               2.8965
    100.00         0.28968E-03               2.8968
    150.00         0.28971E-03               2.8971
    200.00         0.28974E-03               2.8974
    250.00         0.28977E-03               2.8977
    300.00         0.28981E-03               2.8981
    350.00         0.28984E-03               2.8984
    400.00         0.28987E-03               2.8987
    450.00         0.28990E-03               2.8990
    500.00         0.28993E-03               2.8993
    550.00         0.28996E-03               2.8996
    600.00         0.29000E-03               2.9000
    650.00         0.29003E-03               2.9003
    700.00         0.29006E-03               2.9006
    750.00         0.29009E-03               2.9009
    800.00         0.29012E-03               2.9012
    850.00         0.29016E-03               2.9016
    900.00         0.29019E-03               2.9019
    950.00         0.29022E-03               2.9022
   1000.00         0.29025E-03               2.9025
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TOTAL GROUNDWATER IMPACT
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Time (yr)	Mass (g/yr)	Cumulative Mass (g)
50.00	2.8965	144.82
100.00	2.8968	289.65
150.00	2.8971	434.49
200.00	2.8974	579.36
250.00	2.8977	724.24
300.00	2.8981	869.13
350.00	2.8984	1014.0
400.00	2.8987	1159.0
450.00	2.8990	1303.9
500.00	2.8993	1448.9
550.00	2.8996	1593.8
600.00	2.9000	1738.8
650.00	2.9003	1883.8
700.00	2.9006	2028.9
750.00	2.9009	2173.9
800.00	2.9012	2319.0
850.00	2.9016	2464.0
900.00	2.9019	2609.1
950.00	2.9022	2754.2
1000.00	2.9025	2899.3

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|-------------------------------------------------------------|
|                VLEACH (Version 2.2a, 1996)                  |
|                                                             |
|                            By:                              |
|        Varadhan Ravi and Jeffrey A. Johnson                 |
|                  (USEPA Contractors)                        |
|        Center for Subsurface Modeling Support               |
|        Robert S. Kerr Environmental Research Laboratory     |
|        U.S. Environmental Protection Agency                 |
|        P.O. Box 1198                                        |
|        Ada, OK 74820                                        |
|                                                             |
|        Based on the original VLEACH (version 1.0)           |
|        developed by CH2M Hill, Redding, California          |
|        for USEPA Region IX                                  |
|-------------------------------------------------------------|
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Pistol Range
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.14645	0.52390E-02
2	0.0000	0.14645	0.52390E-02
3	0.0000	0.14645	0.52390E-02
4	0.0000	0.14645	0.52390E-02
5	0.0000	0.14645	0.52390E-02
6	0.0000	0.14645	0.52390E-02
7	0.0000	0.14645	0.52390E-02
8	0.0000	0.14645	0.52390E-02
9	0.0000	0.14645	0.52390E-02
10	0.0000	0.14645	0.52390E-02
11	0.0000	0.14645	0.52390E-02
12	0.0000	0.14645	0.52390E-02
13	0.0000	0.14645	0.52390E-02
14	0.0000	0.14645	0.52390E-02
15	0.0000	0.14645	0.52390E-02
16	0.0000	0.14645	0.52390E-02
17	0.0000	0.14645	0.52390E-02
18	0.0000	0.14645	0.52390E-02
19	0.0000	0.14645	0.52390E-02
20	0.0000	0.14645	0.52390E-02
21	0.0000	0.15763E-01	0.56389E-03
22	0.0000	0.15763E-01	0.56389E-03
23	0.0000	0.15763E-01	0.56389E-03
24	0.0000	0.15763E-01	0.56389E-03
25	0.0000	0.15763E-01	0.56389E-03
26	0.0000	0.15763E-01	0.56389E-03
27	0.0000	0.15763E-01	0.56389E-03
28	0.0000	0.15763E-01	0.56389E-03
29	0.0000	0.15763E-01	0.56389E-03
30	0.0000	0.15763E-01	0.56389E-03
31	0.0000	0.35215E-02	0.12598E-03
32	0.0000	0.35215E-02	0.12598E-03
33	0.0000	0.35215E-02	0.12598E-03
34	0.0000	0.35215E-02	0.12598E-03
35	0.0000	0.35215E-02	0.12598E-03
36	0.0000	0.35215E-02	0.12598E-03
37	0.0000	0.35215E-02	0.12598E-03
38	0.0000	0.35215E-02	0.12598E-03
39	0.0000	0.35215E-02	0.12598E-03
40	0.0000	0.35215E-02	0.12598E-03
41	0.0000	0.35215E-02	0.12598E-03
42	0.0000	0.35215E-02	0.12598E-03
43	0.0000	0.35215E-02	0.12598E-03
44	0.0000	0.35215E-02	0.12598E-03
45	0.0000	0.35215E-02	0.12598E-03
46	0.0000	0.35215E-02	0.12598E-03
47	0.0000	0.35215E-02	0.12598E-03
48	0.0000	0.35215E-02	0.12598E-03
49	0.0000	0.35215E-02	0.12598E-03
50	0.0000	0.35215E-02	0.12598E-03
51	0.0000	0.35215E-02	0.12598E-03
52	0.0000	0.35215E-02	0.12598E-03
53	0.0000	0.35215E-02	0.12598E-03
54	0.0000	0.35215E-02	0.12598E-03
55	0.0000	0.35215E-02	0.12598E-03
56	0.0000	0.35215E-02	0.12598E-03
57	0.0000	0.35215E-02	0.12598E-03
58	0.0000	0.35215E-02	0.12598E-03

59	0.0000	0.35215E-02	0.12598E-03
60	0.0000	0.35215E-02	0.12598E-03
61	0.0000	0.23169E-03	0.82884E-05
62	0.0000	0.23169E-03	0.82884E-05
63	0.0000	0.23169E-03	0.82884E-05
64	0.0000	0.23169E-03	0.82884E-05
65	0.0000	0.23169E-03	0.82884E-05
66	0.0000	0.23169E-03	0.82884E-05
67	0.0000	0.23169E-03	0.82884E-05
68	0.0000	0.23169E-03	0.82884E-05
69	0.0000	0.23169E-03	0.82884E-05
70	0.0000	0.23169E-03	0.82884E-05
71	0.0000	0.23169E-03	0.82884E-05
72	0.0000	0.23169E-03	0.82884E-05
73	0.0000	0.23169E-03	0.82884E-05
74	0.0000	0.23169E-03	0.82884E-05
75	0.0000	0.23169E-03	0.82884E-05
76	0.0000	0.23169E-03	0.82884E-05
77	0.0000	0.23169E-03	0.82884E-05
78	0.0000	0.23169E-03	0.82884E-05
79	0.0000	0.23169E-03	0.82884E-05
80	0.0000	0.23169E-03	0.82884E-05
81	0.0000	0.23169E-03	0.82884E-05
82	0.0000	0.23169E-03	0.82884E-05
83	0.0000	0.23169E-03	0.82884E-05
84	0.0000	0.23169E-03	0.82884E-05
85	0.0000	0.23169E-03	0.82884E-05
86	0.0000	0.23169E-03	0.82884E-05
87	0.0000	0.23169E-03	0.82884E-05
88	0.0000	0.23169E-03	0.82884E-05
89	0.0000	0.23169E-03	0.82884E-05
90	0.0000	0.23169E-03	0.82884E-05
91	0.0000	0.23169E-03	0.82884E-05
92	0.0000	0.23169E-03	0.82884E-05
93	0.0000	0.23169E-03	0.82884E-05
94	0.0000	0.23169E-03	0.82884E-05
95	0.0000	0.23169E-03	0.82884E-05
96	0.0000	0.23169E-03	0.82884E-05
97	0.0000	0.23169E-03	0.82884E-05
98	0.0000	0.23169E-03	0.82884E-05
99	0.0000	0.23169E-03	0.82884E-05
100	0.0000	0.23169E-03	0.82884E-05
101	0.0000	0.23169E-03	0.82884E-05
102	0.0000	0.23169E-03	0.82884E-05
103	0.0000	0.23169E-03	0.82884E-05
104	0.0000	0.23169E-03	0.82884E-05
105	0.0000	0.23169E-03	0.82884E-05
106	0.0000	0.23169E-03	0.82884E-05
107	0.0000	0.23169E-03	0.82884E-05
108	0.0000	0.23169E-03	0.82884E-05
109	0.0000	0.23169E-03	0.82884E-05
110	0.0000	0.23169E-03	0.82884E-05
111	0.0000	0.23169E-03	0.82884E-05
112	0.0000	0.23169E-03	0.82884E-05
113	0.0000	0.23169E-03	0.82884E-05
114	0.0000	0.23169E-03	0.82884E-05
115	0.0000	0.23169E-03	0.82884E-05
116	0.0000	0.23169E-03	0.82884E-05

Pistol Range
Time: 100.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.10397	0.37193E-02
2	0.0000	0.11981	0.42860E-02
3	0.0000	0.12981	0.46439E-02
4	0.0000	0.13610	0.48689E-02
5	0.0000	0.14004	0.50097E-02
6	0.0000	0.14249	0.50975E-02
7	0.0000	0.14402	0.51521E-02
8	0.0000	0.14496	0.51858E-02
9	0.0000	0.14555	0.52067E-02
10	0.0000	0.14591	0.52195E-02
11	0.0000	0.14613	0.52274E-02
12	0.0000	0.14626	0.52323E-02
13	0.0000	0.14634	0.52352E-02
14	0.0000	0.14639	0.52370E-02
15	0.0000	0.14642	0.52381E-02
16	0.0000	0.14644	0.52388E-02
17	0.0000	0.14645	0.52392E-02

18	0.0000	0.14646	0.52394E-02
19	0.0000	0.14647	0.52396E-02
20	0.0000	0.14647	0.52399E-02
21	0.0000	0.53692E-01	0.19208E-02
22	0.0000	0.39558E-01	0.14151E-02
23	0.0000	0.30630E-01	0.10958E-02
24	0.0000	0.25018E-01	0.89499E-03
25	0.0000	0.21505E-01	0.76932E-03
26	0.0000	0.19315E-01	0.69097E-03
27	0.0000	0.17954E-01	0.64230E-03
28	0.0000	0.17112E-01	0.61215E-03
29	0.0000	0.16592E-01	0.59354E-03
30	0.0000	0.16271E-01	0.58208E-03
31	0.0000	0.73838E-02	0.26415E-03
32	0.0000	0.59393E-02	0.21247E-03
33	0.0000	0.50292E-02	0.17991E-03
34	0.0000	0.44585E-02	0.15950E-03
35	0.0000	0.41020E-02	0.14674E-03
36	0.0000	0.38802E-02	0.13881E-03
37	0.0000	0.37426E-02	0.13389E-03
38	0.0000	0.36575E-02	0.13084E-03
39	0.0000	0.36051E-02	0.12897E-03
40	0.0000	0.35728E-02	0.12781E-03
41	0.0000	0.35530E-02	0.12710E-03
42	0.0000	0.35409E-02	0.12667E-03
43	0.0000	0.35335E-02	0.12641E-03
44	0.0000	0.35290E-02	0.12625E-03
45	0.0000	0.35263E-02	0.12615E-03
46	0.0000	0.35246E-02	0.12609E-03
47	0.0000	0.35236E-02	0.12605E-03
48	0.0000	0.35230E-02	0.12603E-03
49	0.0000	0.35226E-02	0.12602E-03
50	0.0000	0.35224E-02	0.12601E-03
51	0.0000	0.35223E-02	0.12601E-03
52	0.0000	0.35223E-02	0.12601E-03
53	0.0000	0.35223E-02	0.12601E-03
54	0.0000	0.35223E-02	0.12601E-03
55	0.0000	0.35223E-02	0.12601E-03
56	0.0000	0.35223E-02	0.12601E-03
57	0.0000	0.35223E-02	0.12601E-03
58	0.0000	0.35223E-02	0.12601E-03
59	0.0000	0.35223E-02	0.12601E-03
60	0.0000	0.35223E-02	0.12601E-03
61	0.0000	0.11865E-02	0.42447E-04
62	0.0000	0.83073E-03	0.29718E-04
63	0.0000	0.60596E-03	0.21677E-04
64	0.0000	0.46467E-03	0.16623E-04
65	0.0000	0.37623E-03	0.13459E-04
66	0.0000	0.32110E-03	0.11487E-04
67	0.0000	0.28684E-03	0.10261E-04
68	0.0000	0.26563E-03	0.95024E-05
69	0.0000	0.25253E-03	0.90338E-05
70	0.0000	0.24446E-03	0.87453E-05
71	0.0000	0.23951E-03	0.85680E-05
72	0.0000	0.23647E-03	0.84594E-05
73	0.0000	0.23461E-03	0.83930E-05
74	0.0000	0.23348E-03	0.83525E-05
75	0.0000	0.23279E-03	0.83278E-05
76	0.0000	0.23237E-03	0.83128E-05
77	0.0000	0.23212E-03	0.83037E-05
78	0.0000	0.23196E-03	0.82981E-05
79	0.0000	0.23187E-03	0.82948E-05
80	0.0000	0.23181E-03	0.82927E-05
81	0.0000	0.23178E-03	0.82916E-05
82	0.0000	0.23176E-03	0.82909E-05
83	0.0000	0.23175E-03	0.82904E-05
84	0.0000	0.23174E-03	0.82903E-05
85	0.0000	0.23174E-03	0.82903E-05
86	0.0000	0.23174E-03	0.82903E-05
87	0.0000	0.23174E-03	0.82903E-05
88	0.0000	0.23174E-03	0.82903E-05
89	0.0000	0.23174E-03	0.82903E-05
90	0.0000	0.23174E-03	0.82903E-05
91	0.0000	0.23174E-03	0.82903E-05
92	0.0000	0.23174E-03	0.82903E-05
93	0.0000	0.23174E-03	0.82903E-05
94	0.0000	0.23174E-03	0.82903E-05
95	0.0000	0.23174E-03	0.82903E-05
96	0.0000	0.23174E-03	0.82903E-05

97	0.0000	0.23174E-03	0.82903E-05
98	0.0000	0.23174E-03	0.82903E-05
99	0.0000	0.23174E-03	0.82903E-05
100	0.0000	0.23174E-03	0.82903E-05
101	0.0000	0.23174E-03	0.82903E-05
102	0.0000	0.23174E-03	0.82903E-05
103	0.0000	0.23174E-03	0.82903E-05
104	0.0000	0.23174E-03	0.82903E-05
105	0.0000	0.23174E-03	0.82903E-05
106	0.0000	0.23174E-03	0.82903E-05
107	0.0000	0.23174E-03	0.82903E-05
108	0.0000	0.23174E-03	0.82903E-05
109	0.0000	0.23174E-03	0.82903E-05
110	0.0000	0.23174E-03	0.82903E-05
111	0.0000	0.23174E-03	0.82903E-05
112	0.0000	0.23174E-03	0.82903E-05
113	0.0000	0.23174E-03	0.82903E-05
114	0.0000	0.23174E-03	0.82903E-05
115	0.0000	0.23174E-03	0.82903E-05
116	0.0000	0.23174E-03	0.82903E-05

Pistol Range
Time: 200.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.73811E-01	0.26405E-02
2	0.0000	0.96300E-01	0.34450E-02
3	0.0000	0.11222	0.40145E-02
4	0.0000	0.12331	0.44114E-02
5	0.0000	0.13095	0.46844E-02
6	0.0000	0.13614	0.48703E-02
7	0.0000	0.13965	0.49957E-02
8	0.0000	0.14199	0.50795E-02
9	0.0000	0.14355	0.51352E-02
10	0.0000	0.14458	0.51720E-02
11	0.0000	0.14525	0.51961E-02
12	0.0000	0.14569	0.52119E-02
13	0.0000	0.14598	0.52221E-02
14	0.0000	0.14616	0.52288E-02
15	0.0000	0.14628	0.52330E-02
16	0.0000	0.14636	0.52358E-02
17	0.0000	0.14641	0.52375E-02
18	0.0000	0.14644	0.52386E-02
19	0.0000	0.14646	0.52394E-02
20	0.0000	0.14647	0.52399E-02
21	0.0000	0.80615E-01	0.28839E-02
22	0.0000	0.60552E-01	0.21661E-02
23	0.0000	0.46349E-01	0.16581E-02
24	0.0000	0.36451E-01	0.13040E-02
25	0.0000	0.29640E-01	0.10603E-02
26	0.0000	0.25004E-01	0.89448E-03
27	0.0000	0.21878E-01	0.78264E-03
28	0.0000	0.19786E-01	0.70782E-03
29	0.0000	0.18397E-01	0.65812E-03
30	0.0000	0.17480E-01	0.62531E-03
31	0.0000	0.10708E-01	0.38306E-03
32	0.0000	0.84349E-02	0.30175E-03
33	0.0000	0.68487E-02	0.24500E-03
34	0.0000	0.57559E-02	0.20591E-03
35	0.0000	0.50111E-02	0.17927E-03
36	0.0000	0.45083E-02	0.16128E-03
37	0.0000	0.41715E-02	0.14923E-03
38	0.0000	0.39475E-02	0.14122E-03
39	0.0000	0.37995E-02	0.13592E-03
40	0.0000	0.37023E-02	0.13244E-03
41	0.0000	0.36387E-02	0.13017E-03
42	0.0000	0.35974E-02	0.12869E-03
43	0.0000	0.35706E-02	0.12773E-03
44	0.0000	0.35533E-02	0.12711E-03
45	0.0000	0.35422E-02	0.12672E-03
46	0.0000	0.35350E-02	0.12646E-03
47	0.0000	0.35305E-02	0.12630E-03
48	0.0000	0.35276E-02	0.12619E-03
49	0.0000	0.35257E-02	0.12613E-03
50	0.0000	0.35246E-02	0.12609E-03
51	0.0000	0.35239E-02	0.12606E-03
52	0.0000	0.35235E-02	0.12605E-03
53	0.0000	0.35232E-02	0.12604E-03
54	0.0000	0.35231E-02	0.12603E-03
55	0.0000	0.35231E-02	0.12603E-03

56	0.0000	0.35231E-02	0.12603E-03
57	0.0000	0.35231E-02	0.12603E-03
58	0.0000	0.35231E-02	0.12603E-03
59	0.0000	0.35231E-02	0.12603E-03
60	0.0000	0.35231E-02	0.12603E-03
61	0.0000	0.18647E-02	0.66706E-04
62	0.0000	0.13594E-02	0.48631E-04
63	0.0000	0.10018E-02	0.35837E-04
64	0.0000	0.75254E-03	0.26921E-04
65	0.0000	0.58104E-03	0.20786E-04
66	0.0000	0.46432E-03	0.16610E-04
67	0.0000	0.38560E-03	0.13794E-04
68	0.0000	0.33294E-03	0.11910E-04
69	0.0000	0.29795E-03	0.10659E-04
70	0.0000	0.27486E-03	0.98328E-05
71	0.0000	0.25971E-03	0.92906E-05
72	0.0000	0.24981E-03	0.89365E-05
73	0.0000	0.24337E-03	0.87063E-05
74	0.0000	0.23921E-03	0.85573E-05
75	0.0000	0.23652E-03	0.84612E-05
76	0.0000	0.23479E-03	0.83994E-05
77	0.0000	0.23369E-03	0.83599E-05
78	0.0000	0.23298E-03	0.83347E-05
79	0.0000	0.23254E-03	0.83186E-05
80	0.0000	0.23225E-03	0.83084E-05
81	0.0000	0.23207E-03	0.83020E-05
82	0.0000	0.23196E-03	0.82979E-05
83	0.0000	0.23189E-03	0.82954E-05
84	0.0000	0.23184E-03	0.82938E-05
85	0.0000	0.23182E-03	0.82929E-05
86	0.0000	0.23180E-03	0.82923E-05
87	0.0000	0.23179E-03	0.82921E-05
88	0.0000	0.23179E-03	0.82921E-05
89	0.0000	0.23179E-03	0.82921E-05
90	0.0000	0.23179E-03	0.82921E-05
91	0.0000	0.23179E-03	0.82921E-05
92	0.0000	0.23179E-03	0.82921E-05
93	0.0000	0.23179E-03	0.82921E-05
94	0.0000	0.23179E-03	0.82921E-05
95	0.0000	0.23179E-03	0.82921E-05
96	0.0000	0.23179E-03	0.82921E-05
97	0.0000	0.23179E-03	0.82921E-05
98	0.0000	0.23179E-03	0.82921E-05
99	0.0000	0.23179E-03	0.82921E-05
100	0.0000	0.23179E-03	0.82921E-05
101	0.0000	0.23179E-03	0.82921E-05
102	0.0000	0.23179E-03	0.82921E-05
103	0.0000	0.23179E-03	0.82921E-05
104	0.0000	0.23179E-03	0.82921E-05
105	0.0000	0.23179E-03	0.82921E-05
106	0.0000	0.23179E-03	0.82921E-05
107	0.0000	0.23179E-03	0.82921E-05
108	0.0000	0.23179E-03	0.82921E-05
109	0.0000	0.23179E-03	0.82921E-05
110	0.0000	0.23179E-03	0.82921E-05
111	0.0000	0.23179E-03	0.82921E-05
112	0.0000	0.23179E-03	0.82921E-05
113	0.0000	0.23179E-03	0.82921E-05
114	0.0000	0.23179E-03	0.82921E-05
115	0.0000	0.23179E-03	0.82921E-05
116	0.0000	0.23179E-03	0.82921E-05

Pistol Range
Time: 300.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.52400E-01	0.18745E-02
2	0.0000	0.76349E-01	0.27313E-02
3	0.0000	0.95125E-01	0.34030E-02
4	0.0000	0.10943	0.39147E-02
5	0.0000	0.12009	0.42959E-02
6	0.0000	0.12788	0.45749E-02
7	0.0000	0.13350	0.47759E-02
8	0.0000	0.13751	0.49191E-02
9	0.0000	0.14032	0.50199E-02
10	0.0000	0.14229	0.50902E-02
11	0.0000	0.14365	0.51388E-02
12	0.0000	0.14458	0.51722E-02
13	0.0000	0.14522	0.51949E-02
14	0.0000	0.14565	0.52104E-02

15	0.0000	0.14594	0.52207E-02
16	0.0000	0.14613	0.52277E-02
17	0.0000	0.14626	0.52323E-02
18	0.0000	0.14635	0.52355E-02
19	0.0000	0.14641	0.52375E-02
20	0.0000	0.14644	0.52389E-02
21	0.0000	0.99710E-01	0.35670E-02
22	0.0000	0.78356E-01	0.28031E-02
23	0.0000	0.61611E-01	0.22040E-02
24	0.0000	0.48853E-01	0.17477E-02
25	0.0000	0.39348E-01	0.14076E-02
26	0.0000	0.32392E-01	0.11588E-02
27	0.0000	0.27378E-01	0.97942E-03
28	0.0000	0.23809E-01	0.85174E-03
29	0.0000	0.21296E-01	0.76183E-03
30	0.0000	0.19543E-01	0.69912E-03
31	0.0000	0.13950E-01	0.49905E-03
32	0.0000	0.11116E-01	0.39766E-03
33	0.0000	0.89788E-02	0.32120E-03
34	0.0000	0.73983E-02	0.26466E-03
35	0.0000	0.62481E-02	0.22352E-03
36	0.0000	0.54223E-02	0.19398E-03
37	0.0000	0.48364E-02	0.17301E-03
38	0.0000	0.44247E-02	0.15829E-03
39	0.0000	0.41381E-02	0.14804E-03
40	0.0000	0.39402E-02	0.14095E-03
41	0.0000	0.38044E-02	0.13610E-03
42	0.0000	0.37119E-02	0.13279E-03
43	0.0000	0.36492E-02	0.13055E-03
44	0.0000	0.36070E-02	0.12904E-03
45	0.0000	0.35787E-02	0.12802E-03
46	0.0000	0.35598E-02	0.12735E-03
47	0.0000	0.35473E-02	0.12690E-03
48	0.0000	0.35389E-02	0.12660E-03
49	0.0000	0.35335E-02	0.12640E-03
50	0.0000	0.35299E-02	0.12628E-03
51	0.0000	0.35275E-02	0.12619E-03
52	0.0000	0.35260E-02	0.12614E-03
53	0.0000	0.35251E-02	0.12611E-03
54	0.0000	0.35245E-02	0.12608E-03
55	0.0000	0.35242E-02	0.12607E-03
56	0.0000	0.35239E-02	0.12606E-03
57	0.0000	0.35239E-02	0.12606E-03
58	0.0000	0.35239E-02	0.12606E-03
59	0.0000	0.35239E-02	0.12606E-03
60	0.0000	0.35239E-02	0.12606E-03
61	0.0000	0.23463E-02	0.83937E-04
62	0.0000	0.18083E-02	0.64688E-04
63	0.0000	0.13864E-02	0.49596E-04
64	0.0000	0.10650E-02	0.38099E-04
65	0.0000	0.82559E-03	0.29534E-04
66	0.0000	0.65041E-03	0.23268E-04
67	0.0000	0.52413E-03	0.18750E-04
68	0.0000	0.43424E-03	0.15534E-04
69	0.0000	0.37095E-03	0.13270E-04
70	0.0000	0.32680E-03	0.11691E-04
71	0.0000	0.29627E-03	0.10598E-04
72	0.0000	0.27530E-03	0.98485E-05
73	0.0000	0.26101E-03	0.93371E-05
74	0.0000	0.25132E-03	0.89905E-05
75	0.0000	0.24478E-03	0.87568E-05
76	0.0000	0.24040E-03	0.86001E-05
77	0.0000	0.23748E-03	0.84955E-05
78	0.0000	0.23554E-03	0.84259E-05
79	0.0000	0.23425E-03	0.83799E-05
80	0.0000	0.23340E-03	0.83495E-05
81	0.0000	0.23284E-03	0.83296E-05
82	0.0000	0.23248E-03	0.83165E-05
83	0.0000	0.23224E-03	0.83080E-05
84	0.0000	0.23209E-03	0.83025E-05
85	0.0000	0.23199E-03	0.82990E-05
86	0.0000	0.23192E-03	0.82967E-05
87	0.0000	0.23188E-03	0.82953E-05
88	0.0000	0.23186E-03	0.82946E-05
89	0.0000	0.23184E-03	0.82939E-05
90	0.0000	0.23184E-03	0.82939E-05
91	0.0000	0.23184E-03	0.82939E-05
92	0.0000	0.23184E-03	0.82939E-05
93	0.0000	0.23184E-03	0.82939E-05

94	0.0000	0.23184E-03	0.82939E-05
95	0.0000	0.23184E-03	0.82939E-05
96	0.0000	0.23184E-03	0.82939E-05
97	0.0000	0.23184E-03	0.82939E-05
98	0.0000	0.23184E-03	0.82939E-05
99	0.0000	0.23184E-03	0.82939E-05
100	0.0000	0.23184E-03	0.82939E-05
101	0.0000	0.23184E-03	0.82939E-05
102	0.0000	0.23184E-03	0.82939E-05
103	0.0000	0.23184E-03	0.82939E-05
104	0.0000	0.23184E-03	0.82939E-05
105	0.0000	0.23184E-03	0.82939E-05
106	0.0000	0.23184E-03	0.82939E-05
107	0.0000	0.23184E-03	0.82939E-05
108	0.0000	0.23184E-03	0.82939E-05
109	0.0000	0.23184E-03	0.82939E-05
110	0.0000	0.23184E-03	0.82939E-05
111	0.0000	0.23184E-03	0.82939E-05
112	0.0000	0.23184E-03	0.82939E-05
113	0.0000	0.23184E-03	0.82939E-05
114	0.0000	0.23184E-03	0.82939E-05
115	0.0000	0.23184E-03	0.82939E-05
116	0.0000	0.23184E-03	0.82939E-05

Pistol Range
Time: 400.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.37201E-01	0.13308E-02
2	0.0000	0.59870E-01	0.21417E-02
3	0.0000	0.79370E-01	0.28393E-02
4	0.0000	0.95443E-01	0.34143E-02
5	0.0000	0.10827	0.38734E-02
6	0.0000	0.11827	0.42309E-02
7	0.0000	0.12590	0.45038E-02
8	0.0000	0.13162	0.47086E-02
9	0.0000	0.13586	0.48601E-02
10	0.0000	0.13895	0.49709E-02
11	0.0000	0.14119	0.50510E-02
12	0.0000	0.14280	0.51084E-02
13	0.0000	0.14394	0.51491E-02
14	0.0000	0.14474	0.51778E-02
15	0.0000	0.14530	0.51979E-02
16	0.0000	0.14569	0.52119E-02
17	0.0000	0.14596	0.52215E-02
18	0.0000	0.14615	0.52282E-02
19	0.0000	0.14627	0.52327E-02
20	0.0000	0.14636	0.52358E-02
21	0.0000	0.11322	0.40504E-02
22	0.0000	0.93034E-01	0.33282E-02
23	0.0000	0.75659E-01	0.27066E-02
24	0.0000	0.61335E-01	0.21942E-02
25	0.0000	0.49896E-01	0.17849E-02
26	0.0000	0.40985E-01	0.14662E-02
27	0.0000	0.34184E-01	0.12229E-02
28	0.0000	0.29078E-01	0.10402E-02
29	0.0000	0.25300E-01	0.90508E-03
30	0.0000	0.22538E-01	0.80628E-03
31	0.0000	0.17432E-01	0.62360E-03
32	0.0000	0.14106E-01	0.50464E-03
33	0.0000	0.11460E-01	0.40998E-03
34	0.0000	0.94010E-02	0.33631E-03
35	0.0000	0.78272E-02	0.28001E-03
36	0.0000	0.66433E-02	0.23765E-03
37	0.0000	0.57647E-02	0.20622E-03
38	0.0000	0.51204E-02	0.18318E-03
39	0.0000	0.46529E-02	0.16645E-03
40	0.0000	0.43168E-02	0.15443E-03
41	0.0000	0.40773E-02	0.14586E-03
42	0.0000	0.39078E-02	0.13980E-03
43	0.0000	0.37888E-02	0.13554E-03
44	0.0000	0.37058E-02	0.13257E-03
45	0.0000	0.36481E-02	0.13051E-03
46	0.0000	0.36084E-02	0.12908E-03
47	0.0000	0.35811E-02	0.12811E-03
48	0.0000	0.35624E-02	0.12744E-03
49	0.0000	0.35497E-02	0.12699E-03
50	0.0000	0.35412E-02	0.12668E-03
51	0.0000	0.35354E-02	0.12647E-03
52	0.0000	0.35315E-02	0.12633E-03

53	0.0000	0.35289E-02	0.12624E-03
54	0.0000	0.35273E-02	0.12618E-03
55	0.0000	0.35262E-02	0.12614E-03
56	0.0000	0.35254E-02	0.12612E-03
57	0.0000	0.35251E-02	0.12610E-03
58	0.0000	0.35247E-02	0.12609E-03
59	0.0000	0.35247E-02	0.12609E-03
60	0.0000	0.35247E-02	0.12609E-03
61	0.0000	0.26886E-02	0.96179E-04
62	0.0000	0.21792E-02	0.77956E-04
63	0.0000	0.17410E-02	0.62282E-04
64	0.0000	0.13799E-02	0.49363E-04
65	0.0000	0.10915E-02	0.39048E-04
66	0.0000	0.86700E-03	0.31016E-04
67	0.0000	0.69562E-03	0.24885E-04
68	0.0000	0.56699E-03	0.20283E-04
69	0.0000	0.47181E-03	0.16878E-04
70	0.0000	0.40224E-03	0.14390E-04
71	0.0000	0.35194E-03	0.12590E-04
72	0.0000	0.31591E-03	0.11301E-04
73	0.0000	0.29032E-03	0.10386E-04
74	0.0000	0.27228E-03	0.97406E-05
75	0.0000	0.25966E-03	0.92891E-05
76	0.0000	0.25089E-03	0.89751E-05
77	0.0000	0.24482E-03	0.87580E-05
78	0.0000	0.24064E-03	0.86087E-05
79	0.0000	0.23779E-03	0.85065E-05
80	0.0000	0.23584E-03	0.84369E-05
81	0.0000	0.23452E-03	0.83897E-05
82	0.0000	0.23363E-03	0.83579E-05
83	0.0000	0.23303E-03	0.83364E-05
84	0.0000	0.23263E-03	0.83221E-05
85	0.0000	0.23237E-03	0.83125E-05
86	0.0000	0.23219E-03	0.83062E-05
87	0.0000	0.23207E-03	0.83021E-05
88	0.0000	0.23200E-03	0.82994E-05
89	0.0000	0.23195E-03	0.82977E-05
90	0.0000	0.23192E-03	0.82967E-05
91	0.0000	0.23190E-03	0.82959E-05
92	0.0000	0.23190E-03	0.82957E-05
93	0.0000	0.23190E-03	0.82957E-05
94	0.0000	0.23190E-03	0.82957E-05
95	0.0000	0.23190E-03	0.82957E-05
96	0.0000	0.23190E-03	0.82957E-05
97	0.0000	0.23190E-03	0.82957E-05
98	0.0000	0.23190E-03	0.82957E-05
99	0.0000	0.23190E-03	0.82957E-05
100	0.0000	0.23190E-03	0.82957E-05
101	0.0000	0.23190E-03	0.82957E-05
102	0.0000	0.23190E-03	0.82957E-05
103	0.0000	0.23190E-03	0.82957E-05
104	0.0000	0.23190E-03	0.82957E-05
105	0.0000	0.23190E-03	0.82957E-05
106	0.0000	0.23190E-03	0.82957E-05
107	0.0000	0.23190E-03	0.82957E-05
108	0.0000	0.23190E-03	0.82957E-05
109	0.0000	0.23190E-03	0.82957E-05
110	0.0000	0.23190E-03	0.82957E-05
111	0.0000	0.23190E-03	0.82957E-05
112	0.0000	0.23190E-03	0.82957E-05
113	0.0000	0.23190E-03	0.82957E-05
114	0.0000	0.23190E-03	0.82957E-05
115	0.0000	0.23190E-03	0.82957E-05
116	0.0000	0.23190E-03	0.82957E-05

Pistol Range
Time: 500.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.26410E-01	0.94477E-03
2	0.0000	0.46527E-01	0.16644E-02
3	0.0000	0.65363E-01	0.23383E-02
4	0.0000	0.82030E-01	0.29345E-02
5	0.0000	0.96184E-01	0.34408E-02
6	0.0000	0.10783	0.38576E-02
7	0.0000	0.11719	0.41923E-02
8	0.0000	0.12455	0.44555E-02
9	0.0000	0.13024	0.46590E-02
10	0.0000	0.13457	0.48140E-02
11	0.0000	0.13783	0.49306E-02

12	0.0000	0.14025	0.50173E-02
13	0.0000	0.14203	0.50811E-02
14	0.0000	0.14334	0.51276E-02
15	0.0000	0.14428	0.51613E-02
16	0.0000	0.14495	0.51854E-02
17	0.0000	0.14543	0.52027E-02
18	0.0000	0.14577	0.52149E-02
19	0.0000	0.14602	0.52235E-02
20	0.0000	0.14618	0.52295E-02
21	0.0000	0.12274	0.43907E-02
22	0.0000	0.10487	0.37514E-02
23	0.0000	0.88112E-01	0.31521E-02
24	0.0000	0.73279E-01	0.26215E-02
25	0.0000	0.60675E-01	0.21706E-02
26	0.0000	0.50296E-01	0.17993E-02
27	0.0000	0.41961E-01	0.15011E-02
28	0.0000	0.35403E-01	0.12665E-02
29	0.0000	0.30332E-01	0.10851E-02
30	0.0000	0.26469E-01	0.94690E-03
31	0.0000	0.21356E-01	0.76398E-03
32	0.0000	0.17514E-01	0.62654E-03
33	0.0000	0.14349E-01	0.51332E-03
34	0.0000	0.11796E-01	0.42199E-03
35	0.0000	0.97736E-02	0.34964E-03
36	0.0000	0.81970E-02	0.29324E-03
37	0.0000	0.69853E-02	0.24989E-03
38	0.0000	0.60656E-02	0.21699E-03
39	0.0000	0.53755E-02	0.19230E-03
40	0.0000	0.48628E-02	0.17396E-03
41	0.0000	0.44856E-02	0.16047E-03
42	0.0000	0.42103E-02	0.15062E-03
43	0.0000	0.40109E-02	0.14348E-03
44	0.0000	0.38676E-02	0.13836E-03
45	0.0000	0.37652E-02	0.13470E-03
46	0.0000	0.36925E-02	0.13210E-03
47	0.0000	0.36412E-02	0.13026E-03
48	0.0000	0.36052E-02	0.12897E-03
49	0.0000	0.35801E-02	0.12807E-03
50	0.0000	0.35626E-02	0.12745E-03
51	0.0000	0.35505E-02	0.12701E-03
52	0.0000	0.35422E-02	0.12672E-03
53	0.0000	0.35365E-02	0.12651E-03
54	0.0000	0.35326E-02	0.12637E-03
55	0.0000	0.35300E-02	0.12628E-03
56	0.0000	0.35282E-02	0.12622E-03
57	0.0000	0.35271E-02	0.12618E-03
58	0.0000	0.35263E-02	0.12615E-03
59	0.0000	0.35259E-02	0.12614E-03
60	0.0000	0.35256E-02	0.12612E-03
61	0.0000	0.29319E-02	0.10488E-03
62	0.0000	0.24797E-02	0.88708E-04
63	0.0000	0.20564E-02	0.73564E-04
64	0.0000	0.16819E-02	0.60167E-04
65	0.0000	0.13638E-02	0.48789E-04
66	0.0000	0.11020E-02	0.39423E-04
67	0.0000	0.89182E-03	0.31904E-04
68	0.0000	0.72649E-03	0.25989E-04
69	0.0000	0.59868E-03	0.21417E-04
70	0.0000	0.50131E-03	0.17934E-04
71	0.0000	0.42809E-03	0.15314E-04
72	0.0000	0.37365E-03	0.13367E-04
73	0.0000	0.33358E-03	0.11933E-04
74	0.0000	0.30436E-03	0.10888E-04
75	0.0000	0.28321E-03	0.10132E-04
76	0.0000	0.26803E-03	0.95884E-05
77	0.0000	0.25720E-03	0.92011E-05
78	0.0000	0.24953E-03	0.89266E-05
79	0.0000	0.24413E-03	0.87332E-05
80	0.0000	0.24034E-03	0.85977E-05
81	0.0000	0.23770E-03	0.85032E-05
82	0.0000	0.23586E-03	0.84377E-05
83	0.0000	0.23460E-03	0.83924E-05
84	0.0000	0.23373E-03	0.83613E-05
85	0.0000	0.23313E-03	0.83400E-05
86	0.0000	0.23273E-03	0.83255E-05
87	0.0000	0.23245E-03	0.83156E-05
88	0.0000	0.23227E-03	0.83090E-05
89	0.0000	0.23214E-03	0.83046E-05
90	0.0000	0.23206E-03	0.83017E-05

91	0.0000	0.23201E-03	0.82998E-05
92	0.0000	0.23198E-03	0.82987E-05
93	0.0000	0.23195E-03	0.82979E-05
94	0.0000	0.23195E-03	0.82975E-05
95	0.0000	0.23195E-03	0.82975E-05
96	0.0000	0.23195E-03	0.82975E-05
97	0.0000	0.23195E-03	0.82975E-05
98	0.0000	0.23195E-03	0.82975E-05
99	0.0000	0.23195E-03	0.82975E-05
100	0.0000	0.23195E-03	0.82975E-05
101	0.0000	0.23195E-03	0.82975E-05
102	0.0000	0.23195E-03	0.82975E-05
103	0.0000	0.23195E-03	0.82975E-05
104	0.0000	0.23195E-03	0.82975E-05
105	0.0000	0.23195E-03	0.82975E-05
106	0.0000	0.23195E-03	0.82975E-05
107	0.0000	0.23195E-03	0.82975E-05
108	0.0000	0.23195E-03	0.82975E-05
109	0.0000	0.23195E-03	0.82975E-05
110	0.0000	0.23195E-03	0.82975E-05
111	0.0000	0.23195E-03	0.82975E-05
112	0.0000	0.23195E-03	0.82975E-05
113	0.0000	0.23195E-03	0.82975E-05
114	0.0000	0.23195E-03	0.82975E-05
115	0.0000	0.23195E-03	0.82975E-05
116	0.0000	0.23195E-03	0.82975E-05

Pistol Range
Time: 600.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.18749E-01	0.67072E-03
2	0.0000	0.35887E-01	0.12838E-02
3	0.0000	0.53240E-01	0.19046E-02
4	0.0000	0.69617E-01	0.24905E-02
5	0.0000	0.84329E-01	0.30167E-02
6	0.0000	0.97063E-01	0.34723E-02
7	0.0000	0.10776	0.38551E-02
8	0.0000	0.11655	0.41693E-02
9	0.0000	0.12361	0.44220E-02
10	0.0000	0.12920	0.46219E-02
11	0.0000	0.13355	0.47776E-02
12	0.0000	0.13690	0.48973E-02
13	0.0000	0.13944	0.49884E-02
14	0.0000	0.14136	0.50569E-02
15	0.0000	0.14278	0.51079E-02
16	0.0000	0.14384	0.51456E-02
17	0.0000	0.14461	0.51733E-02
18	0.0000	0.14518	0.51935E-02
19	0.0000	0.14558	0.52080E-02
20	0.0000	0.14588	0.52185E-02
21	0.0000	0.12936	0.46275E-02
22	0.0000	0.11421	0.40857E-02
23	0.0000	0.98831E-01	0.35356E-02
24	0.0000	0.84291E-01	0.30154E-02
25	0.0000	0.71215E-01	0.25476E-02
26	0.0000	0.59889E-01	0.21424E-02
27	0.0000	0.50364E-01	0.18017E-02
28	0.0000	0.42544E-01	0.15219E-02
29	0.0000	0.36251E-01	0.12968E-02
30	0.0000	0.31275E-01	0.11188E-02
31	0.0000	0.25829E-01	0.92399E-03
32	0.0000	0.21413E-01	0.76603E-03
33	0.0000	0.17695E-01	0.63300E-03
34	0.0000	0.14619E-01	0.52297E-03
35	0.0000	0.12117E-01	0.43346E-03
36	0.0000	0.10112E-01	0.36174E-03
37	0.0000	0.85275E-02	0.30506E-03
38	0.0000	0.72910E-02	0.26083E-03
39	0.0000	0.63371E-02	0.22670E-03
40	0.0000	0.56089E-02	0.20065E-03
41	0.0000	0.50583E-02	0.18095E-03
42	0.0000	0.46456E-02	0.16619E-03
43	0.0000	0.43389E-02	0.15522E-03
44	0.0000	0.41127E-02	0.14713E-03
45	0.0000	0.39470E-02	0.14120E-03
46	0.0000	0.38264E-02	0.13689E-03
47	0.0000	0.37392E-02	0.13377E-03
48	0.0000	0.36765E-02	0.13152E-03
49	0.0000	0.36317E-02	0.12992E-03

50	0.0000	0.35998E-02	0.12878E-03
51	0.0000	0.35772E-02	0.12797E-03
52	0.0000	0.35613E-02	0.12740E-03
53	0.0000	0.35501E-02	0.12700E-03
54	0.0000	0.35424E-02	0.12672E-03
55	0.0000	0.35370E-02	0.12653E-03
56	0.0000	0.35333E-02	0.12640E-03
57	0.0000	0.35308E-02	0.12631E-03
58	0.0000	0.35290E-02	0.12625E-03
59	0.0000	0.35279E-02	0.12621E-03
60	0.0000	0.35272E-02	0.12618E-03
61	0.0000	0.31053E-02	0.11109E-03
62	0.0000	0.27198E-02	0.97297E-04
63	0.0000	0.23297E-02	0.83340E-04
64	0.0000	0.19615E-02	0.70170E-04
65	0.0000	0.16309E-02	0.58342E-04
66	0.0000	0.13447E-02	0.48104E-04
67	0.0000	0.11042E-02	0.39500E-04
68	0.0000	0.90682E-03	0.32440E-04
69	0.0000	0.74807E-03	0.26761E-04
70	0.0000	0.62255E-03	0.22271E-04
71	0.0000	0.52475E-03	0.18772E-04
72	0.0000	0.44954E-03	0.16081E-04
73	0.0000	0.39236E-03	0.14036E-04
74	0.0000	0.34934E-03	0.12497E-04
75	0.0000	0.31727E-03	0.11350E-04
76	0.0000	0.29357E-03	0.10502E-04
77	0.0000	0.27619E-03	0.98803E-05
78	0.0000	0.26353E-03	0.94276E-05
79	0.0000	0.25438E-03	0.91000E-05
80	0.0000	0.24780E-03	0.88646E-05
81	0.0000	0.24309E-03	0.86963E-05
82	0.0000	0.23975E-03	0.85766E-05
83	0.0000	0.23738E-03	0.84919E-05
84	0.0000	0.23571E-03	0.84323E-05
85	0.0000	0.23454E-03	0.83905E-05
86	0.0000	0.23373E-03	0.83614E-05
87	0.0000	0.23316E-03	0.83411E-05
88	0.0000	0.23277E-03	0.83272E-05
89	0.0000	0.23251E-03	0.83176E-05
90	0.0000	0.23232E-03	0.83111E-05
91	0.0000	0.23220E-03	0.83066E-05
92	0.0000	0.23212E-03	0.83036E-05
93	0.0000	0.23206E-03	0.83017E-05
94	0.0000	0.23203E-03	0.83006E-05
95	0.0000	0.23201E-03	0.82997E-05
96	0.0000	0.23200E-03	0.82994E-05
97	0.0000	0.23200E-03	0.82994E-05
98	0.0000	0.23200E-03	0.82994E-05
99	0.0000	0.23200E-03	0.82994E-05
100	0.0000	0.23200E-03	0.82994E-05
101	0.0000	0.23200E-03	0.82994E-05
102	0.0000	0.23200E-03	0.82994E-05
103	0.0000	0.23200E-03	0.82994E-05
104	0.0000	0.23200E-03	0.82994E-05
105	0.0000	0.23200E-03	0.82994E-05
106	0.0000	0.23200E-03	0.82994E-05
107	0.0000	0.23200E-03	0.82994E-05
108	0.0000	0.23200E-03	0.82994E-05
109	0.0000	0.23200E-03	0.82994E-05
110	0.0000	0.23200E-03	0.82994E-05
111	0.0000	0.23200E-03	0.82994E-05
112	0.0000	0.23200E-03	0.82994E-05
113	0.0000	0.23200E-03	0.82994E-05
114	0.0000	0.23200E-03	0.82994E-05
115	0.0000	0.23200E-03	0.82994E-05
116	0.0000	0.23200E-03	0.82994E-05

Pistol Range
Time: 700.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.13311E-01	0.47617E-03
2	0.0000	0.27505E-01	0.98395E-03
3	0.0000	0.42959E-01	0.15368E-02
4	0.0000	0.58438E-01	0.20906E-02
5	0.0000	0.73080E-01	0.26143E-02
6	0.0000	0.86350E-01	0.30890E-02
7	0.0000	0.97982E-01	0.35052E-02
8	0.0000	0.10791	0.38602E-02

9	0.0000	0.11619	0.41564E-02
10	0.0000	0.12296	0.43987E-02
11	0.0000	0.12841	0.45938E-02
12	0.0000	0.13274	0.47486E-02
13	0.0000	0.13613	0.48698E-02
14	0.0000	0.13875	0.49636E-02
15	0.0000	0.14076	0.50355E-02
16	0.0000	0.14228	0.50900E-02
17	0.0000	0.14343	0.51311E-02
18	0.0000	0.14429	0.51617E-02
19	0.0000	0.14492	0.51844E-02
20	0.0000	0.14539	0.52012E-02
21	0.0000	0.13386	0.47885E-02
22	0.0000	0.12144	0.43443E-02
23	0.0000	0.10783	0.38574E-02
24	0.0000	0.94143E-01	0.33678E-02
25	0.0000	0.81171E-01	0.29038E-02
26	0.0000	0.69396E-01	0.24825E-02
27	0.0000	0.59062E-01	0.21129E-02
28	0.0000	0.50238E-01	0.17972E-02
29	0.0000	0.42874E-01	0.15337E-02
30	0.0000	0.36844E-01	0.13180E-02
31	0.0000	0.30876E-01	0.11046E-02
32	0.0000	0.25838E-01	0.92430E-03
33	0.0000	0.21528E-01	0.77014E-03
34	0.0000	0.17898E-01	0.64026E-03
35	0.0000	0.14883E-01	0.53243E-03
36	0.0000	0.12415E-01	0.44413E-03
37	0.0000	0.10420E-01	0.37275E-03
38	0.0000	0.88264E-02	0.31575E-03
39	0.0000	0.75684E-02	0.27075E-03
40	0.0000	0.65854E-02	0.23558E-03
41	0.0000	0.58247E-02	0.20837E-03
42	0.0000	0.52414E-02	0.18750E-03
43	0.0000	0.47979E-02	0.17164E-03
44	0.0000	0.44633E-02	0.15967E-03
45	0.0000	0.42127E-02	0.15070E-03
46	0.0000	0.40263E-02	0.14404E-03
47	0.0000	0.38886E-02	0.13911E-03
48	0.0000	0.37875E-02	0.13549E-03
49	0.0000	0.37136E-02	0.13285E-03
50	0.0000	0.36600E-02	0.13093E-03
51	0.0000	0.36212E-02	0.12954E-03
52	0.0000	0.35933E-02	0.12855E-03
53	0.0000	0.35734E-02	0.12783E-03
54	0.0000	0.35592E-02	0.12733E-03
55	0.0000	0.35492E-02	0.12697E-03
56	0.0000	0.35421E-02	0.12671E-03
57	0.0000	0.35371E-02	0.12654E-03
58	0.0000	0.35337E-02	0.12641E-03
59	0.0000	0.35313E-02	0.12633E-03
60	0.0000	0.35297E-02	0.12627E-03
61	0.0000	0.32294E-02	0.11553E-03
62	0.0000	0.29097E-02	0.10409E-03
63	0.0000	0.25619E-02	0.91647E-04
64	0.0000	0.22137E-02	0.79192E-04
65	0.0000	0.18845E-02	0.67414E-04
66	0.0000	0.15861E-02	0.56742E-04
67	0.0000	0.13247E-02	0.47388E-04
68	0.0000	0.11016E-02	0.39408E-04
69	0.0000	0.91553E-03	0.32752E-04
70	0.0000	0.76328E-03	0.27305E-04
71	0.0000	0.64073E-03	0.22921E-04
72	0.0000	0.54352E-03	0.19444E-04
73	0.0000	0.46740E-03	0.16720E-04
74	0.0000	0.40847E-03	0.14612E-04
75	0.0000	0.36331E-03	0.12997E-04
76	0.0000	0.32905E-03	0.11771E-04
77	0.0000	0.30326E-03	0.10849E-04
78	0.0000	0.28401E-03	0.10160E-04
79	0.0000	0.26974E-03	0.96497E-05
80	0.0000	0.25924E-03	0.92740E-05
81	0.0000	0.25156E-03	0.89992E-05
82	0.0000	0.24597E-03	0.87994E-05
83	0.0000	0.24193E-03	0.86549E-05
84	0.0000	0.23903E-03	0.85509E-05
85	0.0000	0.23695E-03	0.84765E-05
86	0.0000	0.23547E-03	0.84235E-05
87	0.0000	0.23442E-03	0.83859E-05

88	0.0000	0.23367E-03	0.83594E-05
89	0.0000	0.23315E-03	0.83407E-05
90	0.0000	0.23279E-03	0.83277E-05
91	0.0000	0.23254E-03	0.83187E-05
92	0.0000	0.23236E-03	0.83125E-05
93	0.0000	0.23224E-03	0.83082E-05
94	0.0000	0.23216E-03	0.83053E-05
95	0.0000	0.23211E-03	0.83034E-05
96	0.0000	0.23208E-03	0.83024E-05
97	0.0000	0.23206E-03	0.83014E-05
98	0.0000	0.23205E-03	0.83012E-05
99	0.0000	0.23205E-03	0.83012E-05
100	0.0000	0.23205E-03	0.83012E-05
101	0.0000	0.23205E-03	0.83012E-05
102	0.0000	0.23205E-03	0.83012E-05
103	0.0000	0.23205E-03	0.83012E-05
104	0.0000	0.23205E-03	0.83012E-05
105	0.0000	0.23205E-03	0.83012E-05
106	0.0000	0.23205E-03	0.83012E-05
107	0.0000	0.23205E-03	0.83012E-05
108	0.0000	0.23205E-03	0.83012E-05
109	0.0000	0.23205E-03	0.83012E-05
110	0.0000	0.23205E-03	0.83012E-05
111	0.0000	0.23205E-03	0.83012E-05
112	0.0000	0.23205E-03	0.83012E-05
113	0.0000	0.23205E-03	0.83012E-05
114	0.0000	0.23205E-03	0.83012E-05
115	0.0000	0.23205E-03	0.83012E-05
116	0.0000	0.23205E-03	0.83012E-05

Pistol Range
Time: 800.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.94496E-02	0.33804E-03
2	0.0000	0.20966E-01	0.75003E-03
3	0.0000	0.34382E-01	0.12300E-02
4	0.0000	0.48584E-01	0.17380E-02
5	0.0000	0.62676E-01	0.22421E-02
6	0.0000	0.76006E-01	0.27190E-02
7	0.0000	0.88156E-01	0.31536E-02
8	0.0000	0.98904E-01	0.35382E-02
9	0.0000	0.10818	0.38699E-02
10	0.0000	0.11601	0.41502E-02
11	0.0000	0.12251	0.43827E-02
12	0.0000	0.12782	0.45726E-02
13	0.0000	0.13209	0.47254E-02
14	0.0000	0.13549	0.48469E-02
15	0.0000	0.13816	0.49424E-02
16	0.0000	0.14023	0.50167E-02
17	0.0000	0.14183	0.50739E-02
18	0.0000	0.14306	0.51176E-02
19	0.0000	0.14398	0.51508E-02
20	0.0000	0.14468	0.51757E-02
21	0.0000	0.13677	0.48927E-02
22	0.0000	0.12688	0.45389E-02
23	0.0000	0.11519	0.41209E-02
24	0.0000	0.10273	0.36750E-02
25	0.0000	0.90308E-01	0.32307E-02
26	0.0000	0.78525E-01	0.28091E-02
27	0.0000	0.67763E-01	0.24241E-02
28	0.0000	0.58229E-01	0.20831E-02
29	0.0000	0.49995E-01	0.17885E-02
30	0.0000	0.43033E-01	0.15394E-02
31	0.0000	0.36464E-01	0.13044E-02
32	0.0000	0.30780E-01	0.11011E-02
33	0.0000	0.25857E-01	0.92500E-03
34	0.0000	0.21647E-01	0.77438E-03
35	0.0000	0.18092E-01	0.64721E-03
36	0.0000	0.15128E-01	0.54119E-03
37	0.0000	0.12687E-01	0.45385E-03
38	0.0000	0.10699E-01	0.38274E-03
39	0.0000	0.90980E-02	0.32547E-03
40	0.0000	0.78216E-02	0.27981E-03
41	0.0000	0.68138E-02	0.24375E-03
42	0.0000	0.60253E-02	0.21555E-03
43	0.0000	0.54136E-02	0.19366E-03
44	0.0000	0.49428E-02	0.17682E-03
45	0.0000	0.45832E-02	0.16396E-03
46	0.0000	0.43105E-02	0.15420E-03

47	0.0000	0.41050E-02	0.14685E-03
48	0.0000	0.39512E-02	0.14135E-03
49	0.0000	0.38367E-02	0.13725E-03
50	0.0000	0.37520E-02	0.13422E-03
51	0.0000	0.36897E-02	0.13199E-03
52	0.0000	0.36440E-02	0.13036E-03
53	0.0000	0.36108E-02	0.12917E-03
54	0.0000	0.35867E-02	0.12831E-03
55	0.0000	0.35693E-02	0.12769E-03
56	0.0000	0.35568E-02	0.12724E-03
57	0.0000	0.35479E-02	0.12692E-03
58	0.0000	0.35415E-02	0.12669E-03
59	0.0000	0.35371E-02	0.12653E-03
60	0.0000	0.35339E-02	0.12642E-03
61	0.0000	0.33193E-02	0.11874E-03
62	0.0000	0.30590E-02	0.10943E-03
63	0.0000	0.27564E-02	0.98608E-04
64	0.0000	0.24366E-02	0.87165E-04
65	0.0000	0.21194E-02	0.75819E-04
66	0.0000	0.18195E-02	0.65092E-04
67	0.0000	0.15463E-02	0.55316E-04
68	0.0000	0.13046E-02	0.46671E-04
69	0.0000	0.10961E-02	0.39213E-04
70	0.0000	0.92002E-03	0.32912E-04
71	0.0000	0.77393E-03	0.27686E-04
72	0.0000	0.65466E-03	0.23420E-04
73	0.0000	0.55865E-03	0.19985E-04
74	0.0000	0.48233E-03	0.17255E-04
75	0.0000	0.42234E-03	0.15109E-04
76	0.0000	0.37568E-03	0.13439E-04
77	0.0000	0.33972E-03	0.12153E-04
78	0.0000	0.31224E-03	0.11170E-04
79	0.0000	0.29142E-03	0.10425E-04
80	0.0000	0.27575E-03	0.98645E-05
81	0.0000	0.26404E-03	0.94456E-05
82	0.0000	0.25534E-03	0.91345E-05
83	0.0000	0.24893E-03	0.89050E-05
84	0.0000	0.24422E-03	0.87365E-05
85	0.0000	0.24078E-03	0.86135E-05
86	0.0000	0.23828E-03	0.85241E-05
87	0.0000	0.23648E-03	0.84596E-05
88	0.0000	0.23518E-03	0.84131E-05
89	0.0000	0.23425E-03	0.83799E-05
90	0.0000	0.23359E-03	0.83562E-05
91	0.0000	0.23312E-03	0.83394E-05
92	0.0000	0.23279E-03	0.83276E-05
93	0.0000	0.23255E-03	0.83193E-05
94	0.0000	0.23239E-03	0.83135E-05
95	0.0000	0.23228E-03	0.83096E-05
96	0.0000	0.23221E-03	0.83070E-05
97	0.0000	0.23216E-03	0.83051E-05
98	0.0000	0.23213E-03	0.83041E-05
99	0.0000	0.23210E-03	0.83031E-05
100	0.0000	0.23210E-03	0.83030E-05
101	0.0000	0.23210E-03	0.83030E-05
102	0.0000	0.23210E-03	0.83030E-05
103	0.0000	0.23210E-03	0.83030E-05
104	0.0000	0.23210E-03	0.83030E-05
105	0.0000	0.23210E-03	0.83030E-05
106	0.0000	0.23210E-03	0.83030E-05
107	0.0000	0.23210E-03	0.83030E-05
108	0.0000	0.23210E-03	0.83030E-05
109	0.0000	0.23210E-03	0.83030E-05
110	0.0000	0.23210E-03	0.83030E-05
111	0.0000	0.23210E-03	0.83030E-05
112	0.0000	0.23210E-03	0.83030E-05
113	0.0000	0.23210E-03	0.83030E-05
114	0.0000	0.23210E-03	0.83030E-05
115	0.0000	0.23210E-03	0.83030E-05
116	0.0000	0.23210E-03	0.83030E-05

Pistol Range
Time: 900.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.67085E-02	0.23999E-03
2	0.0000	0.15907E-01	0.56903E-03
3	0.0000	0.27322E-01	0.97740E-03
4	0.0000	0.40048E-01	0.14327E-02
5	0.0000	0.53253E-01	0.19051E-02

6	0.0000	0.66255E-01	0.23702E-02
7	0.0000	0.78547E-01	0.28099E-02
8	0.0000	0.89796E-01	0.32123E-02
9	0.0000	0.99812E-01	0.35706E-02
10	0.0000	0.10853	0.38826E-02
11	0.0000	0.11597	0.41488E-02
12	0.0000	0.12221	0.43720E-02
13	0.0000	0.12737	0.45565E-02
14	0.0000	0.13157	0.47068E-02
15	0.0000	0.13496	0.48279E-02
16	0.0000	0.13765	0.49242E-02
17	0.0000	0.13977	0.50001E-02
18	0.0000	0.14143	0.50594E-02
19	0.0000	0.14271	0.51053E-02
20	0.0000	0.14370	0.51406E-02
21	0.0000	0.13846	0.49533E-02
22	0.0000	0.13082	0.46800E-02
23	0.0000	0.12107	0.43309E-02
24	0.0000	0.11003	0.39361E-02
25	0.0000	0.98484E-01	0.35231E-02
26	0.0000	0.87058E-01	0.31144E-02
27	0.0000	0.76218E-01	0.27266E-02
28	0.0000	0.66275E-01	0.23709E-02
29	0.0000	0.57406E-01	0.20536E-02
30	0.0000	0.49675E-01	0.17771E-02
31	0.0000	0.42511E-01	0.15208E-02
32	0.0000	0.36198E-01	0.12949E-02
33	0.0000	0.30661E-01	0.10969E-02
34	0.0000	0.25861E-01	0.92513E-03
35	0.0000	0.21748E-01	0.77799E-03
36	0.0000	0.18264E-01	0.65337E-03
37	0.0000	0.15347E-01	0.54902E-03
38	0.0000	0.12931E-01	0.46260E-03
39	0.0000	0.10951E-01	0.39177E-03
40	0.0000	0.93447E-02	0.33429E-03
41	0.0000	0.80533E-02	0.28809E-03
42	0.0000	0.70246E-02	0.25130E-03
43	0.0000	0.62122E-02	0.22223E-03
44	0.0000	0.55756E-02	0.19946E-03
45	0.0000	0.50807E-02	0.18175E-03
46	0.0000	0.46986E-02	0.16809E-03
47	0.0000	0.44057E-02	0.15761E-03
48	0.0000	0.41826E-02	0.14963E-03
49	0.0000	0.40137E-02	0.14358E-03
50	0.0000	0.38865E-02	0.13903E-03
51	0.0000	0.37913E-02	0.13563E-03
52	0.0000	0.37205E-02	0.13309E-03
53	0.0000	0.36680E-02	0.13122E-03
54	0.0000	0.36293E-02	0.12983E-03
55	0.0000	0.36009E-02	0.12882E-03
56	0.0000	0.35802E-02	0.12808E-03
57	0.0000	0.35652E-02	0.12754E-03
58	0.0000	0.35543E-02	0.12715E-03
59	0.0000	0.35464E-02	0.12687E-03
60	0.0000	0.35408E-02	0.12667E-03
61	0.0000	0.33861E-02	0.12113E-03
62	0.0000	0.31765E-02	0.11363E-03
63	0.0000	0.29180E-02	0.10439E-03
64	0.0000	0.26306E-02	0.94105E-04
65	0.0000	0.23329E-02	0.83455E-04
66	0.0000	0.20400E-02	0.72978E-04
67	0.0000	0.17633E-02	0.63080E-04
68	0.0000	0.15103E-02	0.54027E-04
69	0.0000	0.12849E-02	0.45967E-04
70	0.0000	0.10889E-02	0.38952E-04
71	0.0000	0.92156E-03	0.32967E-04
72	0.0000	0.78124E-03	0.27948E-04
73	0.0000	0.66533E-03	0.23801E-04
74	0.0000	0.57087E-03	0.20422E-04
75	0.0000	0.49484E-03	0.17702E-04
76	0.0000	0.43431E-03	0.15537E-04
77	0.0000	0.38661E-03	0.13830E-04
78	0.0000	0.34936E-03	0.12498E-04
79	0.0000	0.32053E-03	0.11466E-04
80	0.0000	0.29838E-03	0.10674E-04
81	0.0000	0.28149E-03	0.10070E-04
82	0.0000	0.26871E-03	0.96127E-05
83	0.0000	0.25909E-03	0.92686E-05
84	0.0000	0.25190E-03	0.90113E-05

85	0.0000	0.24655E-03	0.88200E-05
86	0.0000	0.24259E-03	0.86785E-05
87	0.0000	0.23968E-03	0.85744E-05
88	0.0000	0.23755E-03	0.84982E-05
89	0.0000	0.23600E-03	0.84427E-05
90	0.0000	0.23488E-03	0.84024E-05
91	0.0000	0.23407E-03	0.83733E-05
92	0.0000	0.23348E-03	0.83525E-05
93	0.0000	0.23307E-03	0.83376E-05
94	0.0000	0.23277E-03	0.83270E-05
95	0.0000	0.23256E-03	0.83196E-05
96	0.0000	0.23242E-03	0.83144E-05
97	0.0000	0.23232E-03	0.83108E-05
98	0.0000	0.23225E-03	0.83084E-05
99	0.0000	0.23220E-03	0.83067E-05
100	0.0000	0.23217E-03	0.83057E-05
101	0.0000	0.23215E-03	0.83048E-05
102	0.0000	0.23215E-03	0.83048E-05
103	0.0000	0.23215E-03	0.83048E-05
104	0.0000	0.23215E-03	0.83048E-05
105	0.0000	0.23215E-03	0.83048E-05
106	0.0000	0.23215E-03	0.83048E-05
107	0.0000	0.23215E-03	0.83048E-05
108	0.0000	0.23215E-03	0.83048E-05
109	0.0000	0.23215E-03	0.83048E-05
110	0.0000	0.23215E-03	0.83048E-05
111	0.0000	0.23215E-03	0.83048E-05
112	0.0000	0.23215E-03	0.83048E-05
113	0.0000	0.23215E-03	0.83048E-05
114	0.0000	0.23215E-03	0.83048E-05
115	0.0000	0.23215E-03	0.83048E-05
116	0.0000	0.23215E-03	0.83048E-05

Pistol Range
Time: 1000.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.0000	0.47626E-02	0.17037E-03
2	0.0000	0.12018E-01	0.42993E-03
3	0.0000	0.21575E-01	0.77182E-03
4	0.0000	0.32761E-01	0.11720E-02
5	0.0000	0.44867E-01	0.16051E-02
6	0.0000	0.57245E-01	0.20479E-02
7	0.0000	0.69358E-01	0.24812E-02
8	0.0000	0.80801E-01	0.28905E-02
9	0.0000	0.91299E-01	0.32661E-02
10	0.0000	0.10070	0.36024E-02
11	0.0000	0.10894	0.38971E-02
12	0.0000	0.11603	0.41507E-02
13	0.0000	0.12203	0.43654E-02
14	0.0000	0.12704	0.45445E-02
15	0.0000	0.13116	0.46920E-02
16	0.0000	0.13451	0.48120E-02
17	0.0000	0.13721	0.49087E-02
18	0.0000	0.13937	0.49857E-02
19	0.0000	0.14107	0.50465E-02
20	0.0000	0.14240	0.50941E-02
21	0.0000	0.13918	0.49791E-02
22	0.0000	0.13351	0.47760E-02
23	0.0000	0.12559	0.44928E-02
24	0.0000	0.11607	0.41523E-02
25	0.0000	0.10562	0.37785E-02
26	0.0000	0.94841E-01	0.33928E-02
27	0.0000	0.84230E-01	0.30132E-02
28	0.0000	0.74166E-01	0.26532E-02
29	0.0000	0.64907E-01	0.23220E-02
30	0.0000	0.56599E-01	0.20248E-02
31	0.0000	0.48908E-01	0.17496E-02
32	0.0000	0.42018E-01	0.15031E-02
33	0.0000	0.35896E-01	0.12841E-02
34	0.0000	0.30515E-01	0.10916E-02
35	0.0000	0.25841E-01	0.92441E-03
36	0.0000	0.21824E-01	0.78072E-03
37	0.0000	0.18410E-01	0.65860E-03
38	0.0000	0.15539E-01	0.55589E-03
39	0.0000	0.13149E-01	0.47038E-03
40	0.0000	0.11178E-01	0.39988E-03
41	0.0000	0.95684E-02	0.34230E-03
42	0.0000	0.82654E-02	0.29568E-03
43	0.0000	0.72194E-02	0.25826E-03

44	0.0000	0.63864E-02	0.22847E-03
45	0.0000	0.57282E-02	0.20492E-03
46	0.0000	0.52119E-02	0.18645E-03
47	0.0000	0.48096E-02	0.17206E-03
48	0.0000	0.44983E-02	0.16092E-03
49	0.0000	0.42588E-02	0.15235E-03
50	0.0000	0.40757E-02	0.14580E-03
51	0.0000	0.39365E-02	0.14082E-03
52	0.0000	0.38313E-02	0.13706E-03
53	0.0000	0.37521E-02	0.13423E-03
54	0.0000	0.36929E-02	0.13211E-03
55	0.0000	0.36488E-02	0.13053E-03
56	0.0000	0.36160E-02	0.12936E-03
57	0.0000	0.35919E-02	0.12850E-03
58	0.0000	0.35742E-02	0.12786E-03
59	0.0000	0.35613E-02	0.12740E-03
60	0.0000	0.35519E-02	0.12706E-03
61	0.0000	0.34380E-02	0.12299E-03
62	0.0000	0.32700E-02	0.11698E-03
63	0.0000	0.30517E-02	0.10917E-03
64	0.0000	0.27978E-02	0.10009E-03
65	0.0000	0.25239E-02	0.90290E-04
66	0.0000	0.22445E-02	0.80293E-04
67	0.0000	0.19714E-02	0.70524E-04
68	0.0000	0.17137E-02	0.61304E-04
69	0.0000	0.14773E-02	0.52848E-04
70	0.0000	0.12658E-02	0.45281E-04
71	0.0000	0.10804E-02	0.38650E-04
72	0.0000	0.92097E-03	0.32946E-04
73	0.0000	0.78602E-03	0.28119E-04
74	0.0000	0.67344E-03	0.24091E-04
75	0.0000	0.58075E-03	0.20776E-04
76	0.0000	0.50534E-03	0.18078E-04
77	0.0000	0.44464E-03	0.15906E-04
78	0.0000	0.39626E-03	0.14175E-04
79	0.0000	0.35805E-03	0.12809E-04
80	0.0000	0.32813E-03	0.11738E-04
81	0.0000	0.30488E-03	0.10907E-04
82	0.0000	0.28695E-03	0.10265E-04
83	0.0000	0.27322E-03	0.97739E-05
84	0.0000	0.26276E-03	0.94000E-05
85	0.0000	0.25485E-03	0.91170E-05
86	0.0000	0.24890E-03	0.89042E-05
87	0.0000	0.24445E-03	0.87450E-05
88	0.0000	0.24114E-03	0.86265E-05
89	0.0000	0.23869E-03	0.85388E-05
90	0.0000	0.23688E-03	0.84741E-05
91	0.0000	0.23556E-03	0.84267E-05
92	0.0000	0.23459E-03	0.83920E-05
93	0.0000	0.23388E-03	0.83669E-05
94	0.0000	0.23338E-03	0.83487E-05
95	0.0000	0.23301E-03	0.83356E-05
96	0.0000	0.23275E-03	0.83263E-05
97	0.0000	0.23257E-03	0.83197E-05
98	0.0000	0.23243E-03	0.83150E-05
99	0.0000	0.23234E-03	0.83118E-05
100	0.0000	0.23228E-03	0.83096E-05
101	0.0000	0.23225E-03	0.83083E-05
102	0.0000	0.23222E-03	0.83073E-05
103	0.0000	0.23220E-03	0.83066E-05
104	0.0000	0.23220E-03	0.83066E-05
105	0.0000	0.23220E-03	0.83066E-05
106	0.0000	0.23220E-03	0.83066E-05
107	0.0000	0.23220E-03	0.83066E-05
108	0.0000	0.23220E-03	0.83066E-05
109	0.0000	0.23220E-03	0.83066E-05
110	0.0000	0.23220E-03	0.83066E-05
111	0.0000	0.23220E-03	0.83066E-05
112	0.0000	0.23220E-03	0.83066E-05
113	0.0000	0.23220E-03	0.83066E-05
114	0.0000	0.23220E-03	0.83066E-05
115	0.0000	0.23220E-03	0.83066E-05
116	0.0000	0.23220E-03	0.83066E-05

TRNSPROF.DAT FILE
for
Lead at the Former Pistol Range, Kd = 1013 ml/g, pH = 5.2, and Background Soil at 8.29 mg/kg

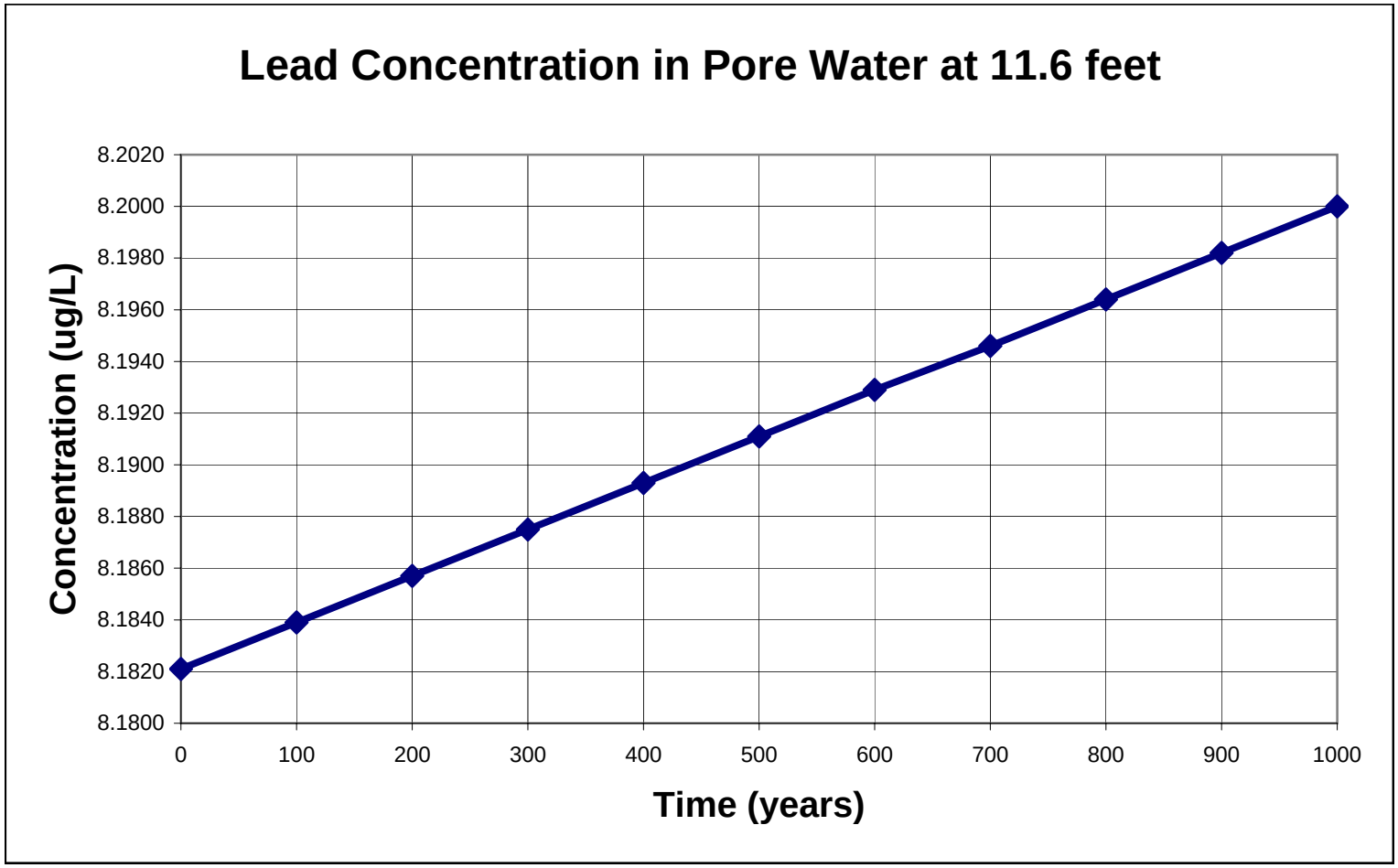
Liquid Phase Concentration [ug/l] for Polygon 1
(Cells by row, each column one time)

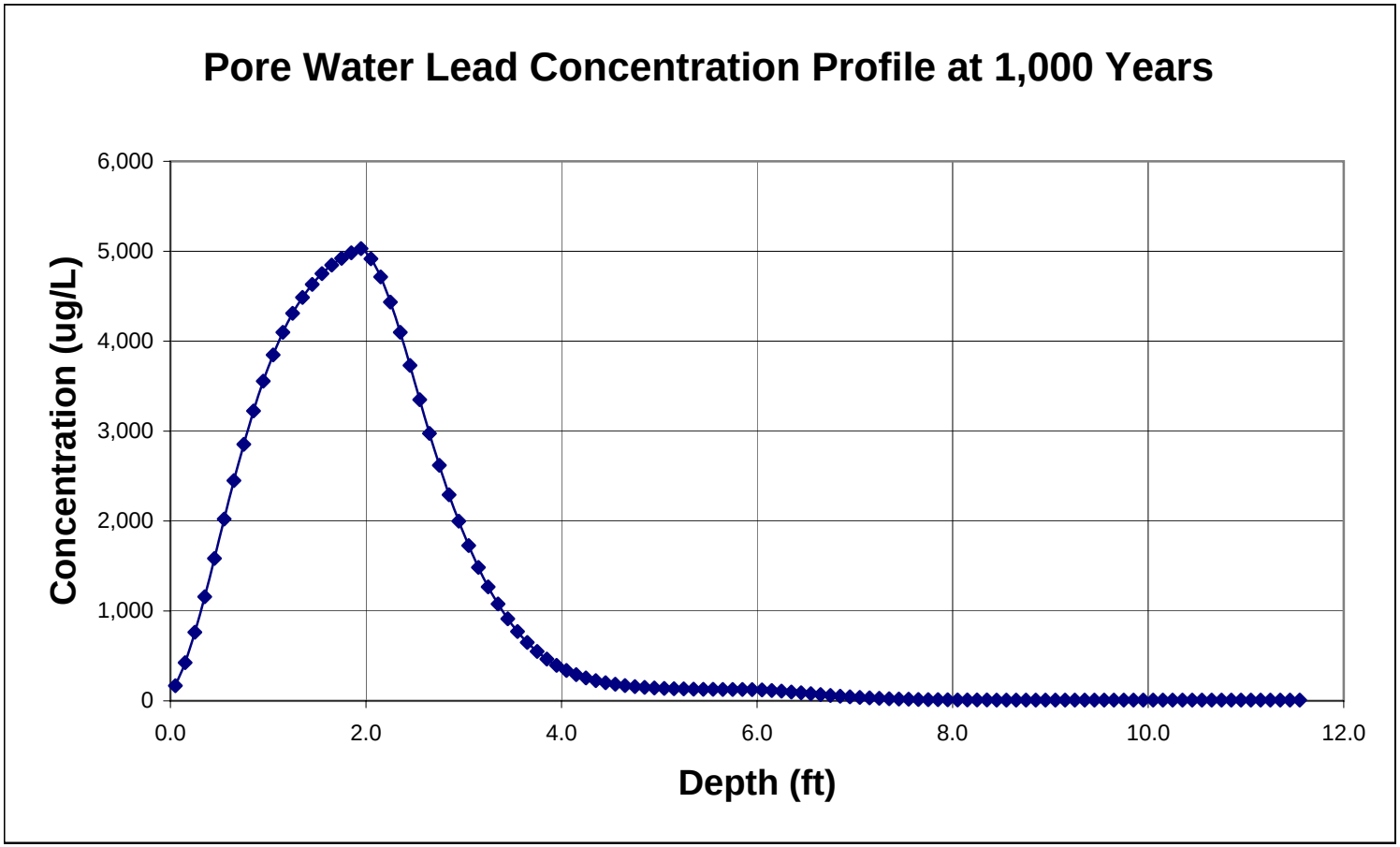
116	0	100	200	300	400	500	600	700	800	900	1000
0.05	5171.8	3671.6	2606.6	1850.5	1313.7	932.65	662.11	470.06	333.71	236.91	168.19
0.15	5171.8	4230.9	3400.8	2696.2	2114.3	1643.1	1267.3	971.32	740.41	561.73	424.41
0.25	5171.8	4584.3	3963	3359.3	2802.9	2308.3	1880.1	1517.1	1214.2	964.86	761.92
0.35	5171.8	4806.4	4354.7	3864.5	3370.5	2896.8	2458.5	2063.7	1715.7	1414.3	1156.9
0.45	5171.8	4945.4	4624.3	4240.8	3823.7	3396.7	2978	2580.8	2213.4	1880.6	1584.5
0.55	5171.8	5032.1	4807.8	4516.2	4176.6	3808.1	3427.7	3049.4	2684.1	2339.8	2021.6
0.65	5171.8	5085.9	4931.6	4714.6	4446	4138.5	3805.6	3460.2	3113.2	2773.9	2449.3
0.75	5171.8	5119.3	5014.3	4855.9	4648.1	4398.3	4115.8	3810.7	3492.7	3171.1	2853.4
0.85	5171.8	5139.9	5069.3	4955.4	4797.8	4599.2	4365.3	4103	3820.2	3524.8	3224.2
0.95	5171.8	5152.6	5105.6	5024.8	4907.1	4752.2	4562.6	4342.3	4096.9	3832.7	3556.1
1.05	5171.8	5160.3	5129.4	5072.8	4986.2	4867.3	4716.3	4534.9	4326.5	4095.5	3847.1
1.15	5171.8	5165.1	5145	5105.8	5042.8	4952.9	4834.5	4687.6	4513.9	4315.9	4097.5
1.25	5171.8	5168	5155.1	5128.3	5083	5015.9	4924.4	4807.3	4664.8	4498	4309.4
1.35	5171.8	5169.8	5161.7	5143.5	5111.4	5061.8	4992	4899.9	4784.7	4646.4	4486.2
1.45	5171.8	5170.9	5165.9	5153.7	5131.2	5095	5042.4	4970.9	4878.9	4765.9	4631.8
1.55	5171.8	5171.5	5168.6	5160.6	5145	5118.9	5079.6	5024.7	4952.3	4861	4750.3
1.65	5171.8	5172	5170.3	5165.2	5154.5	5135.9	5106.9	5065.2	5008.8	4936	4845.7
1.75	5171.8	5172.2	5171.4	5168.3	5161.1	5148	5126.8	5095.5	5052	4994.5	4921.7
1.85	5171.8	5172.4	5172.1	5170.3	5165.6	5156.5	5141.2	5117.9	5084.7	5039.8	4981.7
1.95	5171.8	5172.6	5172.6	5171.6	5168.6	5162.4	5151.5	5134.4	5109.3	5074.6	5028.7
2.05	556.66	1896.1	2846.9	3521.2	3998.4	4334.3	4568.1	4727	4829.9	4889.7	4915.2
2.15	556.66	1397	2138.3	2767.1	3285.4	3703.3	4033.3	4288.5	4480.7	4620	4714.7
2.25	556.66	1081.7	1636.8	2175.8	2671.9	3111.6	3490.2	3807.9	4068	4275.4	4435.1
2.35	556.66	883.5	1287.2	1725.2	2166	2587.8	2976.7	3324.6	3627.9	3885.6	4099
2.45	556.66	759.45	1046.7	1389.5	1762	2142.7	2514.9	2866.5	3189.2	3477.9	3730
2.55	556.66	682.1	883	1143.9	1447.4	1776.2	2115	2450.7	2773.1	3074.4	3349.3
2.65	556.66	634.05	772.6	966.86	1207.2	1481.8	1778.6	2085.7	2393	2691.6	2974.6
2.75	556.66	604.3	698.73	840.81	1026.9	1250.2	1502.4	1774.1	2056.3	2340.5	2619.1

2.85	556.66	585.92	649.67	752.05	893.46	1071.2	1280.2	1514.1	1765.5	2027.3	2292.2
2.95	556.66	574.61	617.28	690.15	795.93	934.74	1104.4	1301.1	1519.7	1754.3	1998.8
3.05	124.36	260.76	378.14	492.65	615.59	754.18	912.14	1090.4	1287.7	1501.2	1727.2
3.15	124.36	209.74	297.87	392.55	498.16	618.5	756.2	912.44	1087	1278.3	1483.9
3.25	124.36	177.6	241.86	317.08	404.72	506.73	624.87	760.26	913.13	1082.8	1267.6
3.35	124.36	157.45	203.27	261.27	331.99	416.57	516.26	632.05	764.44	913.26	1077.6
3.45	124.36	144.86	176.96	220.65	276.41	345.15	427.89	525.6	638.9	768.01	912.55
3.55	124.36	137.03	159.21	191.49	234.6	289.47	357.09	438.43	534.24	644.99	770.71
3.65	124.36	132.17	147.31	170.79	203.58	246.68	301.14	367.97	448.03	541.98	650.15
3.75	124.36	129.16	139.4	156.26	180.83	214.2	257.48	311.7	377.83	456.66	548.75
3.85	124.36	127.31	134.18	146.14	164.32	189.83	223.79	267.27	321.29	386.74	464.34
3.95	124.36	126.17	130.74	139.15	152.45	171.73	198.07	232.56	276.22	330	394.75
4.05	124.36	125.47	128.5	134.35	143.99	158.41	178.63	205.7	240.63	284.4	337.9
4.15	124.36	125.05	127.04	131.08	138	148.68	164.06	185.1	212.78	248.07	291.89
4.25	124.36	124.78	126.09	128.87	133.8	141.64	153.23	169.43	191.18	219.38	254.95
4.35	124.36	124.62	125.48	127.38	130.87	136.58	145.24	157.62	174.55	196.9	225.53
4.45	124.36	124.53	125.09	126.38	128.83	132.97	139.39	148.77	161.85	179.42	202.29
4.55	124.36	124.47	124.84	125.71	127.43	130.4	135.13	142.19	152.22	165.93	184.05
4.65	124.36	124.43	124.68	125.27	126.46	128.59	132.05	137.32	144.97	155.59	169.85
4.75	124.36	124.41	124.57	124.98	125.81	127.32	129.83	133.75	139.53	147.71	158.85
4.85	124.36	124.4	124.51	124.78	125.36	126.43	128.25	131.14	135.49	141.74	150.4
4.95	124.36	124.39	124.47	124.66	125.05	125.81	127.12	129.25	132.5	137.25	143.93
5.05	124.36	124.39	124.44	124.57	124.85	125.38	126.33	127.88	130.3	133.89	139.02
5.15	124.36	124.39	124.43	124.52	124.71	125.09	125.77	126.9	128.69	131.39	135.3
5.25	124.36	124.39	124.42	124.49	124.62	124.89	125.37	126.19	127.51	129.53	132.5
5.35	124.36	124.39	124.42	124.47	124.56	124.75	125.1	125.69	126.66	128.17	130.41
5.45	124.36	124.39	124.42	124.45	124.52	124.66	124.91	125.34	126.05	127.16	128.85
5.55	124.36	124.39	124.42	124.45	124.5	124.6	124.78	125.09	125.61	126.43	127.7
5.65	124.36	124.39	124.42	124.45	124.49	124.56	124.69	124.91	125.29	125.9	126.85
5.75	124.36	124.39	124.42	124.45	124.47	124.53	124.63	124.79	125.07	125.52	126.22
5.85	124.36	124.39	124.42	124.45	124.47	124.52	124.59	124.71	124.91	125.24	125.76
5.95	124.36	124.39	124.42	124.45	124.47	124.5	124.56	124.65	124.8	125.04	125.43
6.05	8.1821	41.902	65.85	82.86	94.945	103.54	109.66	114.04	117.22	119.58	121.41
6.15	8.1821	29.337	48.007	63.858	76.956	87.57	96.048	102.75	108.03	112.18	115.48
6.25	8.1821	21.399	35.378	48.96	61.483	72.62	82.27	90.471	97.342	103.05	107.77
6.35	8.1821	16.41	26.576	37.611	48.73	59.394	69.27	78.175	86.046	92.898	98.802
6.45	8.1821	13.286	20.519	29.155	38.547	48.162	57.593	66.549	74.846	82.384	89.131

6.55	8.1821	11.339	16.397	22.969	30.618	38.917	47.487	56.014	64.256	72.042	79.263
6.65	8.1821	10.13	13.617	18.509	24.566	31.494	38.994	46.78	54.606	62.27	69.619
6.75	8.1821	9.3805	11.757	15.335	20.023	25.656	32.024	38.902	46.072	53.334	60.517
6.85	8.1821	8.9179	10.522	13.1	16.662	21.142	26.418	32.332	38.71	45.377	52.17
6.95	8.1821	8.6331	9.7066	11.541	14.205	17.704	21.985	26.955	32.49	38.452	44.7
7.05	8.1821	8.4581	9.1714	10.462	12.429	15.118	18.531	22.627	27.331	32.544	38.154
7.15	8.1821	8.3509	8.8218	9.7221	11.156	13.195	15.875	19.194	23.119	27.589	32.524
7.25	8.1821	8.2853	8.5945	9.2173	10.252	11.78	13.856	16.506	19.728	23.496	27.758
7.35	8.1821	8.2453	8.4475	8.8751	9.6156	10.748	12.337	14.425	17.033	20.16	23.782
7.45	8.1821	8.2209	8.3526	8.6444	9.1699	10.002	11.204	12.83	14.915	17.475	20.509
7.55	8.1821	8.2061	8.2917	8.4897	8.8599	9.4654	10.367	11.62	13.267	15.337	17.846
7.65	8.1821	8.1971	8.2526	8.3864	8.6456	9.083	9.7535	10.709	11.997	13.653	15.702
7.75	8.1821	8.1917	8.2277	8.3178	8.4982	8.8121	9.3066	10.03	11.027	12.337	13.994
7.85	8.1821	8.1884	8.2119	8.2724	8.3973	8.6212	8.9833	9.5259	10.291	11.319	12.644
7.95	8.1821	8.1863	8.2018	8.2424	8.3286	8.4874	8.7508	9.155	9.7379	10.537	11.588
8.05	8.1821	8.1852	8.1954	8.2227	8.2821	8.3941	8.5847	8.8837	9.3244	9.9408	10.767
8.15	8.1821	8.1845	8.1914	8.2098	8.2506	8.3294	8.4665	8.6865	9.0173	9.4893	10.134
8.25	8.1821	8.184	8.1889	8.2014	8.2295	8.2847	8.3829	8.5438	8.7907	9.1496	9.6485
8.35	8.1821	8.1839	8.1874	8.196	8.2153	8.254	8.324	8.4412	8.6243	8.8956	9.2793
8.45	8.1821	8.1839	8.1865	8.1925	8.2059	8.2329	8.2828	8.3677	8.5029	8.7068	9
8.55	8.1821	8.1839	8.1859	8.1902	8.1996	8.2186	8.2541	8.3154	8.4147	8.5671	8.7899
8.65	8.1821	8.1839	8.1857	8.1888	8.1956	8.2089	8.2341	8.2783	8.351	8.4643	8.6328
8.75	8.1821	8.1839	8.1857	8.1881	8.1929	8.2024	8.2203	8.2521	8.3052	8.3891	8.5158
8.85	8.1821	8.1839	8.1857	8.1875	8.1912	8.1981	8.2108	8.2337	8.2723	8.3343	8.4292
8.95	8.1821	8.1839	8.1857	8.1875	8.1902	8.1952	8.2044	8.2209	8.249	8.2946	8.3653
9.05	8.1821	8.1839	8.1857	8.1875	8.1894	8.1933	8.2	8.2119	8.2324	8.2659	8.3185
9.15	8.1821	8.1839	8.1857	8.1875	8.1893	8.1922	8.1971	8.2058	8.2207	8.2453	8.2843
9.25	8.1821	8.1839	8.1857	8.1875	8.1893	8.1914	8.1952	8.2016	8.2125	8.2306	8.2595
9.35	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1941	8.1988	8.2068	8.2201	8.2416
9.45	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1932	8.1969	8.203	8.2128	8.2287
9.55	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1959	8.2004	8.2077	8.2195
9.65	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1949	8.1985	8.2041	8.2129
9.75	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1975	8.2018	8.2083
9.85	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1965	8.2001	8.2051
9.95	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1991	8.203
10.05	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2017
10.15	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2007

10.25	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
10.35	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
10.45	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
10.55	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
10.65	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
10.75	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
10.85	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
10.95	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
11.05	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
11.15	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
11.25	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
11.35	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
11.45	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2
11.55	8.1821	8.1839	8.1857	8.1875	8.1893	8.1911	8.1929	8.1946	8.1964	8.1982	8.2


Lead Concentration in Pore Water at 11.6 feet
Concentration (ug/L)
8.2020
8.2000
8.1980
8.1960
8.1940
8.1920
8.1900
8.1880
8.1860
8.1840
8.1820
8.1800
0
100
200
300
400
500
600
700
800
900
1000
Time (years)


Pore Water Lead Concentration Profile at 1,000 Years
Concentration (ug/L)
6,000
5,000
4,000
3,000
2,000
1,000
0
0.0
2.0
4.0
6.0
8.0
10.0
12.0
Depth (ft)

Appendix F

Cost Estimates

Alternative 2, Present Value
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.20

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

FY	Capital Costs	O & M Costs				Present Value (NPV)		
						Discount Rate	Capital	O & M
		LTM			Total	7%		
2008	84,008	15,409			15,409	NPV	84,008	201,262
2009	0	15,409			15,409			
2010	0	15,409			15,409			
2011	0	15,409			15,409			
2012	0	57,934			57,934			
2013	0	1,586			1,586			
2014	0	1,586			1,586			
2015	0	1,586			1,586			
2016	0	1,586			1,586			
2017	0	57,934			57,934			
2018	0	1,586			1,586			
2019	0	1,586			1,586			
2020	0	1,586			1,586			
2021	0	1,586			1,586			
2022	0	57,934			57,934			
2023	0	1,586			1,586			
2024	0	1,586			1,586			
2025	0	1,586			1,586			
2026	0	1,586			1,586			
2027	0	57,934			57,934			
2028	0	1,586			1,586			
2029	0	1,586			1,586			
2030	0	1,586			1,586			
2031	0	1,586			1,586			
2032	0	57,934			57,934			
2033	0	1,586			1,586			
2034	0	1,586			1,586			
2035	0	1,586			1,586			
2036	0	1,586			1,586			
2037	0	57,934			57,934			
	84,008	440,972			440,972	Total Present Value =		$285,271

Alternative 2, Regulatory Documents
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO.: 1.20.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item				LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		
NO	**DESCRIPTION**	**QTY**	**UNIT**	**UNIT MH**	**TOTAL MH**	**CRAFT**	**$/MH**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**TOTAL ($)**
	Regulatory Documents														
1	Proposed Plan	1	ea	200	200	eng	76.42	15,284	1,600	1,600		0		0	16,884
2	Decision Document	1	ea	200	200	eng	76.42	15,284	1,600	1,600		0		0	16,884
3	Completion Report	1	ea	100	100	eng	76.42	7,642	1,200	1,200		0		0	8,842
	Subtotal							**38,210**		**4,400**		**0**		**0**	**42,610**
	Taxes @ 6.5 %									286					286

** WBS T O T A L ** **$ 42,896**

Alternative 2, Remedial Design Documents
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.20.20.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item				LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		
NO	DESCRIPTION	QTY	UNIT	UNIT MH	TOTAL MH	CRAFT	$/MH	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	TOTAL ($)
	Engineering Support														
1	Develop design report, drawings, specs & procurement pkgs	1	lot	200	200	eng	76.42	15,284	1,000	1,000		0	1,600	1,600	17,884
2	RFP & S / C procurement doc.support	1	ea	20	20	eng	76.42	1,528	100	100		0		0	1,628
3	Bid and award S / C support	1	ea	20	20	eng	76.42	1,528		0		0		0	1,528
	Subtotal							**18,341**		**1,100**		**0**		**1,600**	**21,041**
	Taxes @ 6.5 %									72					72

** WBS T O T A L ** **$ 21,112**

Alternative 2, Land Use Controls
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.20.30.20.20.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item				LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		
NO	DESCRIPTION	QTY	UNIT	UNIT MH	TOTAL MH	CRAFT	$/MH	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	TOTAL ($)
	Land Use Controls														
1	Allowance for Legal Fees, Administration	1	lot		0			0		0		0	15,000	15,000	15,000
	Controls, and Documentation														
2	Security Fencing and Signage	1	lot										5,000	5,000	5,000
	Subtotal							**0**		**0**		**0**		**20,000**	**20,000**

**** WBS T O T A L **** **$ 20,000**

Alternative 2, Long-Term Maintenance
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.20.40.10.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item				LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		
No.	DESCRIPTION	QTY	UNIT	UNIT MH	TOTAL MH	CRAFT	$/MH	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	TOTAL ($)
	Years 1-4														
1	Site Inspection to monitor Land Use	4	ea	20	80	eng	76.42	6,114	2,250	9,000		0	5,000	20,000	35,114
2	Maintenance/repair of signs & fencing	4	ea	4	16	eng	76.42	1,223	0	0		0	1,000	4,000	5,223
3	Annual report	4	ea	30	120	eng	76.42	9,170	150	600		0		0	9,770
	Subtotal							**16,506**		**9,600**		**0**		**24,000**	**50,106**
	Taxes @ 6.5 %									624					624
	Subtotal														**50,730**
	Indirects @ 21.5%														10,907
	Years 1 through 4 total (current dollars)														**$ 61,637**
	Years 1 through 4 annual cost (current dollars)														**$ 15,409**
	Years 5, 10, 15, 20, 25, 30														
1	Site Inspection to monitor Land Use	6	ea	20	120	eng	76.42	9,170	2,250	13,500		0	5,000	30,000	52,670
2	Maintenance/repair of signs & fencing	6	ea	4	24	eng	76.42	1,834	0	0		0	1,000	6,000	7,834
3	Annual report	6	ea	30	180	eng	76.42	13,756	150	900		0		0	14,656
4	CERCLA 5-year review	6	ea		0	tech	76.42	0		0		0	35,000	210,000	210,000
	Subtotal							**24,760**		**14,400**		**0**		**0**	**285,160**
	Taxes @ 6.5 %									936					936
	Subtotal														**286,096**
	Indirects @ 21.5%														61,511
	Years 5, 10, 15, 20, 25, 30 total (current dollars)														**$ 347,607**
	Years 5, 10, 15, 20, 25, 30 annual cost (current dollars)														**$ 57,934**

Alternative 2, Long-Term Maintenance
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.20.40.10.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item No.	DESCRIPTION	QTY	UNIT	LABOR UNIT MH	LABOR TOTAL MH	LABOR CRAFT	LABOR $/MH	LABOR $ VALUE	MATERIAL $/UNIT	MATERIAL $ VALUE	EQUIPMENT $/UNIT	EQUIPMENT $ VALUE	SUBCONTRACT $/UNIT	SUBCONTRACT $ VALUE	TOTAL ($)
	Other Years														
1	Maintenance/Repair of Signs & Fencing	20	ea	4	80	eng	76.42	6,114	0	0		0	1,000	20,000	26,114
	Subtotal							**6,114**		**0**		**0**		**20,000**	**26,114**
	Taxes @ 6.5 %									0					0
	Subtotal														**26,114**
	Indirects @ 21.5%														5,614
	Other Years (current dollars)														**$ 31,728**
	Other Years annual cost (current dollars)														**$ 1,586**

** WBS T O T A L ** **$ 440,972**

Alternative 3, Present Value
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.30

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

FY	Capital Costs	O & M Costs				Present Value (NPV)	
						Discount Rate	Capital
		L T Monitor			Total	7%	
2008	282,859	0			0	**NPV**	**282,859**	**98,184**
2009	0	0			0			
2010	0	0			0			
2011	0	0			0			
2012	0	42,525			42,525			
2013	0	0			0			
2014	0	0			0			
2015	0	0			0			
2016	0	0			0			
2017	0	42,525			42,525			
2018	0	0			0			
2019	0	0			0			
2020	0	0			0			
2021	0	0			0			
2022	0	42,525			42,525			
2023	0	0			0			
2024	0	0			0			
2025	0	0			0			
2026	0	0			0			
2027	0	42,525			42,525			
2028	0	0			0			
2029	0	0			0			
2030	0	0			0			
2031	0	0			0			
2032	0	42,525			42,525			
2033	0	0			0			
2034	0	0			0			
2035	0	0			0			
2036	0	0			0			
2037	0	42,525			42,525			
	282,859	255,150			255,150	**Total Present Value =**		**$381,043**

Alternative 3, Regulatory Documents
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO.: 1.30.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item				LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		
NO	**DESCRIPTION**	**QTY**	**UNIT**	**UNIT MH**	**TOTAL MH**	**CRAFT**	**$/MH**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**TOTAL ($)**
	Regulatory Documents														
1	Proposed Plan	1	ea	200	200	eng	76.42	15,284	1,600	1,600		0		0	16,884
2	Decision Document	1	ea	250	250	eng	76.42	19,105	1,600	1,600		0		0	20,705
3	Completion Report	1	ea	250	250	eng	76.42	19,105	1,200	1,200		0		0	20,305
	Subtotal							**53,494**		**4,400**		**0**		**0**	**57,894**
	Taxes @ 6.5 %									286					286

** WBS T O T A L ** **$ 58,180**

Alternative 3, Remedial Design
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.30.20.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item				LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		
NO	**DESCRIPTION**	**QTY**	**UNIT**	**UNIT MH**	**TOTAL MH**	**CRAFT**	**$/MH**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**$/UNIT**	**$ VALUE**	**TOTAL ($)**
	Engineering Support														
1	Develop design report, drawings, specs & procurement pkgs	1	lot	250	250	eng	76.42	19,105	1,000	1,000		0	1,600	1,600	21,705
2	RFP & S / C procurement doc.support	1	ea	20	20	eng	76.42	1,528	100	100		0		0	1,628
3	Bid and award S / C support	1	ea	20	20	eng	76.42	1,528		0		0		0	1,528
	Subtotal							**22,162**		**1,100**		**0**		**1,600**	**24,862**
	Taxes @ 6.5 %									72					72

** WBS T O T A L ** **$ 24,933**

00072252

Alternative 3, Excavation
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. :1.30.30.20.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item NO	DESCRIPTION	QTY	UNIT	LABOR UNIT MH	LABOR TOTAL MH	LABOR CRAFT	LABOR $/MH	LABOR $ VALUE	MATERIAL $/UNIT	MATERIAL $ VALUE	EQUIPMENT $/UNIT	EQUIPMENT $ VALUE	SUBCONTRACT $/UNIT	SUBCONTRACT $ VALUE	TOTAL ($)
	General conditions														
1	Safety, training ,waste, health plans, etc.	1	ea	80	80	eng	87.88	7,030	200	200		0		0	7,230
2	Mob / Demob	1	ea	80	80	op	28.74	2,299	2,500	2,500	3,000	3,000		0	7,799
3	Per Diem	50	day						104	5,200					5,200
4	Port-let rental-2 ea	0.5	mo		0			0		0		0	320	160	160
5	Silt fence at construction area	600	lf	0.02	12	l	19.36	232	0.40	240	0.05	30		0	502
6	Hay bales	200	ea	0.02	4	l	19.36	77	0.40	80	0.05	10		0	167
7	Erosion control, straw bales at const. area	1	lot	80	80	l	19.36	1,549	1,000	1,000		0		0	2,549
8	Survey crew	2	day		0			0		0		0	1000	2,000	2,000
9	Personal protective equipment	40	mday	0	0			0		0	30	1,200		0	1,200
10	Construction equip. staging area	1	ea	120	120	op	28.74	3,449	2,000	2,000	1,500	1,500		0	6,949
11	Site Orientation - 1 day	5	pers	8	40	op	28.74	1,150		0		0		0	1,150
	Construction Management & Field labor														
1	Temporary facilities	0.5	mo					0		0		0	750	375	375
2	Equipment	0.5	mo					0		0	600	300		0	300
3	Site superintendent	1	ea	80	80	super	68.86	5,509		0	2,825	2,825		0	8,334
4	Health & safety/QA/QC officer	1	ea	80	80	h/s	51.75	4,140		0	160	160		0	4,300
5	Equipment Operator	1	ea	80	80	op	33.00	2,640		0	160	160		0	2,800
6	Field service technician	2	ea	80	160	hmt	28.00	4,480		0		0		0	4,480
	Decon area														
1	Provide small temporary decon area for	1	ea	40	40	x	25.00	1,000	6,000	6,000	2,000	2,000		0	9,000
	decon of const. equipment. Demo at end of job														
2	Decon all equipment at completion of work	1	lot	8	8	l	19.36	155	200	200	200	200		0	555
3	Pressure washer	1	ea		0			0			650	650		0	650
	Soils staging / segregation area														
	Staging area not required. Load excavated														
	soils directly into off-site shipping containers.														
	Excavation														
1	Waste excavation	150	bcy				28.74	0		0		0		0	0

Alternative 3, Excavation
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. :1.30.30.20.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item NO	DESCRIPTION	QTY	UNIT	LABOR UNIT MH	LABOR TOTAL MH	LABOR CRAFT	LABOR $/MH	LABOR $ VALUE	MATERIAL $/UNIT	MATERIAL $ VALUE	EQUIPMENT $/UNIT	EQUIPMENT $ VALUE	SUBCONTRACT $/UNIT	SUBCONTRACT $ VALUE	TOTAL ($)
2	Excavator (20 Ton)	4	day				28.74	0		0	185.00	740		0	740
3	Wheel loader (2.5 CY)	4	day				28.74	0		0	106.00	424		0	424
4	Truck w/ water spray / tank for excavated area	20	hrs.				21.17	0		0	64	1,280		0	1,280
5	Pickup Trucks	20	day							0	50	1,000		0	1,000
5	Continuous air monitors	20	ea					0	45	900		0		0	900
6	Soil samples to to confirm risk limits	10	ea					0		0		0	300	3,000	3,000
7	Sample Supplies	10	ea					0	4.00	40		0		0	40
8	Sample Shipping	10	ea					0		0		0	55	550	550
	Backfill & Site Restoration														
1	Borrow fill material from off-site (delivered)	200	lcy		0			0	9.90	1,975		0		0	1,975
2	Compaction ,6" lifts, 4 passes	200	lcy	0.009	2	op	28.74	52		0	0.47	94		0	145
3	Fertilize, seed, and mulch	3,500	sf		0			0		0		0	0.131	459	459
4	Erosion Control Matting	1,500	sf									0	0.5	750	750
5	Truck w/ water spray / tank for excavated area	20	hrs.	1	20	td	21.17	423		0	64	1,280		0	1,703
	Excavated soils waste characterization														
1	Waste characterization disposal profile	3	ea		0			0		0		0	1,200	3,600	3,600
2	Waste documentation / Reports	1	lot	240	240	tech	28.00	6,720	400	400		0		0	7,120
	Waste disposal														
1	Title "C" ,Texas class 1 trans/waste disposal fees	225	tons		0			0		0		0	250.00	56,250	56,250
2	Truck Liners	13	ea	0	0			0		0	49.50	644		0	644
	Subtotal							**40,905**		**20,735**		**17,496**		**67,144**	**146,280**
	Materail Taxes @ 7.5 %									1,555					1,555
	Waste Disposal taxes @ 7.5%													4,219	4,219
	Subtotal														**152,054**
	Indirects @ 21.5%														32,692

**** WBS T O T A L **** **$ 184,746**

Alternative 3, Land Use Controls
Former Pistol Range EE/CA

COMPANY NAME: SHAW ENVIRONMENTAL

WBS NO. : 1.30.30.20.20.10

PROJECT LOCATION: KARNACK, TEXAS **DATE:** APRIL 2008

Item				LABOR					MATERIAL		EQUIPMENT		SUBCONTRACT		
NO	DESCRIPTION	QTY	UNIT	UNIT MH	TOTAL MH	CRAFT	$/MH	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	$/UNIT	$ VALUE	TOTAL ($)
	Land Use Restriction														
1	Allowance for Legal Fees, Administration	1	lot		0			0		0		0	15,000	15,000	15,000
	Controls, and Documentation														
	Subtotal							**0**		**0**		**0**		**15,000**	**15,000**

**** WBS T O T A L ** $ 15,000**

Alternative 3, Long-Term Maintenance
Former Pistol Range EE/CA

COMPANY NAME: **SHAW ENVIRONMENTAL**

WBS NO. : 1.30.40.10.10

PROJECT LOCATION: **KARNACK, TEXAS** **DATE:** **APRIL 2008**

Item NO	DESCRIPTION	QTY	UNIT	LABOR UNIT MH	LABOR TOTAL MH	LABOR CRAFT	LABOR $/MH	LABOR $ VALUE	MATERIAL $/UNIT	MATERIAL $ VALUE	EQUIPMENT $/UNIT	EQUIPMENT $ VALUE	SUBCONTRACT $/UNIT	SUBCONTRACT $ VALUE	TOTAL ($)
	Years 5, 10, 15, 20, 25, 30														
1	CERCLA 5-year review	6	ea		0			0		0		0	35,000	210,000	210,000
	Subtotal							**0**		**0**		**0**		**0**	**210,000**
	Indirects @ 21.5%														45,150
	Years 5, 10, 15, 20, 25, 30 total (current dollars)														**$ 255,150**
	Years 5, 10, 15, 20, 25, 30 annual cost (current dollars)														**$ 42,525**

** WBS T O T A L ** **$ 255,150**

00072256

From: Fay Duke [FDUKE@tceq.state.tx.us]
Sent: Wednesday, March 04, 2009 4:07 PM
To: Srivastav, Praveen; Rose CIV USA OSA Zeiler
Cc: tzhone.stephen@epa.gov; Josiam.Raji@epamail.epa.gov; Jones, Greg N; Everett, Kay; Watson, Susan; John R SWT Lambert; Aaron K SWT Williams
Subject: TCEQ Review - DF Addendum to the Final Data Evaluation Reportfor soil associated with LHAAP/35/36 Sumps

Rose/Praveen,

We have completed our review of the evaluation of the leaching potential of chemical in soil near the sumps located within or near sites LHAAP-48, 35C(43), 46,66,29,59, and 45. The evaluation concluded that although some samples contain concentrations of metal, VOCs and an herbicide exceeding the TCEQ Standard 3 soil-to-groundwater cross-media protection concentrations, groundwater results from nearby wells indicate that groundwater is currently not impacted above the TCEQ regulatory levels. Although absent in this report, we also considered whether the chemical in soil would impact the groundwater in the future. Based on the duration since the cease of operations of these sumps (the time in which release occurred) and the concentrations of the soil and water samples, we concluded that it is unlikely that the chemical in soil would continue to impact or worsen the impact to the groundwater in the future. Therefore we concur with the no further action for soil near the sumps at these sites. Please note we have the following editorial comment:

1. Section 3, Page 3-3: Please clarify the conclusion summarizing the pesticide evaluation. We believe the last sentence may be missing the word "no".
2. We recommend adding in Section 13, Summary, a brief discussion regarding the additional weight of evidence that the chemical in soil would not continue to impact groundwater.

Please let me know if you should have any questions or concerns.

Fay Duke (MC-136)
EC I, Remediation Division, TCEQ
PO Box 13087
Austin, Texas 78711-3087
512-239-2443
512-239-1212 (Fax)

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

00072257

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 4, 2009

Ms. Rose Zeiler
Army / BRAC Site Manager
Longhorn Army Ammunition Plant
Post Office Box 220
Ratcliff, AR 72951

Re: LHAAP-02, Vacuum Truck Overnight Parking Lot
Final Site Investigation Report
Longhorn Army Ammunition Plant, TXD6213820529 (SUP126)

Dear Ms. Zeiler:

The Texas Commission on Environmental Quality (TCEQ) has completed review of the Final Site Investigation Report for LHAAP-02, Vacuum Truck Overnight Parking Lot. Concentrations of chemicals in soil are either deemed to be naturally occurring or are below Standard 2 non-residential soil medium specific concentration (MSC) based upon worker ingestion of soil and inhalation of particulates and volatiles (Soil-Ind). However, a few metals detected in soil exceeded the Standard 3 non-residential soil-to-groundwater cross-media protection concentration (GWP-Ind). We note that LHAAP-02 is located within the footprint of LHAAP-35A(58). Therefore, per our recent communications, we concur that no further action is necessary for the soil. The uncertainty associated with the soil-to-groundwater impact will be monitored under the groundwater response action at LHAAP-35A(58).

Please note that in order to comply with the non-residential soil requirements for RRR Std 2 site closure, a deed certification must be filed in the county record. The deed certification must indicate that future land use is considered suitable for non-residential use. An example format of the deed certification is provided in 30 Texas Administrative Code §335.569. If you have any questions or need additional information, please feel free to contact me at (512) 239-2443.

Sincerely

Fay Duke, Project Manager
Team 2, Environmental Cleanup Section I
Remediation Division

FD/al

cc: Mr. Stephen L. Tzhone, U. S. Environmental Protection Agency Region 6, Dallas, TX
Mr. Aaron Williams, U.S. Army Corps of Engineers, Tulsa, OK
Mr. Paul Bruckwicki, U.S. Fish and Wildlife Service, Karnack, TX

00072258

Shaw® Shaw Environmental, Inc.

Date: ***March 5, 2009***

Project No.:117591

TRANSMITTAL LETTER:

To: Mr. Aaron Williams

Address: US Army Corps of Engineers - Tulsa
CESWT-PP-M
1645 South 101st East Ave
Tulsa, Oklahoma 74128

Re: Final Engineering Evaluation/Cost Analysis, LHAAP-04, Former Pilot Wastewater Treatment Plant, Group 4

Contract No. W912QR-04-D-0027/DS02

For: Review_____ As Requested _____ Approval_____ Corrections_____ Submittal _____ Other X_____

Item No:	*No. of Copies*	*Date:*	*Document Title*
1	2	March 2009	**Final Engineering Evaluation/Cost Analysis, LHAAP-04, Former Pilot Wastewater Treatment Plant, Group 4 Longhorn Army Ammunition Plant, Karnack, Texas**

Aaron – Enclosed please find two copies of Shaw's final version of the above-named document.

Copies have been distributed as indicated below.

Please call with any questions or comments.

Sincerely:

Praveen Srivastav
Project Manager

CC: **Distribution List:**
D. Birnbaum – USACE, Tulsa (sent to A. Williams for distribution)
J. Armstrong – AEC
Rose Zeiler – BRAC-LHAAP
S. Tzhone – EPA Region 6 (2)
F. Duke– TCEQ, Austin (2)
D. Vodak– TCEQ, Tyler
P. Bruckwicki– U.S. Fish and Wildlife Service

3010 Briarpark Drive, Suite 400, Houston, Texas 77042 ***Phone: (713) 996-4588/Fax: (713) 996-4436***

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

00072259

March 5, 2009

DAIM-ODB-LO

Mr. Stephen Tzhone
US Environmental Protection Agency
Superfund Division (6SF-AT)
1445 Ross Avenue
Dallas, TX 75202-2733

Re: Final Engineering Evaluation/Cost Analysis LHAAP-04
Former Pilot Wastewater Treatment Plant, Group 4,
Longhorn Army Ammunition Plant, Karnack, Texas, March 2009

Dear Mr. Tzhone,

The above-referenced document is being transmitted to you for your records. The document has been prepared by Shaw Environmental, Inc. (Shaw) on behalf of the Army as part of Shaw's performance based contract for the facility.

The point of contact for this action is the undersigned. I ask that Praveen Srivastav, Shaw's Project Manager, be copied on any communications related to the project. I may be contacted at 479-635-0110, or by email at rose.zeiler@us.army.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
F. Duke, TCEQ, Austin, TX
D. Vodak, TCEQ, Tyler, TX
A. Williams, USACE, Tulsa District, OK
D. Birnbaum, USACE, Tulsa District, OK
J. Armstrong, USAEC, MD
P. Bruckwicki, Caddo Lake NWR, TX
P. Srivastav, Shaw, Houston, TX (for project files)

DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

00072260

March 5, 2009

DAIM-ODB-LO

Ms. Fay Duke
Texas Commission on Environmental Quality
TCEQ Environmental Cleanup Section I MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Final Engineering Evaluation/Cost Analysis LHAAP-04
Former Pilot Wastewater Treatment Plant, Group 4,
Longhorn Army Ammunition Plant, Karnack, Texas, March 2009

SUP 126

Dear Ms. Duke,

The above-referenced document is being transmitted to you for your records. The document has been prepared by Shaw Environmental, Inc. (Shaw) on behalf of the Army as part of Shaw's performance based contract for the facility.

The point of contact for this action is the undersigned. I ask that Praveen Srivastav, Shaw's Project Manager be copied on any communications related to the project. I may be contacted at 479-635-0110, or by email at rose.zeiler@us.army.mil.

Sincerely,

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:
S. Tzhone, USEPA, Dallas, TX
D. Vodak, TCEQ, Tyler, TX
A. Williams, USACE, Tulsa District, OK
D. Birnbaum, USACE, Tulsa District, OK
J. Armstrong, USAEC, MD
P. Bruckwicki, Caddo Lake NWR, TX
P. Srivastav, Shaw, Houston, TX (for project files)

Comments on Draft Final EE/CA, LHAAP-04
Longhorn Army Ammunition Plant, Karnack, Texas

00072261

August 26, 2008

Reviewer: Stephen Tzhone, U.S. Environmental Protection Agency
Respondents: Praveen Srivastav and Susan Watson, Shaw Environmental, Inc.

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/Paragraph	Comment	C, D[1], E or X	Response	A or D[2]
1		Section 2.3 Figure 2-6, and Figure 3-1	The soil removal action appears to end at the edge of the concrete slab to the northwest. What is the rationale for not including the concrete pad and are there plans to assess soils on the other side of the concrete pad and beneath the concrete pad?	C	These areas will be addressed as part of the excavation effort. There are no plans to assess the soils on the north side of the concrete pad or beneath the concrete pad prior to excavation. As part of the excavation process, confirmation samples will be collected from the sidewalls. If there is contamination on the sidewall of the excavation along the concrete pad, the excavation may continue beneath the concrete pad until the contamination is removed. Removal of the concrete pad may be required if the contamination does extend beneath it."	A
2		Section 2.3, Figure 2-4, Figure 2-7	There appears to be potential for groundwater from the contaminated soil to reach the location of LHSMW02. Was LHSMW02 sampled previously for perchlorate? If not, this well should be included for future rounds of groundwater sampling at LHAAP-04.	C	A sample from LHSMW02 was collected on 8/28/08, and a preliminary perchlorate result of 6.56 ug/L has been reported by the lab. This is below the GW-Ind of 72 ug/L, and thus no action is required for groundwater at LHAAP-04. The concentration will be added to Figure 2-7, and Appendix B will be revised to include the 2008 data. Please note per TCEQ RTC to Comment 1, a new Appendix A will be added, so the previous Appendix A will now be Appendix B. Section 2.3, page 2-5, 2nd paragraph, 6th line, the sentence beginning with "Additionally, a groundwater sample…" and the following two sentences will be revised as follows: "Additionally, groundwater samples were collected from LHSMW01 in 2007 and LHSMW02 in 2008 and analyzed for perchlorate. The 2007 and 2008 groundwater data are included in **Appendix B**. Perchlorate was detected at a low concentration in LHSMW02 in 2008, but was not detected in any of the wells sampled in 2004 and 2007".	A
3		Figure 2-6	For 04SB07, a soil depth interval of 21.5-21.5 is shown for the deepest sample, is this correct?	C	As noted on the log, this sample was collected at the bottom of the hole at 21.5 feet bgs.	A

August 26, 2008

Reviewer: Stephen Tzhone, U.S. Environmental Protection Agency
Respondents: Praveen Srivastav and Susan Watson, Shaw Environmental, Inc.

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

<table>
<tr><th>Comment #</th><th>Page</th><th>Section/Paragraph</th><th>Comment</th><th>C, D[1], E or X</th><th>Response</th><th>A or D[2]</th></tr>
<tr><td>4</td><td></td><td>Section 4.12</td><td>In addition to perchlorate, confirmation samples should be included for mercury. The Removal Action Objectives (Section
3.0) includes protection of human health and the environment by eliminating the threat for potential releases of perchlorate AND mercury from contaminated soil to surface water. At a minimum, confirmation samples for mercury should be taken near the locations of previous samples SB-11, SB-12, and SB-13 (Figure 2-6, Figure 3-1).</td><td>C</td><td>Mercury will be added, and the second paragraph of Section 3.1 will be revised as follows:

The scope of the proposed action for the contaminated soil at the site addresses an area of approximately 4,100 square feet (estimated volume of approximately 840 cubic yards) as shown on Figure 3-1. The mercury contaminated soil is along the concrete pad and is encompassed within the larger perchlorate contaminated soil area. The proposed cleanup level is the most stringent medium-specific concentration for that chemical in soil (TCEQ, 2006).The proposed cleanups levels are included in Table 3-1.

Table 3-1
Proposed Soil Cleanup Levels
<table>
<tr><th>Chemical</th><th>Concentration (µg/kg)</th><th>Basis[a]</th></tr>
<tr><td>Perchlorate</td><td>7,200</td><td>GWP-Ind</td></tr>
<tr><td>Mercury[b]</td><td>150</td><td>SAI-Ind</td></tr>
</table>
Notes and Abbreviations:
[a] Texas Commission on Environmental Quality, Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs) dated March 31, 2006
[b] Mercury cleanup level is limited to the excavation wall adjacent to the concrete pad.
µg/kg – micrograms per kilogram
GWP-Ind – Soil MSC for industrial use based on groundwater protection
SAI-Ind –Soil MSC for industrial use based on inhalation, ingestion, and dermal contact

Section 4.1.2.1
– Excavation Area Delineation – the last two sentences will be revised as follows:
After the initial excavation, the wall adjacent to the</td><td>A</td></tr>
</table>

Reviewer: Stephen Tzhone, U.S. Environmental Protection Agency
Respondents: Praveen Srivastav and Susan Watson, Shaw Environmental, Inc.

1. Respondent Concurs (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/Paragraph	Comment	C, D[1], E or X	Response	A or D[2]
					concrete pad will be tested for both mercury and perchlorate. The other walls and floor will be tested for perchlorate only. Soil would be excavated until the confirmation sample results (from the excavation floor and side walls) indicate soil concentrations below the cleanup levels identified in **Table 3-1**. -*Confirmation Sampling* - The second sentence will be revised as follows: Excavation would continue until concentrations in the soil are less than the cleanup levels identified in **Table 3-1**. - the last two sentences will be revised and replaced with the following: If contaminants are detected in the remaining soils above their cleanup levels, the area would be excavated an additional foot. This would continue until confirmation samples demonstrate the contaminants remaining in the soil are below their cleanup level or until groundwater is encountered. In the event that groundwater is encountered and a floor sample cannot be collected, a 5-point composite sample will be collected of the excavation sidewalls. The individual grab samples will be collected from the sidewalls just above the groundwater interface. If the 5-point composite sidewall sample is above the cleanup levels, then additional excavation of the sidewalls will be conducted to the groundwater interface depth. This would remove any soil that could act as a potential source for soil to groundwater contamination.	

Comments on Draft Final Engineering Evaluation and Cost Analysis, LHAAP-04, Former Pilot Wastewater Treatment Plant (published May 2008)
Longhorn Army Ammunition Plant, Karnack, Texas

00072264

July 2008

Reviewer: Texas Commission on Environmental Quality
Respondents: Praveen Srivastav and Susan Watson, Shaw Environmental, Inc.

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2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D[1], E or X	Response	A or D[2]
1		Section 2.1.1	It is stated that the Former Pilot Wastewater Treatment Plant was removed and closed in 1998 under an Agreed Order. This is partially true. In accordance with our records, the TCEQ closure approval was conditional. The contaminated soil and concrete pad associated with the Pilot Wastewater Treatment Plant (PWTP) was deferred to the CERCLA program. See attached PDF file for correspondences from TCEQ and Army. Please revise.	C	Thank you for sending this documentation. It was not found in the Administrative Record, and it will be included in the EE/CA as a new Appendix A. Please note that the current Appendices A and B will be changed to B and C, respectively. The following will be added to the end of the first paragraph in Section 2.1.1: "The agreed order is included in **Appendix A** and limits the closure to the plant and defers contaminated soil to the CERCLA program. This is the contamination being addressed in the EE/CA." Also, please see response to EPA's Comment 1 to address the soil beneath the concrete pad.	D
2		Section 2.2	There is a typo or error in the text. We believe that instead of Figure 2-5, it should be Figure 2-6	C	Figure number will be revised.	A
3		Section 2.3	The concentration of mercury in soil samples from SB-11, SB-12 and SB-13 exceeds SAI-Ind concentration. SB-11, SB-12 and SB-13 are located near the concrete slab. It is stated in the November 9, 1998 Army correspondence that the Phase III Group 4 RI will include the assessment to determine if there is any contamination under the concrete pad, but we were unable to find any results. We are unclear whether the remediation includes the concrete slab or the soil beneath the concrete slab. Please clarify.	C	Please see response to EPA's Comment 1.	D
4		Section 2.3	We noted that in many locations, the perchlorate concentrations in soil at time appear to be increasing in concentrations. Based on the few samples taken at depth, soil may be impacted in depth greater than 20 feet. As a result, it is necessary to ensure that the vertical extent of contamination is fully understand and delineated. For example, in soil boring 04SB04, perchlorate concentrations appear to exhibit an increasing trend from surface to depth. Although the perchlorate concentrations remains below SAI-Ind MSCs, there are no samples greater than 5 feet to	C	Most areas with samples containing perchlorate concentrations greater than the GWP-Ind had higher concentrations in shallower depths. If the soil contamination is not bounded on the southeast side of the excavation, the confirmation samples will indicate this and excavation will continue towards 04SB04. Based on the historic information, there is not a suspected previous source (e.g., a tank or pipe run) in this area.	D

Comments on Draft Final Engineering Evaluation and Cost Analysis, LHAAP-04, Former Pilot Wastewater Treatment Plant (published May 2008)
Longhorn Army Ammunition Plant, Karnack, Texas

00072265

July 2008

Reviewer: Texas Commission on Environmental Quality
Respondents: Praveen Srivastav and Susan Watson, Shaw Environmental, Inc.

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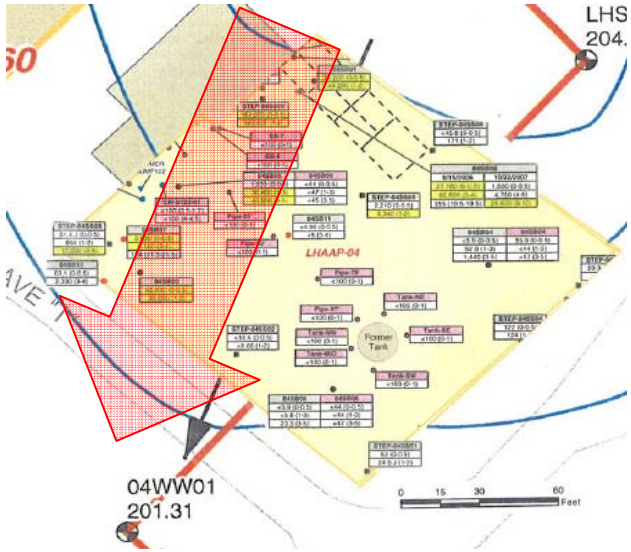
Comment #	Page	Section/ Paragraph	Comment	C, D[1], E or X	Response	A or D[2]
			ensure that deeper soil are not impacted above the action levels.			
5		Section 2.3	Although groundwater will not be address in this EE/CA, we note that all the monitoring well are installed outside of the LHAAP-04 site boundary. Wells must be installed near the release in order to evaluate whether contaminants has impacted groundwater. Additionally, based on the 2005 and 2007 groundwater gradient, there are no wells directly located down gradient from the highest soil contamination. It is our opinion that the nature and extent of groundwater contamination is incomplete.	C	The EE/CA addresses all media at the site. The boundary of the site has changed over time. The site is relatively small (roughly 150' x 150'), and the wells (04WW01, LHSMW01, and 04WW02) are located from 100 to 175 feet from the contamination. LHSMW02 is approximately 200 feet from the highest contamination. 04WW01 is directly downgradient of the highest contamination. Please see sketch below.  An additional groundwater sample was collected from LHSMW02 in response to Comment #2 from EPA. See response to that comment for results.	D

Comments on Draft Final Engineering Evaluation and Cost Analysis, LHAAP-04, Former Pilot Wastewater Treatment Plant (published May 2008)
Longhorn Army Ammunition Plant, Karnack, Texas

00072266

July 2008

Reviewer: Texas Commission on Environmental Quality
Respondents: Praveen Srivastav and Susan Watson, Shaw Environmental, Inc.

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2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment	C, D[1], E or X	Response	A or D[2]
6		Section 3.1	The RRR Standard 2 GWP-Ind MSCs for perchlorate is 7,154 ug/kg and the RRR Standard 2 SAI-Ind for mercury 151 ug/kg. Both of these standards are cleanup levels that should be used for confirmation sampling. For clarity, it should be mentioned that the soil standards were developed to meet the RAOs and the cleanup level for each COC is based on the more stringent standards (for example, although the cleanup level for perchlorate is based on the value which would be protective of groundwater). At this level, it would also meet the other RAOs.	C	Please see response to EPA's Comment 1.	A
7		Section 3.3.3.1	Construction activities may be subject to storm water requirements. The State's general permit TXR150000 provides for coverage under delegated authority of the Clean Water Act and Chapter 26 of the Texas Water Code. Therefore, notices may be required for coverage under the State's general permit. Information relating to this requirement can be found at the TCEQ website: http://www.tceq.state.tx.us/permitting/water_quality/stormwater/WQ_stormwater_construction_guidance.html	C	The estimated area to be disturbed is approximately 1/4 acre. Even if the entire site is excavated, the excavation will still be less than an acre. Also, this activity is not part of a "common plan of development". Thus no permit is required. The following will be added to Section 3.3.3.1: "The estimated area to be disturbed is approximately 1/4 of an acre, and the provisions under the State General Permit TXR150000 are not applicable."	A
8		Section 3.3.3.2	It is stated that perchlorate contaminated soils will be considered non-hazardous and will be handled as a RCRA, Subtitle D Solid Waste. The TCEQ is authorized to regulate waste under the Texas Solid Waste Disposal Act ((Texas Health and Safety code Ch 361) consistent with RCRA. As such, the Texas regulation pertaining to regulating solid and hazardous waste must be included in the ARAR discussion. Please include the following requirements as ARARs: • Texas Health and Safety Code Ch 361, • Texas Water Code Ch 26, • Procedures for Planning and Implementing Offsite Response Action (the EPA Offsite Rule) (40 CFR 300.440), • Waste Classification (30 TAC 335 subch R), and	C	The following will be added at the end of the paragraph in section 3.3.3.2: "The following state requirements will be followed for handling of the waste generated from this action: • Texas Health and Safety Code, Subtitle B, Chapter 361 • Texas Water Code Chapter 26 • 40 CFR 300.440 - Procedures for Planning and Implementing Offsite Response Action • Texas Administrative Code, Title 30, Part 1, Chapter 335 (30 TAC 335), Rule §335.10 – Shipping and Reporting Procedures Applicable to Generators of Hazardous Waste or Class 1 Waste and Primary Exporter of Hazardous Waste • 30 TAC 335, Subchapter R, Waste Classification	A

Comment #	Page	Section/ Paragraph	Comment	C, D[1], E or X	Response	A or D[2]
			• Shipping and Reporting Procedures Applicable to Generator of Hazardous Waste or Class 1 Waste (30TAC 335.10).			
9		Section 4.1.1.2	Please note that the No Action alternatives would also result in perchlorate not be protective of human health from direct contact, and would not be in compliance with ARARs.	E	The SAI-Ind for perchlorate is 950 mg/kg or 950,000 ug/kg. The maximum perchlorate concentration detected from 0-2 bgs was 163,000 ug/kg. Thus, leaving it (no action) is protective of human health for an industrial use.	A
10		Section 4.1.2	It is stated that for confirmation, a discrete samples will be collected from every 750 square feet of the excavation floor area and a sample of each wall. We recommend that a grid system within the excavation area is set up and within each grid, a 5-point composite be collected from the excavated floor and walls.	C	Delete the 3rd and 4th sentence and replace with the following: "A 5-point composite sample will be collected from every 750 square feet of the excavation floor and of each wall." Also see response to EPA's Comment 4.	A
11		Section 4.1.2	It is stated that excavation would continue until confirmation samples demonstrate that contaminants remaining in the soils are below remedial goals or until groundwater is encountered. Please explain what action would results if groundwater is encountered before the remedial goals are achieved?	C	If groundwater is encountered before a confirmation floor sample is collected, a 5-point composite will be collected along each wall just above the groundwater interface. If these wall samples are above the cleanup level, the excavation will be over-excavated laterally at the groundwater interface until the wall samples are below the cleanup level.	A
12		Section 4.1.2	We believe confirmation samples should also be analyzed for mercury.	C	Please see response to EPA's Comment 4.	A
13		Section 4.1.2	Please refer to EPA's Offsite rule for additional considerations in the selection of the disposal facility.	C	The following bullet will be added under 4.1.2.1 – Disposal Facility Selection: • "Selection of the offsite disposal facility will follow the acceptability criteria in accordance with USEPA's Offsite Rule (40 CFR 300.440)".	A
14		Table 4-1	We believe that the preparation of a ROD for the site would occur regardless which of the alternative is chosen. Therefore, costs associated with the preparation of the ROD should not be included in this alternative. There are references in this table to "remedial action," should it read "removal action?"	C	Cost will be removed. A global check will be made to change "remedial action" to "removal action".	A

The following comments from TCEQ, Fay Duke, were made on the responses to the original comments. The responses to these comments are embedded in the TCEQ comments below. TCEQ, Fay Duke, verbally concurred with the responses on March 3, 2009 during the teleconference.

Below are TCEQ comments on the original responses to comments.
From: Fay Duke [mailto:FDUKE@tceq.state.tx.us]
Sent: Wednesday, November 12, 2008 10:58 AM
To: Srivastav, Praveen; Rose CIV USA OSA Zeiler
Cc: josiam.raji@epa.gov; Stephen Tzhone; Jones, Greg N; Everett, Kay; Daniel SWT Birnbaum; John Lambert
Subject: RTC-DF EE/CA Rpt LHAAP-04- TCEQ Review

Rose/Praveen,

We have completed our review of the response to comments (RTCs) on the Engineering Evaluation and Cost Estimates for LHAAP-4. Listed below are our responses to the RTCs.

TCEQ Comment No. 1 - The documentation provided by TCEQ was not the Agreed Order but the conditional approval letter for the closure of the Former Pilot Wastewater Treatment Plant. Please revise.
[Srivastav] Response: Agreed.

TCEQ Comment No. 2 - Concur.
[Srivastav] Response: Agreed.

TCEQ Comment No. 3 - We reviewed the response to EPA Comment No. 1 regarding the proposal of dealing with the potential contamination on the concrete pad and the soil beneath it. We believe that the proposed action does not fully address our concern. We believe it is imperative to evaluate the concrete pad for cracks and evidence of spills. If evidence are found, soil sampling should be conducted to ensure no contamination is underneath the concrete.
[Srivastav] Response: Shaw examined the concrete slab. We did not observe any signs of spills. Most of the slab seems to be without cracks, however, we did observe a few cracks. Photographs are attached. As discussed in our response to EPA's comment no. 1, any concerns regarding contamination under the slab will be addressed during soil removal backed up by confirmation sampling.

TCEQ Comment No. 4 - We respectfully disagreed with your response. Your statement regarding the lack of previous sources (e.g., tank or pipe run) prompted our review of the Closure Report for the PWTP. Based on our review, we believe the initial excavation area may require re-evaluation. Based on the closure report, there's a pipe leading from the PWTP to the south tank. There are no indication that the pipe was removed.
[Srivastav] *Response: The pipe referenced in the comment is not in the area where TCEQ provided an example of vertically increasing concentration. Figure 1 in the closure report indicates that the pipe was removed. Any additional vertical or horizontal contamination encountered during the excavation will be addressed during soil removal/confirmation sampling.*

However, samples were taken two feet below the pipe. Samples taken along the pipeline are subsurface soil samples (appx. 8 feet bgs) and are not surface soil samples as represented in the EECA. Please revise.
[Srivastav] Response: *Agreed.*

TCEQ Comment No. 5 - We respectfully disagree with your response. High concentrations of perchlorate have been detected in some deep soil that are near or at saturation depth. We believe that additional wells are needed to ensure that groundwater are not impacted.

[Srivastav] Response: *Shaw will modify the EE/CA to state that a shallow monitoring well will be installed within the site after the soil removal action to evaluate the effectiveness of the removal of soil-to-groundwater pathway. Details of monitoring program will be included in the removal action work plan.*

TCEQ Comments No. 6 through No. 14 - Concur.

[Srivastav] Response: *Great.*

Please let us know if you should have any questions or wish to discuss these comments.

Fay Duke (MC-136)
EC I, Remediation Division
TCEQ
PO Box 13087
Austin, Texas 78711-3087
512-239-2443
512-239-1212 (Fax)

Attached - Photos of slab

00072271

FINAL

ENGINEERING EVALUATION AND COST ANALYSIS
LHAAP-04, FORMER PILOT WASTEWATER TREATMENT PLANT, GROUP 4
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

Prepared for

U.S. Army Corps of Engineers
Tulsa District
1645 South 101st Avenue
Tulsa, Oklahoma

Prepared by

Shaw Environmental, Inc.
3010 Briarpark, Suite 400
Houston, Texas 77042

Contract No. W912QR-04-D-0027, Task Order No. DS02
Shaw Project No. 117591

March 2009

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Appendix B 2007 and 2008 Water Sampling Data
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Acronyms and Abbreviations

µg/kg	microgram per kilogram
ACE	Anderson Columbia Environmental, Inc.
ARAR	applicable or relevant and appropriate requirements
AST	aboveground storage tank
BERA	Baseline Ecological Risk Assessment
bgs	below ground surface
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
EE/CA	Engineering Evaluation and Cost Analysis
ºF	degrees Fahrenheit
GWP-Ind	soil MSC for industrial use based on groundwater protection
GWTP	groundwater treatment plant
HHRA	Human Health Risk Assessment
Jacobs	Jacobs Engineering Corporation
LHAAP	Longhorn Army Ammunition Plant
LHAAP-04	Former Pilot Wastewater Treatment Plant
MARC	Multiple Award Remediation Contract
MSC	Texas Risk Reduction Rule Standard No. 2 Medium-Specific Concentration
Plexus	Plexus Scientific Corporation
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RAO	Removal Action Objective
SAI-Ind	soil MSC for Industrial Use Based on Inhalation, Ingestion, and Dermal Contact
Shaw	Shaw Environmental, Inc.
STEP	Solutions to Environmental Problems
TBC	to be considered
TCEQ	Texas Commission on Environmental Quality
TNRCC	Texas Natural Resource Conservation Commission
TO	Task Order
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1.0 Introduction

Shaw Environmental, Inc. (Shaw) has been contracted by the U.S. Army Corps of Engineers (USACE) Tulsa District to complete the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) response at multiple sites at the former Longhorn Army Ammunition Plant (LHAAP) near Karnack, Texas (see **Figure 1-1**). This Engineering Evaluation and Cost Analysis (EE/CA) for the Former Pilot Wastewater Treatment Plant (LHAAP-04) is a part of the response. This work is being performed under the Louisville District's Multiple Award Remediation Contract (MARC) No. W912QR-04-D-0027, Task Order (TO) DS02, with oversight by the USACE, Tulsa District.

LHAAP, is an inactive, government-owned, formerly contractor-operated and -maintained industrial facility. During the active operations at LHAAP, wastewater from sumps throughout LHAAP was treated at LHAAP-04, the Former Wastewater Treatment Plant. In 1997 closure activities and sampling were conducted (Anderson Columbia Environmental Inc. [ACE], 1997). The results of sampling by ACE indicated that mercury contamination remains in the soil near the slab. The Remedial Investigation Report Addendum for the Group 4 Sites, finalized in February 2002 (Jacobs Engineering Corporation [Jacobs], 2002), identified an area of perchlorate-contaminated soil at LHAAP-04.

The purpose of this EE/CA is to evaluate removal action alternatives for the mercury and perchlorate-contaminated soil at LHAAP-04. Levels of mercury in the surface soils are at levels above the Texas Risk Reduction Rule Standard No. 2 Medium-Specific Concentrations (MSC) for soil for Industrial Use based on inhalation, ingestion, and dermal contact (SAI-Ind). The perchlorate-contaminated soil at LHAAP-04 is a potential source of groundwater contamination as perchlorate in the vadose zone has the potential to migrate to the groundwater and be transported to streams located downgradient of the site. Since contamination has been identified in the surface soils, runoff across the site could carry contamination to the surface water. Actual or impending releases of site-related contaminants, if not addressed by implementing the response action selected in this EE/CA, may present an unnecessary and avoidable risk to public health or welfare, and/or the environment.

There have been no removal actions initiated at this site. The actions at this site are being performed through the initiative of the Army. Participation of and cooperation with Federal, State, and local authorities and the local public will be actively pursued for the duration of this activity and for all environmental restoration activities at this facility. Participation of these entities is required for the environmental restoration process and aids in ensuring the protection of human health and the environment. Federal and State authorities will have input into the actions implemented at the facility through pre-planning meetings, plan review, and the public

comment process. The concerns of the Federal and State authorities and citizens will be solicited and the provisions of Federal and State regulations will be given full consideration for all actions taken at this facility.

This EE/CA complies with the requirements of the Removal Action Procedures contained in Title 40, Code of Federal Regulations (CFR), 300.410 and 300.415, the Office of Solid Waste and Emergency Response Directive number 9318-0-05 and other related guidance. Specifically, the requirements of the Removal Action Procedures contained in 40 CFR 300.410 were met through the information gathered during the various investigations (see **Section 2.3**) completed at the site.

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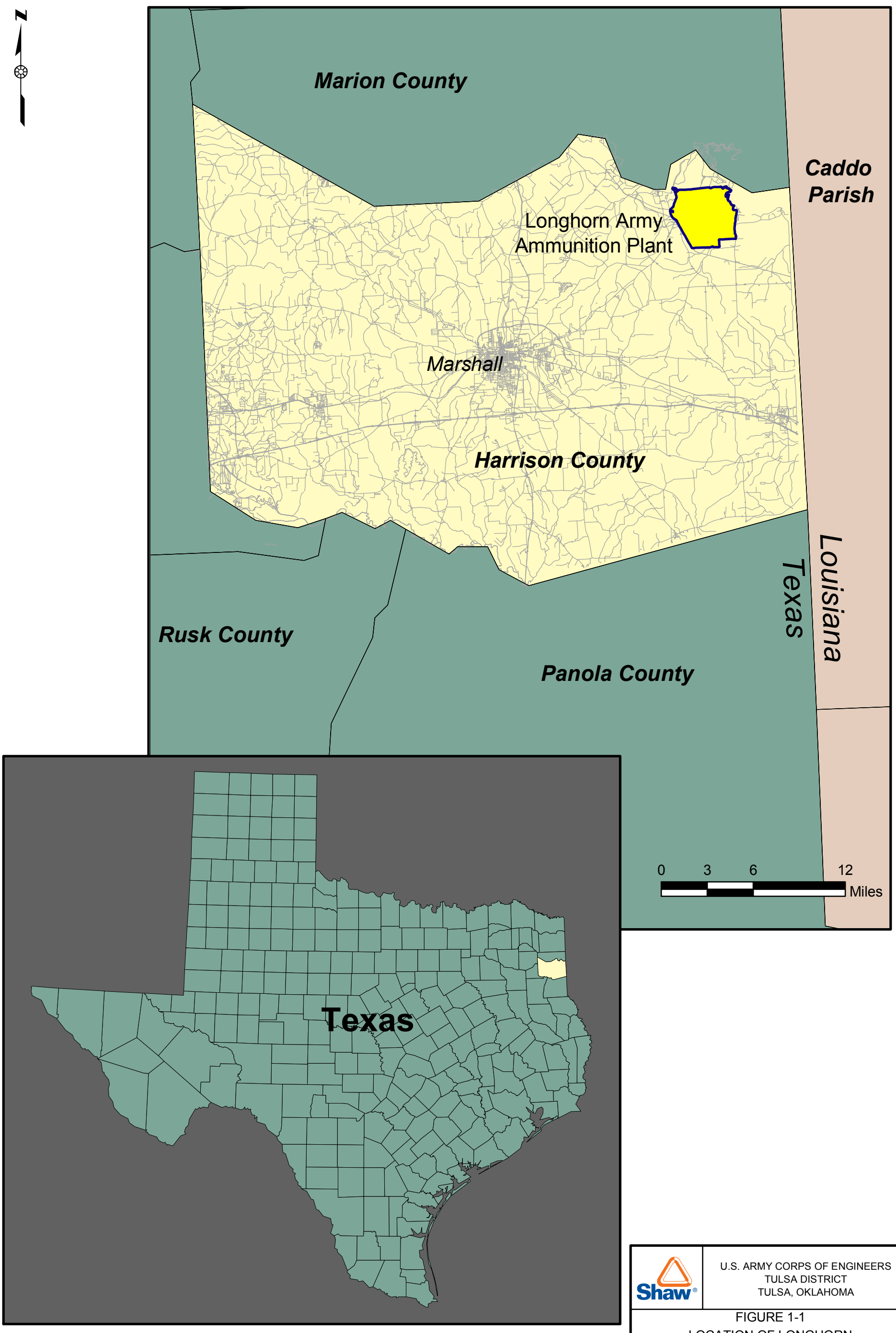

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

FIGURE 1-1
LOCATION OF LONGHORN ARMY AMMUNITION PLANT, HARRISON COUNTY, TEXAS

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

2.0 Site Characterization

The Former Pilot Wastewater Treatment Plant (LHAAP-04) occupies approximately 1/2 an acre in the central portion of LHAAP at the northwest corner of 6th and 60th Streets adjacent to the former fire station (**Figure 2-1**). This section summarizes available data on the physical and other characteristics of the site and surrounding areas.

2.1 Site Description and Background

2.1.1 History and Description of Activities

In 1984, the Former Pilot Wastewater Treatment Plant began operation. Wastewater from sumps throughout LHAAP was trucked to the plant for treatment. After the wastewater settled, it was transferred to one of two storage tanks, and then pumped through a heat exchanger to an evaporation tower. Solids were shipped off site for disposal. Sludge from the settling tanks was blown down and drummed weekly, then burned at Burning Ground No. 3 (LHAAP-18/24) (Plexus Scientific Corporation [Plexus], 2005). **Figure 2-2** shows the layout of the previous operations (ACE, 1997).

The demolition and disposal of the Former Pilot Wastewater Treatment Facility and its associated hazardous waste was completed in the summer of 1997 as part of the Resource Conservation and Recovery Act (RCRA) closure of the plant. Three aboveground storage tanks (ASTs) were emptied, cleaned, and removed as part of the site closure in September 1997 (ACE, 1997). The concrete slab on the north side of LHAAP-04 was left in place. According to the LHAAP installation plan, the Former Pilot Wastewater Treatment Plant was removed and closed in 1998 under a conditional approval letter from Texas Natural Resource Conservation Commission (TNRCC). The Texas Commission on Environmental Quality (TCEQ) was formerly known as TNRCC. The conditional approval letter is included in **Appendix A** and limits the closure to the plant and defers contaminated soil to the CERCLA program. This is the contamination being addressed in the EE/CA.

2.1.2 Physical Characteristics

Physiography and Topography. LHAAP is characterized by mixed pine-hardwood forests that cover gently rolling to hilly terrain with an average slope of three percent towards the northeast. Slopes as steep as 12 percent are common in the western and northwestern portions of the installation and along the Harrison Bayou floodplain. The ground surface across LHAAP-04 is relatively flat.

Soils. The soil at LHAAP-04 includes interbedded layers of silty clays and sands.

Surface Water Hydrology. There are no surface water bodies present within LHAAP-04. LHAAP-04 drains to the southern branch of Goose Prairie Creek, which flows into Caddo Lake. Caddo Lake is a part of Big Cypress Bayou and is considered a wetland of international significance.

Geology. The subsurface geology at LHAAP consists primarily of a thin veneer of Quaternary alluvium mantling Tertiary age formations of the Wilcox and Midway Groups. The Wilcox Group underlies most of the installation (Jacobs, 2002). Underlying these sediments are Cretaceous age formations of the Navarro and Taylor Groups, respectively. The thickness of the Wilcox Group varies from 350 feet in the northwest corner of the installation to 130 feet along the east side near Caddo Lake. This formation consists of interbedded fine-to medium-grained sand, silt, and clay. The shallow soil at LHAAP-04 includes interbedded layers of silty clays and sands (Shaw, 2006).

Hydrogeology. The unconsolidated sediment of the Wilcox Group typically consists of a series of three sandy water-bearing zones separated by semiconfining layers. Groundwater generally occurs under semiconfined conditions. Perched and localized confining conditions frequently occur within the Wilcox Group deposits due to a high clay content and highly variable stratigraphy. The depth to groundwater across the facility varies with typical depths being 12 to 16 feet in the shallow zone. The regional groundwater flow direction beneath the facility is generally east-northeast towards Caddo Lake but varies by site location (Jacobs, 2002). Groundwater flow within the shallow groundwater-bearing zone at LHAAP-04 was determined during the Data Gaps Investigation (Shaw, 2007a) to be to the southwest (**Figure 2-3**). This groundwater gradient was confirmed in 2007 when additional groundwater elevation data were collected (**Figure 2-4**). As indicated on **Figure 2-4**, the groundwater elevation is higher northeast of the LHAAP-04. Two wells are indicating this rise in elevation, LHSMW01 (total depth 16 feet bgs) and 04WW02 (total depth 23 feet bgs). Both borings indicate clay to about 16 feet bgs. Even though 04WW02 was screened deeper (13 to 23 feet bgs) than LHSMW01 (4.5 to 14.5 feet bgs), there is only about 1 foot difference in the water level, and both wells are representative of the shallow groundwater bearing zone, as are wells LHSMW02, 04WW01, and 04WW03. A cross-section of the shallow zone is shown on **Figure 2-5**. A table of the 2007 field readings is included in **Appendix B**. There are no intermediate or deep zone wells at the site and thus the groundwater gradients for these groundwater-bearing zones at LHAAP-04 have not been established.

Groundwater Use. Groundwater near LHAAP is currently used as a drinking water source. There are currently five active water supply wells near LHAAP. One well is located in and owned by Caddo Lake State Park. The well is completed to a depth of 315 feet and has been in use since 1935. A second well owned by the Karnack Water Supply Corporation services the town of Karnack and is located approximately 2 miles southeast of town. This well is

approximately 430 feet deep and has been in use since 1943. The Caddo Lake Water Supply Corporation has three wells located both north and northwest of LHAAP. These three wells are identified as Caddo Lake Water Supply Corporation Wells 1, 2, and 3 and are all hydraulically upgradient to LHAAP. Due to the remote locations of these wells from LHAAP, water removal from these wells is not expected to affect groundwater flow at the site. In addition, several livestock and domestic wells are located in the vicinity of LHAAP with depths averaging approximately 250 feet. There are two water supply wells located at LHAAP that are currently in use for buildings active on the installation. (Jacobs, 2002)

Meteorology. The geographic location of LHAAP provides mild winters and hot summers with an average relative humidity of 55 percent. In the winter, the average temperature is 46 degrees Fahrenheit (ºF) with an average low of 35ºF. In the summer, the average temperature is 81ºF with an average high of 92ºF. The total average annual precipitation is 46.9 inches with summer and fall often being the drier seasons. Snow is infrequent with an average seasonal snowfall of 1.5 inches.

2.2 Previous Removal Actions

There have been no removal actions undertaken at this site to date. However, a pilot study was conducted by Valentine Nzengung, K.C. Das, and James Kastner of the University of Georgia in 2000 and 2001 (Nzengung, et al., 2001). Three carbon sources (ethanol, horse manure, and chicken manure) were selected for pilot testing at the site and added to the top 12 inches of soil. Water was added to obtain saturation to 24 inches. Sampling was conducted in three layers: 0 to 12 inches, 12 to 24 inches, and 24 to 36 inches. After ten months, complete removal or a reduction in perchlorate concentrations in the surface soil was observed in several grids. Varied perchlorate reduction was observed in the deeper layers. Approximate location of the pilot study plot is shown on **Figure 2-6**. The perchlorate concentrations after the pilot test are also shown on **Figure 2-6**.

2.3 Source, Nature, and Extent of Contamination

Various sampling events were conducted at LHAAP-04 since 1993 to assess contamination from the operations at LHAAP-04. The sampling included installation and sampling of groundwater monitoring wells and sampling of the soil at various depths and locations. Soil boring locations are presented in **Figure 2-6**. Monitoring well locations at LHAAP-04 are included in **Figure 2-7**.

Following closure of LHAAP-04, soil sampling was performed (ACE, 1997). A total of 12 soil borings were advanced around the concrete pad and soil samples were collected at 12 inches below ground surface (bgs), five samples were collected below the pipe leading from the facility to the 40,000 gallon AST (approximately 6 feet bgs), and four samples were collected around the

40,000 gallon AST. Pesticides, herbicides, polychlorinated biphenyls and semivolatile organic compounds were not detected in the soil samples. Metals, total petroleum hydrocarbon, and volatile organic compounds (VOCs) were detected in soil samples. VOC detections were mostly acetone. The results were compared to SAI-Ind and mercury exceeded its SAI-Ind (150 micrograms per kilogram [µg/kg]) at soil borings SB-11, SB-12, and SB-13 (89,000 µg/kg, 300 µg/kg, and 400 µg/kg, respectively), which are adjacent to the concrete slab near the two tanks. SB-11, the location with the highest mercury concentrations, was analyzed using the toxicity characteristic leaching procedure, and mercury did not exhibit hazardous characteristics.

Samples were collected in 1993 from two soil borings associated with Sump 122 (LH-S122-01 and LH-S122-02) within 10 feet of the edge of the concrete slab, in the area where high mercury was detected at SB-11. These samples had no mercury detections. Therefore, the area of mercury contamination appears to be localized to a small area adjacent to the concrete slab (see **Figure 2-6**). Furthermore, the soil samples from the sumps were not above their risk based values and no further action for soils associated with Sump 122 are required (Shaw, 2008).

Soil and groundwater samples were collected from LHAAP-04 as part of the site investigation and remedial investigation conducted by Jacobs between 1995 and 2000 (Jacobs, 2002). Following the Jacobs investigations, a plant-wide perchlorate investigation was conducted in 2001 by Solutions to Environmental Problems (STEP) to collect supplemental information for sites suspected of or identified as having perchlorate contamination (STEP, 2005). In 2004, Shaw conducted data gaps investigations to collect data that would facilitate a better understanding of the nature and extent of contamination at various LHAAP sites, including LHAAP-04 (Shaw, 2007a). A summary of the results from these sampling events follows.

As part of Phase III site investigations in 2000, 16 soil samples were collected from six locations adjacent to the Former Pilot Wastewater Treatment Plant and analyzed for perchlorate (Jacobs, 2002). These included four samples collected in June 2000 from two locations (04SB01 and 04SB02) at depth intervals of 0 to 0.5 feet and 1 to 2 feet. Another twelve soil samples were collected in December 2000 from four locations (04SB03 through 04SB06) at depth intervals of 0 to 0.5 feet, 1 to 3 feet, and 3 to 5 feet. Perchlorate was detected at all sampling locations. In the 0- to 0.5-foot sampling interval, the highest concentration of perchlorate detected was 45,400 µg/kg at sample location 04SB02, south of the facility. In the 1- to 2-foot or 1- to 3-foot sampling interval, the highest concentration detected was 144,000 µg/kg at 04SB01. Data review indicates that the samples collected from the 1- to 2- or 1- to 3-foot sampling interval contained the highest perchlorate concentrations. While perchlorate is only intermittently present at the deepest sampling interval of 3 to 5 feet, concentrations show no consistent variation with depth (Jacobs, 2002).

A subsequent plant-wide perchlorate investigation was performed to confirm the presence and concentrations of perchlorate contaminants, characterize releases that may have occurred, and further delineate the extent of the perchlorate contamination in soil and groundwater (STEP, 2005). Field sampling for this investigation was conducted in two events to determine if seasonal fluctuations would affect the concentrations of perchlorate in the environment. Sampling for the wet season was conducted in March 2002, and sampling for the dry season was conducted in September 2002. Depth to groundwater for the wet season varied from 5 to 8 feet bgs. For the dry season, depth to groundwater varied from 9 to 10 feet bgs. Perchlorate was not detected in the groundwater monitoring wells except for LHSMW01 at 81 micrograms per liter. Soil sampling was conducted on a 150-foot by 225-foot soil sampling grid (on 75-foot centers). Soil samples were collected from 0 to 0.5 feet and from 1 to 2 feet deep. Sampling locations, STEP-04SS03 and STEP-04SS09, were placed near points sampled during previous investigations (04SB02 and 04SB01, respectively). An additional sample was collected at these two locations from a depth of 4 to 5 feet. To determine whether perchlorate was leaving the site due to surface flow, three additional locations (STEP-04SS13, STEP-04SS14, and STEP-04SS15) were sampled in the surface drainage paths from the site. The soil samples collected during the wet season sampling event confirmed high concentrations of perchlorate in the soil with a maximum of 163,000 µg/kg of perchlorate detected at STEP-04SS06 at 0 to 0.5 feet bgs. STEP concluded that the lateral extent of perchlorate contamination has been defined and that additional investigation was necessary to determine the vertical extent of soil contamination.

Following the STEP investigation, a groundwater investigation at LHAAP-04 was performed in 2004 as part of the Data Gaps Investigation (Shaw, 2007a). Additional soil sampling was proposed to better delineate the vertical extent of the perchlorate contaminated soil to be used to develop a remediation plan (Shaw, 2006). Soil samples were collected in 2006 and 2007 to better define the vertical extent. The soil data from 2006 and 2007 investigations are included in **Appendix C**. Additionally, groundwater samples were collected from LHSMW01 in 2007 and LHSMW02 in 2008 and analyzed for perchlorate. The 2007 and 2008 groundwater data are included in **Appendix B**. Perchlorate was detected at a low concentration in LHSMW02 in 2008, but was not detected in any of the wells sampled in 2004 and 2007. Perchlorate groundwater concentrations are shown on **Figure 2-7**. The soil samples collected, 04SB07 through 04SB13, were at various depths up to 24.5 feet bgs. The samples detected perchlorate in the soil at low concentrations at a depth of 24.5 feet near the concrete slab (**Figure 2-6**). The groundwater wells, 04WW01, 04WW02, and 04WW03 were screened at 13 to 23 feet bgs in the first saturated zone (Jacobs, 2002). Even though the soil results indicate that perchlorate contaminated soil is within the saturated zone, there has not been any impact indicated in the groundwater.

2.4 Streamlined Risk Evaluation

A Human Health Risk Assessment (HHRA) was performed to evaluate the potential human health effects associated with chemical contamination at LHAAP-04. The anticipated future use of the site is as a wildlife refuge; therefore, human health risks were calculated for industrial use by the future maintenance worker (Jacobs, 2003). The risk assessment was based on data collected from investigations prior to 2001. The calculated risk was compared to the U.S. Environmental Protection Agency (USEPA) target risk range of 1×10^{-4} to 1×10^{-6} for the excess lifetime cancer risk and a hazard index of 1. The carcinogenic risk was within the acceptable range with risk values of 1.45×10^{-5} from groundwater and 1.2×10^{-6} from soil, both due to 2,3,7,8-TCDD. The non-carcinogenic hazard was below 1 (0.28 from soil and 0.019 from groundwater). Thus, the risk assessment concluded that potential cancer risk and noncancer hazards estimated for potential exposure of a future maintenance worker to on-site soil and groundwater are within the acceptable limits (Jacobs, 2003).

The risk assessment was prepared before additional data collected as part of the plant-wide perchlorate investigation by STEP and the Shaw investigations were available (STEP, 2005; Shaw, 2007a). These additional investigations confirmed elevated concentrations of perchlorate in on-site surface soil (Shaw 2007a; STEP, 2005). The maximum concentration of perchlorate in soil used in the risk assessment (144,000 µg/kg) is only slightly less than the maximum detected in subsequent sampling (163,000 µg/kg), which is above the soil MSC for industrial use based on groundwater protection (GWP-Ind) of 7,200 µg/kg for perchlorate (TCEQ, 2006). This comparison indicates that the soil containing perchlorate has the potential to impact groundwater. However, it should be noted that perchlorate levels in soil do not pose a human health or ecological risk.

The risk assessment was prepared from investigation data and did not consider the closure report data (ACE, 1997). The comparison of the closure report data to the SAI-Ind indicates mercury contamination in surface soil.

The ecological risk for site LHAAP-04 was addressed in the installation-wide Baseline Ecological Risk Assessment (BERA) (Shaw, 2007b). For the BERA, the entire Installation was divided into three large sub-areas (i.e., the Industrial Sub-Area, Waste Sub-Area, and Low Impact Sub-Area) for the terrestrial evaluation. The individual sites at LHAAP were grouped into one of these sub-areas, which were delineated based on commonalities of historical use, habitat type, and spatial proximity to each other. The conclusions regarding the potential for chemicals detected at individual sites to adversely affect the environment must be made in the context of the overall conclusions of the sub-area in which the site falls. Site LHAAP-04 lies within the Industrial Sub-Area. The BERA concluded that no unacceptable risk was present in

the Industrial Sub-Area (Shaw, 2007b) and therefore, no further action is needed at LHAAP-04 for the protection of ecological receptors.

00072285

LEGEND

- Road
- Building or Concrete Slab
- Site

0 40 80 160 Feet

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TULSA DISTRICT
TULSA, OKLAHOMA

FIGURE 2-1

SITE LOCATION
LHAAP-04

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		FILE PATH
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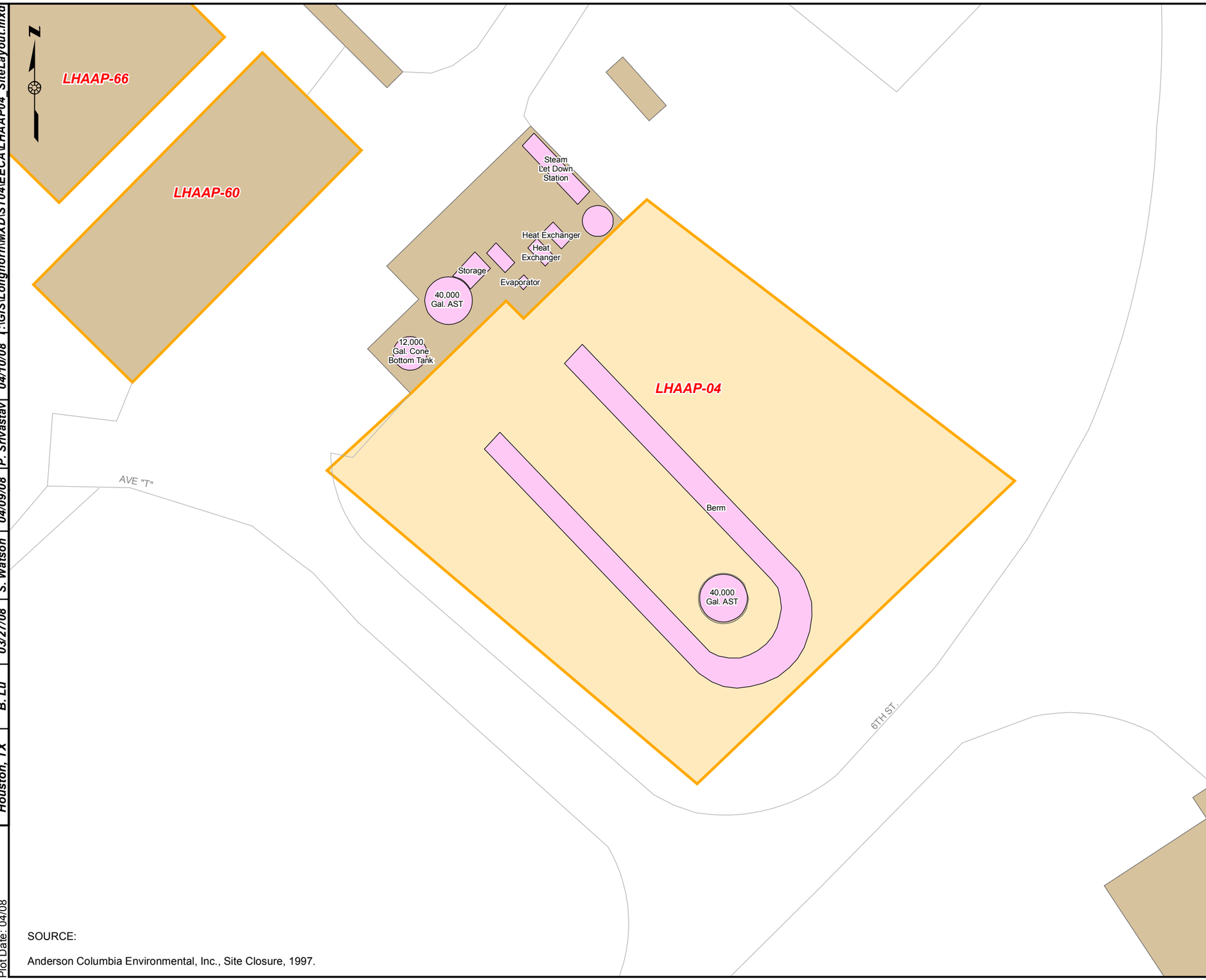
Plot Date: 04/08

00072286



LEGEND

- Road
- Former Operation Structure
- Building or Concrete Slab
- Site

AST -- Aboveground Storage Tank

0 15 30 60 Feet

SOURCE:

Anderson Columbia Environmental, Inc., Site Closure, 1997.

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		FILE PATH
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Plot Date: 04/08

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TULSA DISTRICT
TULSA, OKLAHOMA

FIGURE 2-2

SITE LAYOUT OF FORMER OPERATIONS
LHAAP-04

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

00072287

LEGEND

- Shallow Monitoring Well
- 207 Groundwater Elevation Contour
- Road
- Building or Concrete Slab
- Site
- Inferred Groundwater Flow Direction

NOTES:

1. Groundwater contour elevations reported in feet.
2. Groundwater contour elevations are based on data collected from shallow monitoring wells at LHAAP-04 and LHAAP-35A.

0 50 100 200 Feet

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TULSA DISTRICT
TULSA, OKLAHOMA

FIGURE 2-3

GROUNDWATER ELEVATION MAP
SEPTEMBER, 2005 (SHALLOW ZONE)
LHAAP-04

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

REFERENCE:

Shaw, 2007, Final Data Gaps Investigation Report, Longhorn Army Ammunition Plant, Karnack, Texas, April.

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		FILE PATH
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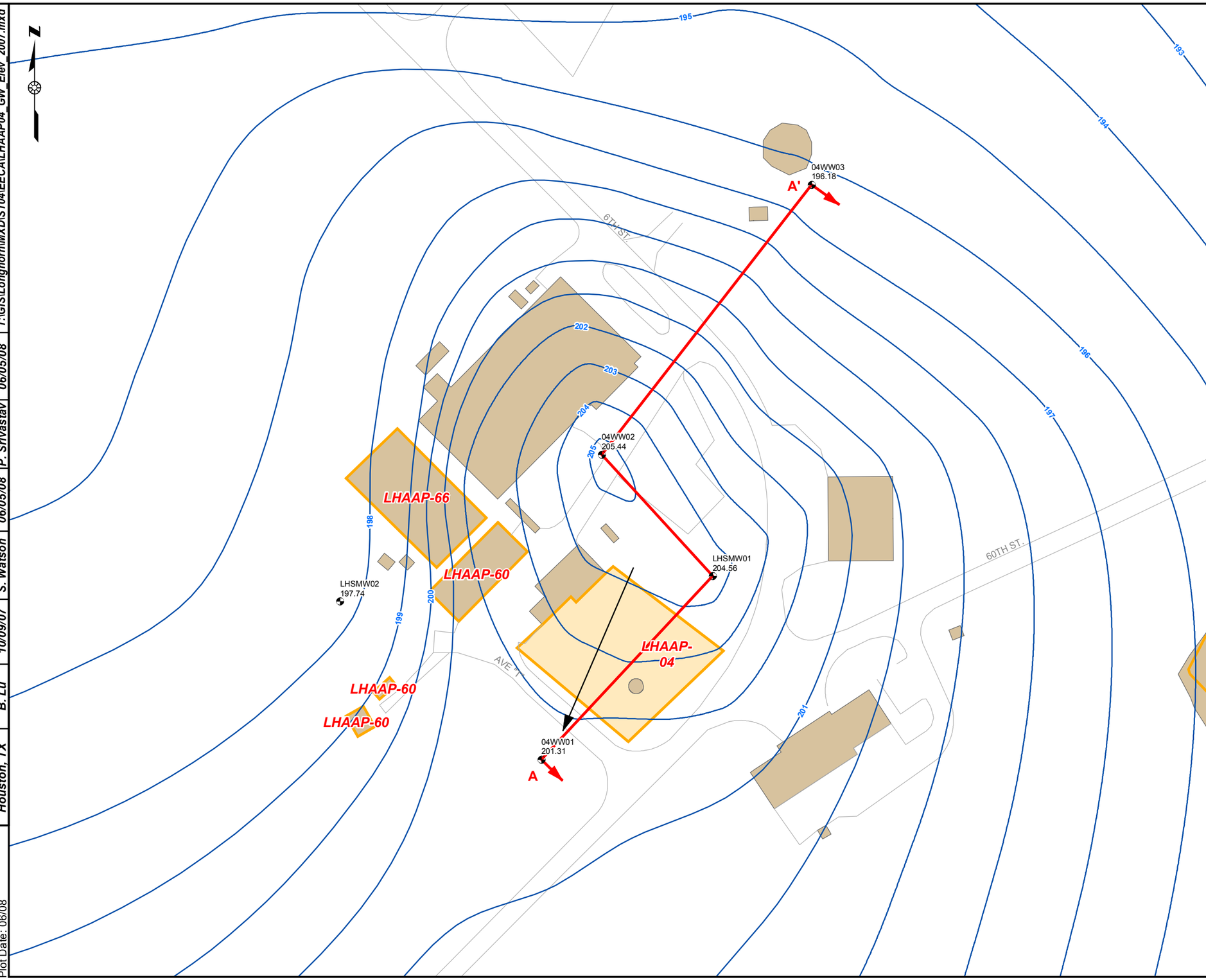
Plot Date: 04/08

00072288



LEGEND

- Shallow Monitoring Well
- Cross-Section Location
- 207 Groundwater Elevation Contour
- Road
- Building or Concrete Slab
- Site
- Inferred Groundwater Flow Direction

NOTES:

1. Groundwater contour elevations reported in feet.
2. Groundwater contour elevations are based on data collected from shallow monitoring wells at LHAAP-04 and LHAAP-35A.

0 50 100 200 Feet

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FIGURE 2-4
GROUNDWATER ELEVATION MAP
NOVEMBER/DECEMBER, 2007
(SHALLOW ZONE)
LHAAP-04
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	FILE PATH
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Plot Date: 06/08

00072289

PLOT DATE: 06/03/08 FORMAT REVISION	IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER	117591-A32
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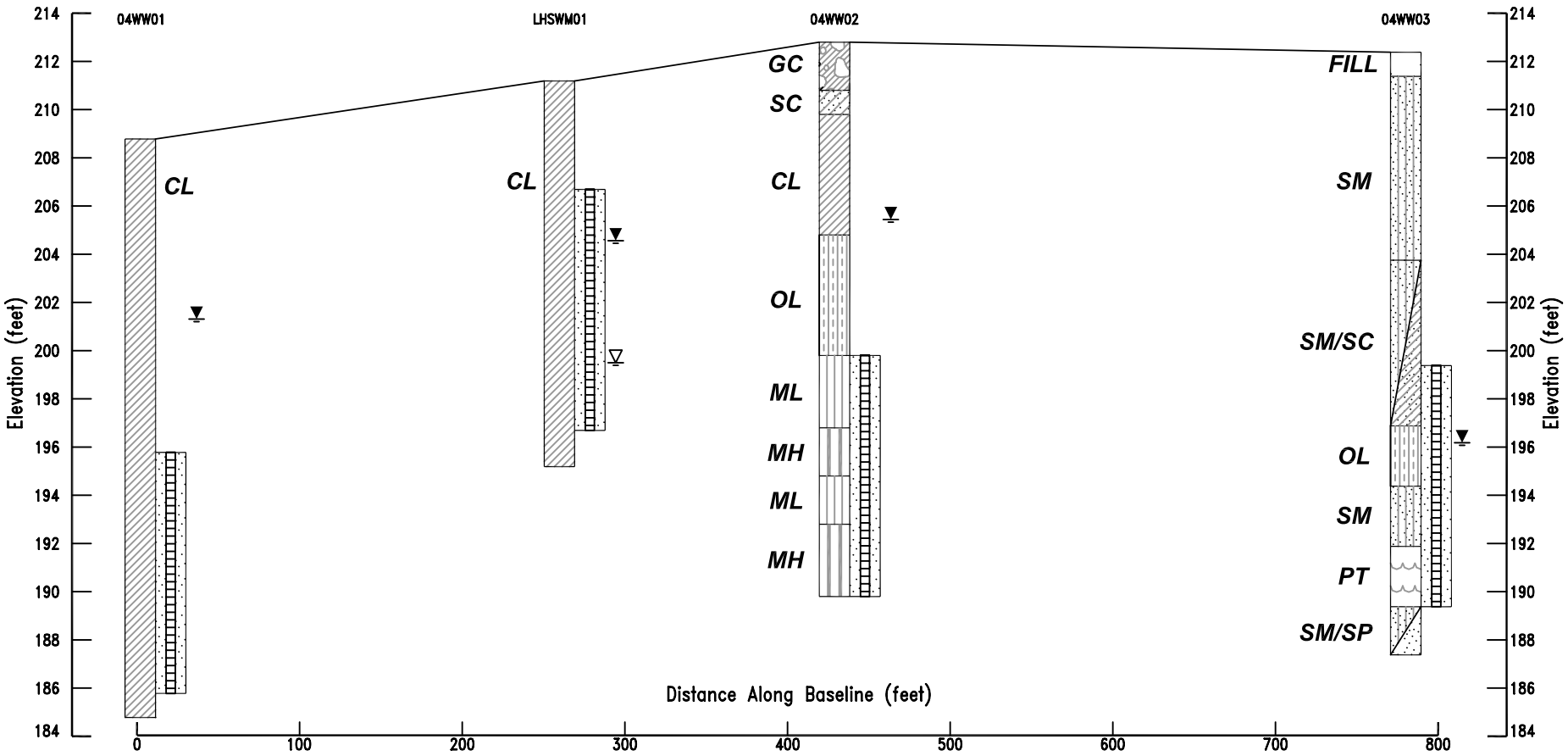

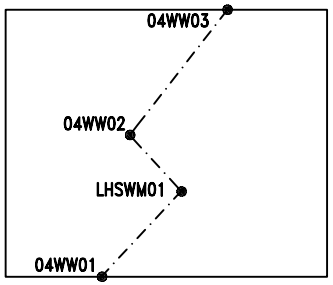

LEGEND:

- (CL) INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
- (SC) CLAYEY SANDS
- (SM) SILTY SANDS
- (SP) POORLY GRADED SANDS OR GRAVELY SANDS
- (ML) INORGANIC SILTS AND FINE SANDS
- (MH) INORGANIC SILTS
- (OL) ORGANIC SILTS AND ORGANIC SILTY CLAYS
- (PT) PEAT AND OTHER HIGHLY ORGANIC SOILS
- (GC) CLAYEY GRAVELS
- INITIAL WATER LEVEL
- STATIC 11/12/2007
- SCREEN AND FILTER PACK

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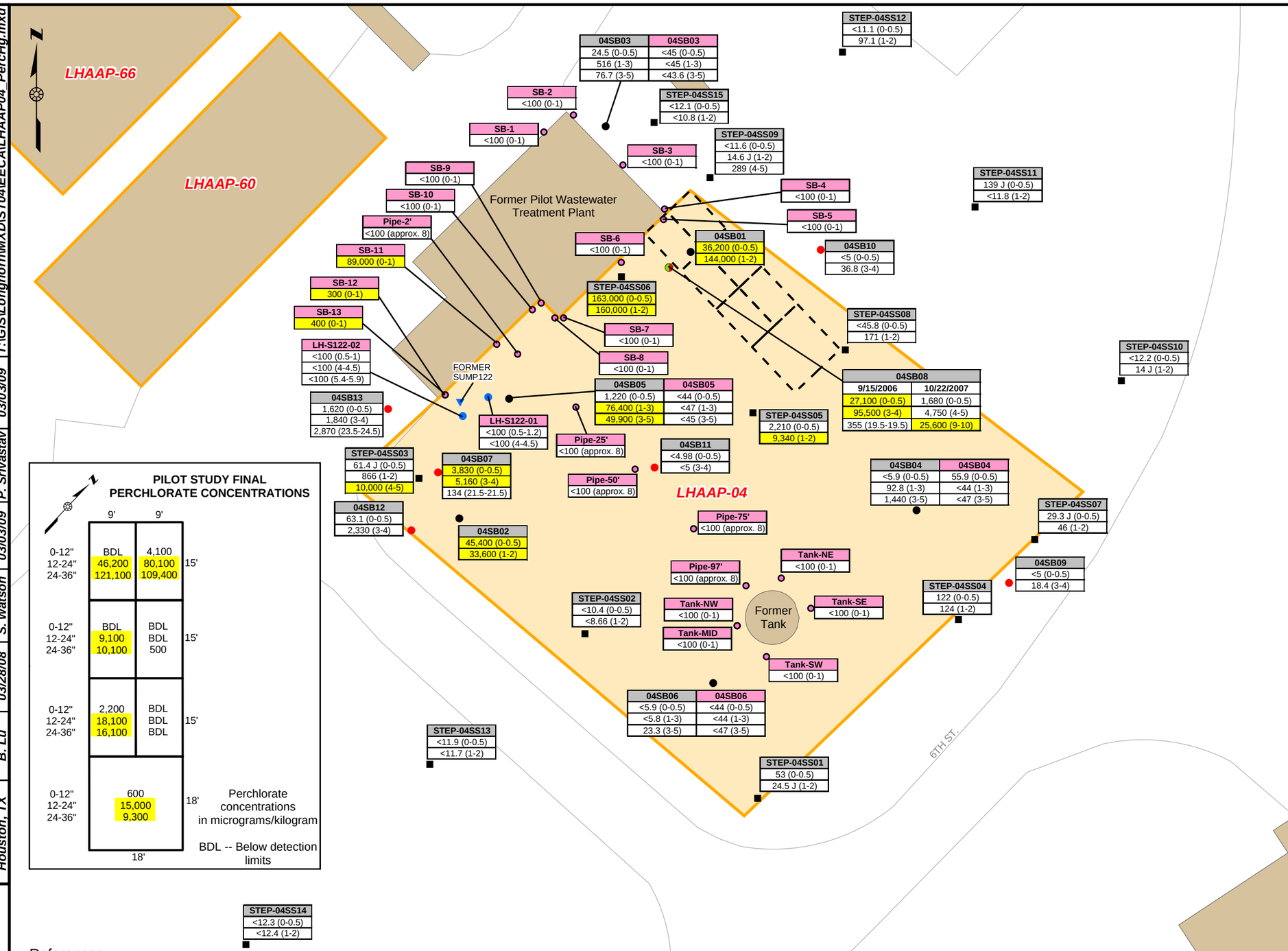
FIGURE 2-5
CROSS SECTION A-A'
(SHALLOW ZONE)
LHAAP-04
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS



LEGEND

00072290

- Former Sump Location
- Soil Boring Associated to Sump122
- 2007 Soil Sampling Location (Shaw, 2007)
- 2006 Soil Sampling Location (Shaw, 2006)
- 2002 Surface Soil Sample (STEP, 2003)
- 2000 Soil Boring (Jacobs, 2002b)
- 1997 Soil Boring (ACE, 1997)
- Road
- Approximate Location of Pilot Study Plot
- Building or Concrete Slab
- Site
- 04SB09 <10 (0-0.5) 18.4 (3-4) — Perchlorate Sampling Results
- SB-1 <100 (0-1) — Mercury Sampling Results
- Concentrations Exceeding Medium-Specific Concentration (See Notes 4 & 5)

NOTES:

1. Concentrations reported in micrograms per kilogram (µg/kg).
2. Depth intervals are in feet below ground surface.
3. Pilot study plot information is from "Pilot Scale In-Situ Bioremediation of Perchlorate-Contaminated Soils at the Longhorn Army Ammunition Plant" by V. Nzengung, K. C. Das, and J. R. Kastner of University of Georgia, 2001.
4. 150 µg/kg Mercury soil medium-specific concentration for industrial use based on inhalation, ingestion, and dermal.
5. 7,200 µg/kg Perchlorate soil medium-specific concentration for industrial use based on groundwater protection.

0 15 30 60 Feet

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

FIGURE 2-6
HISTORICAL SAMPLING LOCATIONS AND PERCHLORATE AND MERCURY CONCENTRATIONS IN SOIL
LHAAP-04
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

References:

Jacobs Engineering Group, Inc., 2002b, Final Remedial Investigation Report Addendum for the Group 4 Sites Remedial Investigation Report: Sites 04, 08, 67, and Hydrocarbon Study, Longhorn Army Ammunition Plant, Karnack, Texas, Oak Ridge, TN, Feburary.
Solutions to Environmental Problems, Inc. (STEP), 2005, Draft Final Project Report, Plant-Wide Perchlorate Investigation, Longhorn Army Ammunition Plant, Karnack, Texas, Oak Ridge, TN, April.
Anderson Columbia Environmental, (ACE), 1997, Closure Report, Pilot Wastewater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, TX, EPA Identification TX 6213820 5B3, Solid Waste Registration No. 30990, September.
Shaw, 2008, Final Data Evaluation Report, Chemical Concentrations in Soil Associated with LHAAP-35/36 Sumps, Longhorn Army Ammunition Plant, Karnack, Texas, Houston, Texas, January.

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	FILE PATH
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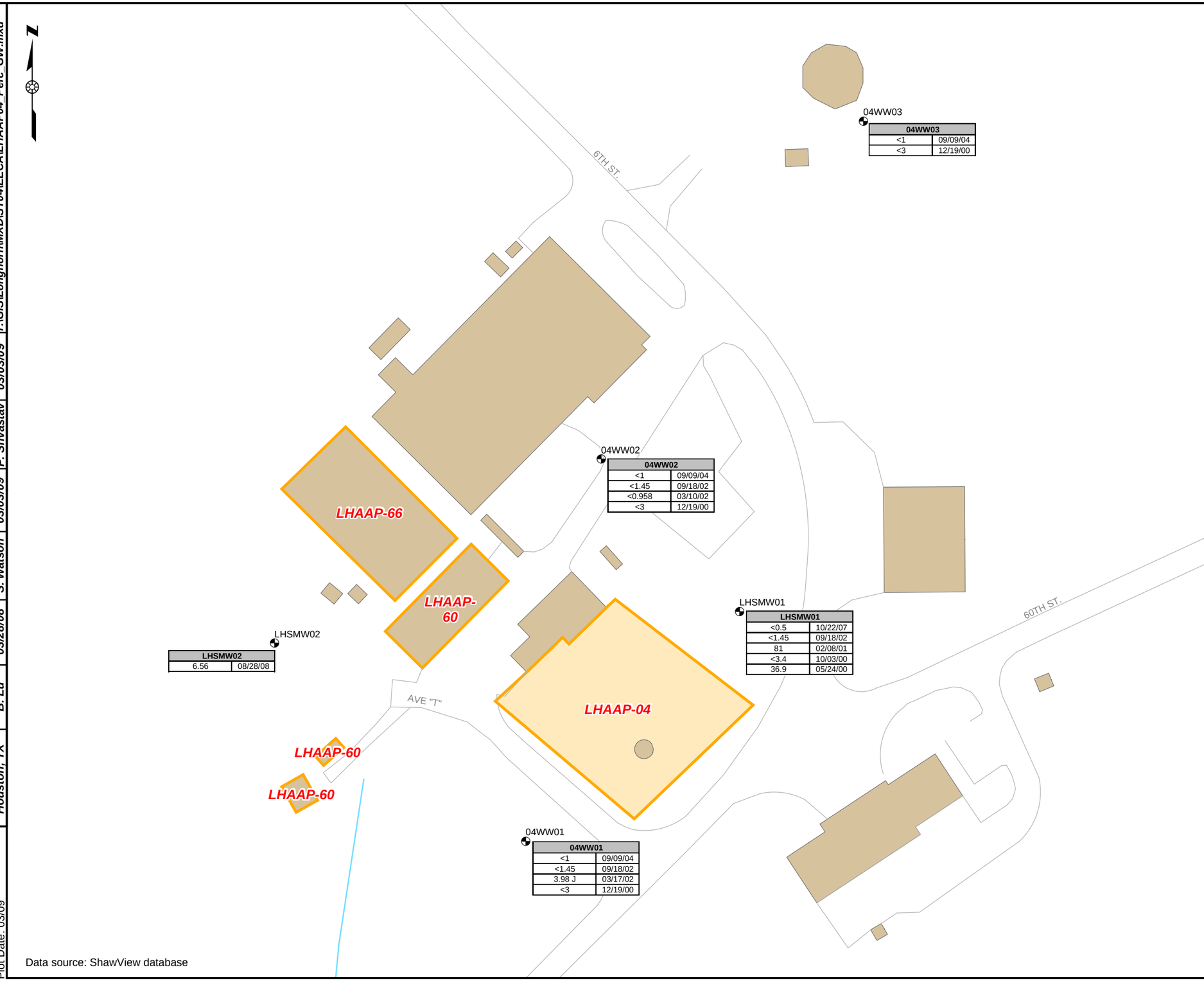
Plot Date: 03/09



Data source: ShawView database

00072291

LEGEND

- Shallow Monitoring Well
- Stream
- Road
- Building or Concrete Slab
- Site

Note:

Perchlorate concentrations reported in micrograms per liter (µg/L).

0 40 80 160 Feet

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FIGURE 2-7
MONITORING WELL LOCATIONS AND PERCHLORATE CONCENTRATIONS IN GROUNDWATER
LHAAP-04
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	FILE PATH
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Plot Date: 03/09

3.0 Identification of Removal Action Objectives

Even though there has been no impact to the groundwater from the high concentrations of perchlorate in soil, the conceptual site model for LHAAP-04 indicates that soil movement over land or soil leaching to groundwater may occur from the large perchlorate concentrations in soil. In addition, other sites at the LHAAP that have similarly high levels of perchlorate in the soil have had underlying groundwater contamination or contamination in nearby surface water (Jacobs, 2002). To mitigate any future impact to the groundwater, the Removal Action Objective (RAO) for LHAAP-04 is to protect the groundwater from the soil contamination. The implementation of the removal action derived from this EE/CA is expected to considerably improve the environmental conditions and reduce the potential human health threat posed by potential migration of perchlorate in soil to the groundwater and surface water. Additionally, the removal action for perchlorate derived from this EE/CA will encompass the localized area of mercury contamination identified after closure activities (ACE, 1997) for protection of the future maintenance worker. The reasonably anticipated future uses of LHAAP streams, land, and groundwater are an important consideration in determining the appropriate extent of remediation for LHAAP-04.

The RAOs for LHAAP-04 include:

- Protection of human health and the environment by eliminating the threat for potential releases of perchlorate from contaminated soil to groundwater.
- Protection of human health and the environment by eliminating the threat for potential releases of perchlorate and mercury from contaminated soil to surface water.
- Protection of human health by eliminating the potential for exposure to mercury contaminated surface soils for a future maintenance worker.

The removal action discussed in this EE/CA would remove the soil contamination; and therefore, the potential contamination of groundwater and surface water as a result of migration from contaminated soils would be eliminated. Thus, as a result of the proposed removal action, it is anticipated that no further action would be required for future use as a wildlife refuge.

3.1 Determination of Removal Action Scope and Cleanup Goals

No risk was identified by the risk assessment (Jacobs, 2003), but evaluation of additional data indicates an area of perchlorate contaminated soil, that if left in place, could potentially cause risk to human health or the environment if over time, perchlorate leaches from the soil into the groundwater. The proposed action is to address this area of soil. It should be noted that perchlorate does not have federal promulgated standards and is an emerging contaminant. A

cleanup value protective of groundwater can be calculated under Risk Reduction Standard No. 3, but it would be approximately the same value as the value published by TCEQ for Risk Reduction Standard No. 2. Thus, the TCEQ GWP-Ind for perchlorate of 7,200 µg/kg has been selected for the cleanup level (TCEQ, 2006)."

The scope of the proposed action for the contaminated soil at the site addresses an area of approximately 4,100 square feet (estimated volume of approximately 840 cubic yards) as shown on **Figure 3-1**. The mercury contaminated soil is along the concrete pad and is encompassed within the larger perchlorate contaminated soil area. The proposed cleanup level is the most stringent medium-specific concentration for that chemical in soil (TCEQ, 2006). The proposed cleanup levels are included in **Table 3-1**.

Table 3-1
Proposed Soil Cleanup Levels

Chemical	Concentration (µg/kg)	Basis[a]
Perchlorate	7,200	GWP-Ind
Mercury[b]	150	SAI-Ind

Notes and Abbreviations:

[a] Texas Commission on Environmental Quality, Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentrations (MSCs) dated March 31, 2006

[b] Mercury cleanup level is limited to the excavation wall adjacent to the concrete pad.

µg/kg micrograms per kilogram

GWP-Ind Soil MSC for industrial use based on groundwater protection

SAI-Ind Soil MSC for industrial use based on inhalation, ingestion, and dermal contact

3.2 Determination of Removal Schedule

The tentative start date for the removal action for LHAAP-04 is contingent upon approval of the action by the Stakeholders. The start date will be adjusted pending completion of the regulatory and public review and comment process. Work plan approval, weather, negotiations between the Army and regulatory agencies, and community comments will also affect the timing of project initiation.

3.3 Applicable or Relevant and Appropriate Requirements and To-Be-Considered Guidance

The Applicable or Relevant and Appropriate Requirements (ARARs) and To-Be-Considered (TBC) Guidance for remediating perchlorate-contaminated soils at LHAAP-04 as part of a removal action are identified in this section. The proposed alternatives will comply with all chemical-specific, location-specific, action-specific ARARs and TBC Guidance.

The National Contingency Plan 40 CFR 300.5, defines "applicable" requirements as: "those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environment or State environmental or facility citing laws that specifically address a hazardous substance, pollutant, contaminant, removal action, location, or other circumstance found at a Comprehensive Environmental Response Compensation and Liability Act (CERCLA) site." In addition to laws, ARARs may be regulations or guidance promulgated by Federal or State agencies. Only those promulgated State standards that are identified by a State and are equally or more stringent than Federal requirements may be applicable.

The National Contingency Plan, (40 CFR 300.5) further defines "relevant and appropriate" requirements as: "those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility citing laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, removal action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site." Like "applicable" requirements, the National Contingency Plan also provides that only those promulgated State requirements that are equally or more stringent than corresponding Federal requirements may be relevant and appropriate.

USEPA identifies three basic types of ARARs. They include the following: chemical-specific, action-specific, and location-specific.

Chemical-specific ARARs are generally health- or risk-based values which, when applied to site-specific conditions, result in numerical values. These values establish the acceptable concentration of a chemical that may be found in, or discharged to, the ambient environment.

Location-specific ARARs are restrictions on remedial activities that are based on the physical or geographic position of the site, rather than the nature of contamination.

Action-specific ARARs are restrictions based on the technology or activity.

3.3.1 Chemical-Specific ARARs

The TCEQ Texas Risk Reduction Rules include promulgated state standards for mercury and perchlorate in soil. The SAI-Ind for mercury is 150 µg/kg. Implementation of this chemical-specific ARAR will prevent direct exposure to mercury contaminated surface soils (0 to 2 feet bgs) at the site. The soil GWP-Ind MSC for perchlorate protective of groundwater is 7,200 µg/kg. Implementation of this chemical specific ARAR will prevent contamination of the groundwater at the site.

3.3.2 Location-Specific ARARs

Location-specific ARARs may include the Preservation of Archaeological and Paleontological Artifacts, Preservation of Native American Artifacts, Protection of Threatened and Endangered Species and Texas Resource Protection Act. No location-specific ARARs are identified for LHAAP-04.

3.3.3 Action-Specific ARARs

The action-specific ARARs for an excavation and off-site disposal alternative are addressed below.

3.3.3.1 Construction, Operation, and Closure Activities

Construction activities will be associated with removal action alternatives. Non-point source emissions of particulate matter could be generated during grading, leveling, and other construction activities. The estimated area to be disturbed is approximately ¼ of an acre, and the provisions under the State General Permit TXR150000 are not applicable.

The Health and Safety regulations contained in 29 CFR 1910 are enforced by the Occupational Health and Safety Administration. These regulations may be applicable to the removal alternatives. The regulations contained in 29 CFR 1926, the Safety and Health Regulations for Construction are potentially applicable.

The TCEQ General Air Quality Rules (Chapter 101.4, Nuisance, and Chapter 111.111, Visible Emissions) are applicable to fugitive particulate emissions that can be generated from construction activities including soil movement, grading, transporting, or otherwise disturbing land.

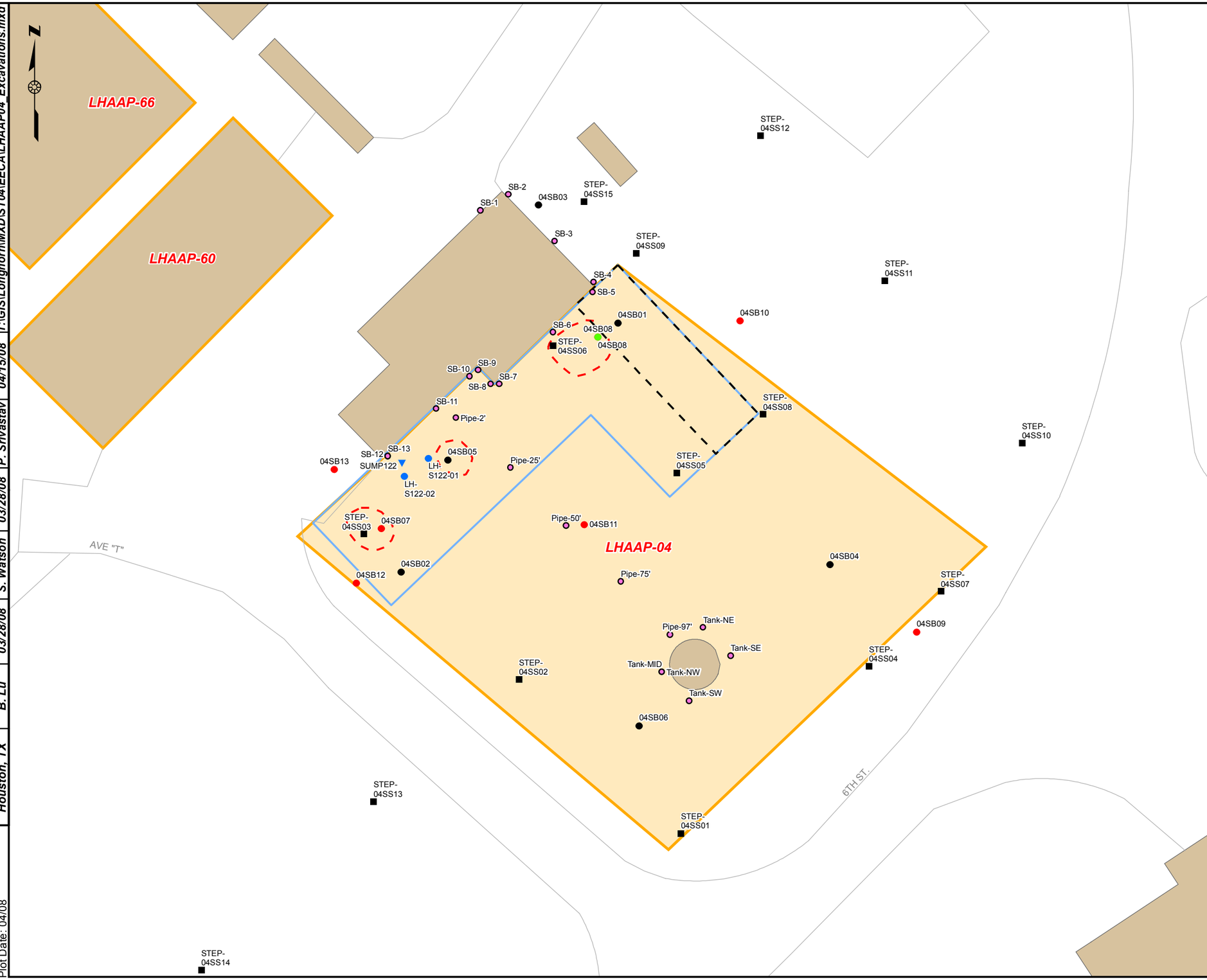
3.3.3.2 Off-Site Disposal

The regulations on Hazardous Waste Management under 40 CFR 260 provide general information on the hazardous waste regulatory program. The regulations on Identification and Listing of Hazardous Wastes provide the framework of determining whether or not a waste is hazardous. The regulations under 40 CFR 261 and 42 USC 6901 provide determination of hazardous wastes. The perchlorate contaminated soils are not a listed CERCLA waste or RCRA hazardous waste. Thus, the perchlorate contaminated soils will be considered non-hazardous and will be handled as a RCRA, Subtitle D Solid Waste. The following are applicable to the handling of the waste generated from this action:

- Texas Health and Safety Code, Subtitle B, Chapter 361
- Texas Water Code Chapter 26

- 40 CFR 300.440 - Procedures for Planning and Implementing Offsite Response Action
- Texas Administrative Code, Title 30, Part 1, Chapter 335 (30 TAC 335), Rule §335.10 – Shipping and Reporting Procedures Applicable to Generators of Hazardous Waste or Class 1 Waste and Primary Exporter of Hazardous Waste
- 30 TAC 335, Subchapter R, Waste Classification

00072297



LEGEND

- Sump
- Soil Boring Associated to Sump122
- 2007 Soil Sampling Location (Shaw, 2007)
- 2006 Soil Sampling Location (Shaw, 2006)
- 2002 Surface Soil Sample (STEP, 2003)
- 2000 Soil Boring (Jacobs, 2002b)
- 1997 Soil Boring (ACE, 1997)
- Road
- Approximate Location of Pilot Study Plot
- Initial Excavation of 4 Feet
- Initial Area of Excavation Deeper than 4 Feet
- Building or Concrete Slab
- Site

NOTE:

A confirmation sample will be collected from the floor for approximately every 750 square feet and from each overexcavated area.

0 15 30 60 Feet

Shaw®

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
TULSA, OKLAHOMA

FIGURE 3-1

PROPOSED EXCAVATION AREAS
LHAAP-04

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		FILE PATH
Houston, TX	B. Lu	03/28/08	S. Watson	03/28/08	P. Srivastav	04/15/08	T:\GIS\Longhorn\MXD\ST04\EECA\LHAAP04_Excavations.mxd

Plot Date: 04/08

4.0 Identification and Analysis of Removal Action Alternatives

Three alternatives for performing the removal action at LHAAP-04 were considered: 1) No Action, 2) Excavation and Off-site Disposal, and 3) Installation of an Engineered Cap. The No Action alternative and the Excavation and Off-site Disposal Alternative will be evaluated for effectiveness, implementability, and cost. The Installation of an Engineered Cap was considered, but was not retained for detailed evaluation. The cap would stop the vertical infiltration of water, but would not stop water from flowing beneath the cap. Since the perchlorate concentrations in soil exceeds the proposed cleanup level as deep as 10 feet bgs and the depth to groundwater may be 5 to 7 feet bgs during the wet season, lateral groundwater flow under a cap would allow the water to come into contact with the perchlorate contaminated soil. Thus, the Installation of an Engineered Cap Alternative was not be fully evaluated since it may not be technically viable because groundwater may continue to flow under the cap through the contaminated soil without the installation of a slurry wall to mitigate the lateral flow. The installation of a slurry wall and the long-term operations and maintenance would make this alternative cost prohibitive.

Thus, the following alternatives were evaluated using the alternative technology selection criteria established by the National Contingency Plan for evaluating alternatives (effectiveness, implementability, and cost):

Alternative 1 – No Action

Alternative 2 – Excavation and Off-site Disposal

4.1 Assessment of Interim Removal Alternatives

4.1.1 Alternative 1 – No Action

4.1.1.1 Description

The No Action alternative involves no action to be performed under current or future land-use scenarios, and provides a comparative baseline. Under this alternative, the soil would be left “as is” without implementing any containment, removal, treatment, or other mitigating actions. No removal action is performed at the site, and no Land Use Controls such as fencing, warning signs, or land use restrictions are included in the No Action alternative.

4.1.1.2 Effectiveness

<u>Overall Protection of Human Health and the Environment</u>

The No Action alternative involves no action to prevent perchlorate present at elevated concentrations in soil from migrating to groundwater or surface water bodies on LHAAP, and therefore, does not meet the RAOs. Based on the HHRA and BERA, there is no unacceptable

risk to current or anticipated future human or ecological receptors. However, site closure data indicates mercury contamination in the surface soil when compared to the SAI-Ind. Without removal of this soil, no action does not meet the RAOs.

Compliance with ARARs

The No Action alternative does not meet the chemical-specific ARARs because contaminant levels that exceed groundwater protection criteria remain in soil. Since no removal activities would be conducted under this alternative, location-specific and action-specific ARARs do not apply.

Long-Term Effectiveness and Permanence

Over the long-term, the No Action alternative would not be effective in preventing groundwater contamination at LHAAP-04 as contaminated soil would not be removed.

Short-Term Effectiveness

The short-term effectiveness of this alternative is not applicable because there are no removal actions performed.

Reduction of Toxicity, Mobility, or Volume

Since no removal action is performed, there is no reduction in the toxicity, mobility, or volume of contaminants at the site for the No Action alternative.

4.1.1.3 Implementability

There are no technical or administrative feasibility concerns, or availability of services and materials concerns associated with the No Action alternative because there are no removal actions performed.

Since the regulatory representatives and public have not been provided an opportunity to review the detailed analysis of removal alternatives, no formal comments are available for evaluation of regulatory acceptance and community acceptance.

4.1.1.4 Cost

There are no costs associated with the No Action alternative.

4.1.2 Alternative 2 – Excavation and Off-Site Disposal

4.1.2.1 Description

The Excavation and Off-site Disposal alternative involves the excavation and disposal of contaminated soil from LHAAP-04. The proposed area to be excavated is indicated on

Figure 3-1. For the purposes of this EE/CA, it was assumed that the total volume of contaminated soils to be excavated is 840 cubic yards, or 1,260 tons. All excavated material would be disposed at a permitted disposal facility. After excavation, confirmation samples will be collected and analyzed for perchlorate. Once confirmation sampling results meet the proposed cleanup level, the excavation area would be backfilled with clean soil and reseeded.

All components of this action would utilize standard construction and operating procedures and routine sampling and analysis procedures. Details concerning operating procedures will be provided in a future operations work plan. Implementation of this action may result in short-term impacts, such as fugitive dust emissions, storm-water runoff and precipitation/infiltration in the excavation areas. These potential problems would be eliminated using appropriate construction practices, such as water spraying, erosion and sediment control, and phased excavation areas or temporary sheeting. Additional potential problems could be encountered during transportation of impacted soils from the site to the designated disposal facility. During transportation, tarping of the storage containers/trucks, executed manifests and compliance with local street and highway laws will be performed.

The components of the excavation and off-site disposal alternative used for costing purposes are detailed below.

Work Plans/Reporting. The contractor would prepare a brief site-specific work plan prior to excavation activities that would include a quality assurance planning component, health and safety component, technical component, and field procedures. The work plan would be reviewed and approved by the USACE, Army, USEPA and the TCEQ prior to removal activities. The estimated time for completion of these plans is three months. This includes incorporation of review comments and revisions.

After the removal action has been completed and the final inspection approved by the USACE, Army, USEPA, and TCEQ, a Closure Report would be completed. Writing and compilation of the information for the report would occur throughout the duration of the removal action. The report would include site drawings, sample data, copies of all manifests, and a detailed narrative of the removal action. The completed Draft Closure Report would be submitted to the USACE and the Army for review and comment. Following this, a Draft Final Closure Report would be submitted to the regulatory agencies for review and comment. Once all regulatory agency comments have either been resolved or incorporated into the report, the Final Closure Report would be issued.

Site Set-up. Site set-up for the excavation would consist of setting up a decontamination station. The equipment decontamination station would be constructed with non-permeable material such

as high-density polyethylene for containment purposes. This decontamination station should be bermed to ensure containment of any decontamination liquids.

Excavation Area Delineation. Based on the soil sampling data, an area for an initial 4-foot deep excavation has been proposed. Three areas, where perchlorate concentrations are greater than 7,200 µg/kg below the 4-foot depth, will be excavated by a 2-foot depth beyond the sampled depth. These depths vary from 5 feet to 10 feet. These areas are shown on **Figure 3-1**. After the initial excavation, the wall adjacent to the concrete pad will be tested for both mercury and perchlorate. The other walls and floor will be tested for perchlorate only. Soil would be excavated until the confirmation sample results (from the excavation floor and side walls) indicate soil concentrations below the cleanup levels identified in **Table 3-1**.

Health and Safety. Health and safety measures would be taken to protect on-site workers during excavation activities. For cost estimating purposes, modified Level D personal protective equipment and decontamination equipment has been assumed. In addition, it was assumed that an industrial hygienist would be required on-site during construction activities.

Excavation. Excavation would be performed using conventional equipment. For cost estimating purposes, it was assumed that an excavator would be used to excavate the contaminated soils and directly place the soils into roll-off boxes into dump trucks that would take the soils to a permitted landfill. However, on-site stockpiling may be required depending on soil volumes and logistics. The estimated length of time for the excavation is 16 days. A water truck would be required on-site during excavation activities for decontamination and dust suppression purposes. Oversight personnel assumed for this alternative include one Quality Control/Site Safety Health Officer, one field supervisor, and two field technicians.

Confirmation Sampling. Confirmation sampling would be conducted concurrently with excavation and would document that the remaining soils meet established cleanup levels. After the initial excavation, the wall adjacent to the concrete pad will be tested for both mercury and perchlorate. The other walls and floor will be tested for perchlorate only. Excavation would continue until concentrations in the soil are less than the cleanup levels identified in **Table 3-1**. A 5-point composite soil sample would be collected from approximately every 750 square feet of the excavation floor area and of each wall. If contaminants are detected in the composite samples above their cleanup levels, the area would be excavated an additional foot. This would continue until confirmation samples demonstrate the contaminants remaining in the soil are below their cleanup level or until groundwater is encountered.

In the event that groundwater is encountered and a floor sample cannot be collected, a linear 5-point composite sample will be collected from each excavation sidewall. The individual grab samples will be collected from the sidewalls just above the groundwater interface. If the linear

5-point composite sidewall sample is above the cleanup level, then additional excavation of the sidewall will be conducted to the groundwater interface depth. This would remove any soil that could act as a potential source for soil to groundwater contamination.

Waste Characterization. For the purposes of this EE/CA, analysis for perchlorate only is assumed to be required. In addition, samples from the decontamination water would be collected. It is assumed that one sample would be collected per 55-gallon drum of waste water generated. A waste characterization sample will be collected for every 100 cubic yards or as required by the disposal facility and sample analysis would be conducted by an off-site laboratory.

Description of Wastes. Excavation activities at LHAAP-04 are expected to generate two waste streams:

Waste Type	Estimated Quantity
Perchlorate and Mercury Contaminated Soil	1,260 tons
Decontamination Water	220 gallons [(4) 55-gallon drums]

Waste Disposal. Each waste type generated during this alternative would require a different disposal method. These include:

Waste Type	Disposal Method
Soil: RCRA Non-Hazardous Waste	RCRA Subtitle D Landfill
Decontamination Water-Non-Hazardous Waste	LHAAP Groundwater Treatment Plant (GWTP)

For cost estimating purposes in this EE/CA, it was assumed that the soil is not a hazardous waste so it would be disposed at a RCRA Subtitle D Landfill and that the decontamination water is also non-hazardous so would be disposed at the LHAAP groundwater treatment plant (GWTP). The settled out sediments will be combined into the sludge roll offs after pumping off water. However, while there are no costs associated with disposal at the GWTP, costs associated with drum preparation and transportation are included.

Disposal Facility Selection. Shaw would select the final disposal facility for the waste based on several factors:

- TSDF capacity to accommodate incoming waste;
- Solicitation of bids using applicable Federal Acquisition Regulations;
- Verification of permits and insurance (at time of award); and,
- The disposal facility must meet the permit compliance requirements.
- Selection of the offsite disposal facility will follow the acceptability criteria in accordance with USEPA's Offsite Rule (40 CFR 300.440).

Waste Transportation and Disposal. For scoping and costing purposes in this EE/CA, it is assumed that all materials generated will be transported and disposed of as non-hazardous waste.

Site Restoration. As needed, backfill operations would proceed after excavation activities are complete. The areas would be backfilled with a clean fill and would have approximately 6 inches of topsoil applied. The area would then be graded and seeded per applicable USACE requirements. Upon completion of site restoration operations, the contractor would begin to remove the temporary facilities from the area.

Groundwater Monitoring Well Installation. After site restoration activities are complete, a shallow zone monitoring well will be installed in/or adjacent to the soil excavation area. Groundwater samples collected from the monitoring well will be utilized to evaluate the effectiveness of the removal of the soil-to-groundwater pathway. The details of the monitoring and evaluation criteria will be included in the removal action design/work plan.

Land Use Controls. The cleanup goals are based on future industrial use, and land use controls. Land use is restricted to industrial. Periodic inspections (included in the Five Year Reviews) will be conducted to ensure land use is a wildlife refuge or industrial. The Army will record a notice of land use controls with Harrison County and will include the notice with any transfer letter to the U.S. Fish and Wildlife Service.

4.1.2.2 Effectiveness

Overall Protection of Human Health and the Environment

The Excavation and Off-site Disposal alternative involves the removal of contaminated soil from LHAAP-04, and therefore provides protection from potential impact to groundwater and surface water at the site. Based on the results from the HHRA and BERA, there is no unacceptable risks to current or anticipated future human or ecological receptors.

Compliance with ARARs

The Excavation and Off-site Disposal alternative complies with ARARs. This alternative would meet the chemical-specific ARARs for soil as well as comply with all location- and action-specific ARARs.

Long-term Effectiveness and Permanence

Over the long-term, this alternative would be effective in preventing migration of perchlorate to groundwater or surface water resources at LHAAP and is permanent since the contaminated soil will be removed from the site.

Short-term Effectiveness

Since the Excavation and Off-site Disposal alternative involves relatively minor quantities of soil to be removed, there would be minimal risk to the community, workers, and the environment during the removal action. The time required to perform the alternative is approximately nine months, including the time for generation of the work plan and final report.

Reduction of Toxicity, Mobility, or Volume

The Excavation and Off-site Disposal alternative provides reduction of mobility because perchlorate and mercury is removed from the site and placed in a permitted disposal facility. Toxicity and volume are not reduced by the Excavation and Off-site Disposal alternative as the form and quantity of the perchlorate and mercury is not altered.

4.1.2.3 Implementability

There are no technical or administrative feasibility concerns, or availability of services and materials concerns associated with implementation of the Excavation and Off-site Disposal alternative.

Since the regulatory representatives and public have not been provided an opportunity to review the detailed analysis of removal alternatives, no formal comments are available for evaluation of regulatory acceptance and community acceptance.

4.1.2.4 Cost

The capital cost associated with this alternative is approximately $282,500. The capital costs for the Excavation and Off-site Disposal alternative are shown on **Table 4-1**. It is assumed that the soil would not be considered a hazardous waste; transportation and disposal is priced accordingly. If the soil is found to be hazardous, transportation and disposal costs would be significantly higher. Since the site cleanup goals are for future industrial use, 5-year reviews will be required and are estimated as Operations and Maintenance costs associated with this alternative. The net present value for Operation and Maintenance Costs for this alternative are $190,865 using a 2.8% discount rate and 30 year period. The O&M costs are shown in **Table 4-2**. The total present worth for this alternative is approximately $473,000.

Table 4-1
LHAAP-04 Alternative 2: Excavation and Off-Site Disposal
Capital Cost Estimate

Summary Description	Capital Costs
Capital Costs	
Project Documents	
Removal Action Design / Work Plan	$21,900
Completion Report	$11,400
Subtotal Indirect Costs	$33,300
Removal Action	
Mobilization / Demobilization	$11,400
Soil Excavation and Off-Site Disposal	$156,800
Confirmation Sampling	$11,500
Site Restoration	$43,500
Subtotal Direct Costs	$223,200
Present Value Subtotal Capital Costs	$256,500
10% Contingency	$26,000
Total Capital Costs Including Contingency	$282,500

Table 4-2
LHAAP-04 Alternative 2: Operations and Maintenance Cost Estimate

Year	Fiscal Year	Five Year Reviews
5	2011	$35,000
10	2016	35,000
15	2021	35,000
20	2026	35,000
25	2031	35,000
30	2036	35,000
	Total 2008 Dollars	$210,000
	Net Present Value at 2.8% Discount Rate	$190,865

5.0 Comparative Analysis of Removal Action Alternatives

The two alternatives evaluated in **Section 4.0** are compared to one another in this section, according to the three criteria: effectiveness, implementability, and cost. For each criterion, the alternatives are discussed in a relative manner from most favorable to least favorable.

5.1 Effectiveness

5.1.1 Overall Protection of Human Health and the Environment

No unacceptable risks to human health or the environment were determined to be associated with LHAAP-04 by the HHRA or BERA. However, high perchlorate concentrations in soil indicate the potential for contamination of groundwater in the future (STEP, 2005) and high mercury concentrations in soil detected during closure activities were above the SAI-Ind levels. In addition, other sites at LHAAP that have similarly high levels of perchlorate in the soil have had underlying groundwater contamination or contaminated surface water runoff (Jacobs, 2002). Therefore, it was determined that addressing the perchlorate contamination in soil was required to prevent potential impacts to groundwater and surface water resources at LHAAP. Additionally, addressing the perchlorate contaminated soil will encompass the isolated area of mercury contamination in soil.

The Excavation and Off-site Disposal alternative is the most protective of groundwater and surface water. It involves the removal of impacted soil at LHAAP-04, and therefore is the only alternative that includes active cleanup of the site. This alternative meets the RAOs and is effective in preventing impacts to groundwater and surface water because contamination above the remedial goals is removed from the site. The No Action alternative involves no actions to prevent impacts to groundwater or surface water resources.

5.1.2 Compliance with ARARS

The No Action alternative does not meet the chemical-specific ARARs because contaminant levels remain in soil. The Excavation and Off-site Disposal alternative involves further actions to mitigate migration of contaminants from soil and therefore is the only alternative that meets chemical-specific ARARs.

5.1.3 Long-term Effectiveness and Permanence

Over the long-term, the Excavation and Off-site Disposal alternative would provide long-term effectiveness and permanence by preventing migration of contaminants from soil into groundwater and surface water. The No Action alternative is not effective in the long term.

5.1.4 Short-Term Effectiveness

Short-term effectiveness is not applicable to the No Action alternative. For the Excavation and Off-site Disposal alternative, the use of proper dust suppressant measures would control windblown emissions of contaminated dust to protect the community and on-site workers. Proper personal protective equipment would be required for site workers. Measures to protect the environment are not expected for implementing the Excavation and Off-site Disposal alternative.

The length of time required to implement and complete the remedial alternatives are as follows: Alternative 1 is a no action alternative, therefore, no time is required. The Excavation and Off-site Disposal alternative, Alternative 2, has an estimated implementation duration of less than nine months.

5.1.5 Reduction of Toxicity, Mobility, or Volume through Treatment

The No Action does not provide reduction of toxicity, mobility, or volume of the contaminants. The Excavation and Off-site Disposal alternative provides reduction of mobility because perchlorate and mercury is removed from the site and placed in a permitted disposal facility. Toxicity and volume are not reduced by the Excavation and Off-site Disposal alternative as the form and quantity of the perchlorate and mercury is not altered.

5.2 Implementability

The alternatives are considered to be implementable.

5.3 Regulatory Acceptance

This section will be revised after review by regulatory agencies.

5.4 Community Acceptance

This section will be revised after review by the public.

5.5 Cost

The No Action alternative, which has no associated cost, is the least expensive alternative. Alternative 2 – Excavation and Off-site Disposal has a capital cost of $282,500. The net present value of the Operations and Maintenance costs is $190,865. Thus, the total net present value is approximately $473,000.

6.0 Recommendations

This EE/CA recommends the selected removal action (Alternative 2) for LHAAP-04 was developed in accordance with CERCLA as amended and consistent with the National Contingency Plan. This decision is based on the administrative record for and knowledge of the specific site. The action recommended for this site is Excavation and Off-site Disposal (Alternative 2).

Conditions at the site meet the National Contingency Plan Section 300.415(b)(2) criteria for a removal and approval of the proposed removal action is recommended. The estimated total project cost, if approved, is estimated to be $473,000.

7.0 References

Anderson Columbia Environmental (ACE), 1997, *Closure Report, Pilot Wastewater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas, EPA Identification No. TX6213820583, Solid Waste Registration No. 30990*. September.

Jacobs Engineering Corporation (Jacobs), 2002, *Final Remedial Investigation Report Addendum for the Group 4 Sites Remedial Investigation Report, Site 04, 05, 67 and Hydrocarbon Study), Longhorn Army Ammunition Plant, Karnack, Texas*, Oak Ridge, Tennessee, February.

Jacobs, 2003, *Final Baseline Human Health and Screening Ecological Risk Assessment for the Group 4 Sites (Sites 04, 08, 35A, 35B, 35C, 46, 47, 48, 50, 60, 67, Goose Prairie Creek, Saunder's Branch, Central Creek and Caddo Lake), Longhorn Army Ammunition Plant, Karnack, Texas*, Oak Ridge, Tennessee, June.

Nzengung[1], Valentine A., K. C. Das[2], and James R. Kastner[2], (2001), *Pilot Scale In-Situ Bioremediation of Perchlorate-Contaminated Soils at the Longhorn Army Ammunition Plant*, University of Georgia, [1]Department of Geology, [2]Biological and Agricultural Engineering Department, <http://www.clu-in.org/download/contaminantfocus/perchlorate/LHAAPbio.pdf>, Athens, Georgia.

Plexus Scientific Corporation (Plexus), 2005. *Environmental Site Assessment, Phase I and II Report, Final, Production Areas, Longhorn Army Ammunition Plan, Karnack, Texas*, February.

Shaw Environmental, Inc. (Shaw), 2006, *Final Addendum 1, Soil Sampling at LHAAP-04, Former Pilot Wastewater Treatment Plant, Installation-Wide Work Plan, Longhorn Ammunition Plant, Karnack, Texas*, June.

Shaw, 2007a, *Final Data Gaps Investigation Report, Longhorn Army Ammunition Plant, Karnack, Texas*, Houston, Texas, April.

Shaw, 2007b, *Final Installation-Wide Baseline Ecological Risk Assessment, Longhorn Army Ammunition Plant, Karnack, Texas*, Houston, Texas, November.

Shaw, 2008, *Final Data Evaluation Report, Chemical Concentrations in Soil Associated with LHAAP-35/36 Sumps, Longhorn Army Ammunition Plant, Karnack, Texas*, Houston, Texas, January.

Solutions to Environmental Problems (STEP), 2005, *Plant-Wide Perchlorate Investigation, Longhorn Army Ammunition Plant, Karnack, Texas, Final*, Oak Ridge, Tennessee, April.

Texas Commission on Environmental Quality (TCEQ), 2006, Updated Examples of Standard No. 2, Appendix II Medium-Specific Concentration, March 31, 2006.

Appendix A

Conditional Approval Letter for Closure

Barry R. McBee, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

00072312

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

October 28, 1998

Mr. Ira C. Nathan, Chief of Operations
Longhorn Army Ammunition Plant
P.O. Box 658
Doyline, Louisiana 71023

Re: Longhorn Army Ammunition Plant (LHAAP)
TNRCC Solid Waste Registration No. 30990
Agreed Order effective December 4, 1995; Ordering Provisions Nos. 1 and 3
Review of Closure Report, Pilot Wastewater Treatment Plant
Request for Additional Information

Dear Mr. Nathan:

The Texas Natural Resource Conservation Commission (TNRCC) has completed a review of the Closure Report dealing with the closure of the Pilot Wastewater Treatment Plant (PWTP) at LHAAP. Before the TNRCC can approve closure of the PWTP, additional information will need to be provided by LHAAP.

A discovery of soil contamination is reported at several locations around the concrete pad. No removal of the contaminated soil was reported nor any determination of the extent of soil contamination. Even though it appears the hardware of the facility was adequately and properly removed from the site, the soil contamination remained. LHAAP must address the soil contamination and propose the site closed according to Risk Reduction Rule codified in Subchapters A and S of 30 Texas Administrative Code (TAC) Chapter 335. Deferring the decision to a later determination by the Department of the Army regarding soil contamination does not allow for appropriate closure of the site. If soil contamination is left in place, deed recordation is also required.

The soil contamination was determined in samples collected around the concrete pad upon which the facility was located. Please provide information concerning disposition of the concrete pad, including whether the concrete pad has been destroyed and discarded and if the concrete pad was inspected for cracks or staining. Since there is evidence of soil contamination, it is possible that the concrete pad also could have had contamination.

DEPARTMENT OF THE ARMY
LONGHORN/LOUISIANA ARMY AMMUNITION PLANTS
P.O. BOX 658
DOYLINE, LOUISIANA 71023-0658

00072313

REPLY TO
ATTENTION OF

SIOLH-OR

November 9, 1998

SUBJECT: Pilot Wastewater Treatment Plant (PWTP)

Mr. Ernest Heyer
Texas Natural Resource Conservation Committee
Corrective Action Section - MC 127
P. O. Box 13087
Austin, Texas 78711-3087

Dear Mr. Heyer:

In response to your request for more information, I trust the following will satisfy the closure report for the PWTP.

The Industrial Wastewater Treatment System, (sumps and PWTP) was designed as one functional unit for the collection of wastewater and its treatment. We planned for removal and disposal of both the sumps and the PWTP for the Agreed Order. Soil and groundwater would be handled by CERCLA.

We addressed this in our February 19, 1997 letter to TNRCC (enclosed) for the sumps, that soil and groundwater would be included in CERCLA's Phase III Group 4 Remedial Investigation. TNRCC in their letter of February 28, 1997 (enclosed) concurred. Unfortunately, with the change in personnel, after Ms Beckley left, we have no written record of approval for the PWTP, but it was understood that there would be no difference.

The soil contamination for the PWTP is a part of Phase III, Group 4 Remedial Investigation under CERCLA which will also address if there is any contamination under the concrete pad.

Please contact the undersigned at 318-459-5103 if you need any further information.

Sincerely,

Ira Nathan
Chief, Operations

Enclosure

Copy Furnished:
Mr. Michael Brashear, TNRCC Region 5 Office, Tyler TX

ATTACHMENT 12

Barry R. McBee, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

00072314

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

Mr. Ira C. Nathan, Chief of Operations
Longhorn Army Ammunition Plant
P.O. Box 658
Doyline, Louisiana 71023

Re: Longhorn Army Ammunition Plant (LHAAP)
TNRCC Solid Waste Registration No. 30990
Agreed Order effective December 4, 1995; Ordering Provisions Nos. 1 and 3
Review of Additional Information Provided
Re: Closure Report, Pilot Wastewater Treatment Plant

Dear Mr. Nathan:

The Texas Natural Resource Conservation Commission (TNRCC) has completed a review of the additional information you provided as requested in the TNRCC letter dated October 28, 1998 regarding the Closure Report dealing with the Pilot Wastewater Treatment Plant (PWTP) at LHAAP. This additional information and confirmation information from Ms. Diane Poteet of the TNRCC Superfund Section adequately answers the questions we had regarding how LHAAP will deal with the contaminated soil remaining at the PWTP as well as any possible contamination under the concrete pad.

The PWTP site is hereby approved for closure according to Risk Reduction Rule Standard 2 (RRS 2) codified in Subchapters A and S of 30 Texas Administrative Code (TAC) Chapter 335 with the stipulation that the remaining soil contamination will be addressed in an amended work plan submitted to the Superfund program and evidence of an approved deed recordation is also provided to the TNRCC within 90 days of the date of this letter.

If you have any questions regarding this matter, please contact Ernest Heyer of the Corrective Action Section at (512) 239-1675, Mail Code MC 127, e-mail eheyer@tnrcc.state.tx.us.

Sincerely,

Ernest Heyer, Project Manager
Team I, Corrective Action Section
Remediation Division

cc: Mr. David Neleigh, EPA Region 6, Dallas
Mr. Michael Brashear, TNRCC Region 5 Office, Tyler

Appendix B

2007 and 2008 Water Sampling Data

2008 Groundwater Sampling Data

		LOCATION_CODE	LHSMW02				
		SAMPLE_NO	LHS1MW02-082808				
		SAMPLE_DATE	28-Aug-08				
		SAMPLE_PURPOSE	REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Perchlorate	ug/L	6.56				5

Notes and Abbreviations:
µg/L - micrograms per Liter
DF - dilution factor
RC - reason code

2007 Groundwater Sampling Data

		LOCATION_CODE	LHSMW01				
		SAMPLE_NO	LHSMW01-102207				
		SAMPLE_DATE	22-Oct-07				
		SAMPLE_PURPOSE	REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Perchlorate	µg/L	1	U	U		1

Notes and Abbreviations:

µg/L - micrograms per Liter

DF - dilution factor

RC - reason code

U - Not detected. The analyte was analyzed for, but not detected above the associated reporting limit.

2007 Groundwater Elevations
(Shallow Zone)

Site	Well ID	TOC_Elev	DTW	Date	GW Elev	Zone	East[a]	North[a]
LHAAP-04	04WW01	212.51	11.20	12/3/07	201.31	Shallow	3305911.786	6958971.173
LHAAP-04	04WW02	216.70	11.26	12/3/07	205.44	Shallow	3305973.89	6959284.718
LHAAP-04	04WW03	215.93	19.75	12/3/07	196.18	Shallow	3306189.503	6959561.995
LHAAP-08	08WW01	199.31	17.49	12/2/07	181.82	Shallow	3310498.194	6958043.017
LHAAP-08	08WW02	200.29	dry	12/2/07	NA	Shallow	3310710.324	6957877.092
LHAAP-29	114	244.47	30.19	12/3/07	214.28	Shallow	3304340.31	6954927.63
LHAAP-29	115	225.16	35.41	12/3/07	189.75	Shallow	3306408.88	6955339.37
LHAAP-29	116	216.43	28.59	12/3/07	187.84	Shallow	3307307.73	6956570.57
LHAAP-29	117	214.19	27.27	12/3/07	186.92	Shallow	3307818.16	6955986.92
LHAAP-29	118	219.67	28.98	12/3/07	190.69	Shallow	3306827.1	6954936.48
LHAAP-29	119	222.93	dry	12/3/07	NA	Shallow	3305405.48	6953564.81
LHAAP-29	29WW01	242.27	29.67	12/3/07	212.60	Shallow	3304360	6954745
LHAAP-29	29WW02	235.77	38.25	12/3/07	197.52	Shallow	3305379	6954799
LHAAP-29	29WW03	237.79	28.02	12/3/07	209.77	Shallow	3304748	6954593
LHAAP-29	29WW05	208.95	19.39	12/3/07	189.56	Shallow	3307350.28	6956448.88
LHAAP-29	29WW06	210.34	31.04	12/3/07	179.30	Shallow	3306918	6956475
LHAAP-29	29WW07	212.24	27.92	12/3/07	184.32	Shallow	3306827.53	6956143.96
LHAAP-29	29WW09	211.02	28.90	12/3/07	182.12	Shallow	3307426	6956263
LHAAP-29	29WW10	204.95	27.29	12/3/07	177.66	Shallow	3307649.67	6956781.91
LHAAP-29	29WW11	205.68	27.40	12/3/07	178.28	Shallow	3307273.12	6957154.41
LHAAP-29	29WW12	223.27	dry	12/3/07	NA	Shallow	3306593	6956902
LHAAP-29	29WW15	232.98	dry	12/3/07	NA	Shallow	3306147.35	6955848.18
LHAAP-29	29WW17	230.48	30.63	12/3/07	199.85	Shallow	3306214.01	6956008.92
LHAAP-29	29WW18	231.18	27.12	12/3/07	204.06	Shallow	3306009.92	6956001.59
LHAAP-29	29WW19	220.69	25.18	12/3/07	195.51	Shallow	3306313.23	6955615.89
LHAAP-29	29WW20	235.70	dry	12/3/07	NA	Shallow	3305796.91	6955633.6
LHAAP-29	29WW22	236.10	31.15	12/3/07	204.95	Shallow	3305672.39	6955679.06
LHAAP-29	29WW23	226.63	28.25	12/3/07	198.38	Shallow	3305947.46	6955278.42
LHAAP-29	29WW25	227.37	29.92	12/3/07	197.45	Shallow	3305755.14	6955024.95
LHAAP-29	29WW26	237.21	32.10	12/3/07	205.11	Shallow	3305525.92	6955380.31
LHAAP-29	29WW27	238.02	29.31	12/3/07	208.71	Shallow	3305338.36	6955350.88
LHAAP-29	29WW29	242.91	34.16	12/3/07	208.75	Shallow	3305155.2	6954826.84
LHAAP-29	29WW30	241.47	30.94	12/3/07	210.53	Shallow	3304987.91	6955034.55
LHAAP-29	29WW32	229.09	29.61	12/3/07	199.48	Shallow	3305093.85	6954345.88
LHAAP-29	29WW36	234.02	29.83	12/3/07	204.19	Shallow	3305879.737	6956665.96
LHAAP-29	29WW38	220.99	31.91	12/3/07	189.08	Shallow	3307030.402	6955376.315
LHAAP-35A	35AWW03	219.66	dry	12/2/07	NA	Shallow	3305010.72	6960396.75
LHAAP-35A	35AWW04	220.66	dry	12/3/07	NA	Shallow	3304656.3	6959446.59
LHAAP-35A	LHSMW01	214.43	9.87	12/3/07	204.56	Shallow	3306087.69	6959159.79
LHAAP-35A	LHSMW02	215.43	17.69	12/5/07	197.74	Shallow	3305704.50	6959135.90
LHAAP-35A	LHSMW03	217.26	25.80	12/2/07	191.46	Shallow	3305514.36	6959937.72
LHAAP-35A	LHSMW04	216.95	25.09	12/3/07	191.86	Shallow	3305398.12	6960185.99
LHAAP-35A	LHSMW05	217.59	dry	12/2/07	NA	Shallow	3305078.951	6960157.789
LHAAP-35A	LHSMW07	221.27	17.89	12/2/07	203.38	Shallow	3304408.12	6959841.17
LHAAP-35B	35BWW01	202.88	18.24	12/1/07	184.64	Shallow	3307815.51	6958331
LHAAP-35B	35BWW02	203.95	dry	12/1/07	NA	Shallow	3308367.35	6958110.46
LHAAP-35B	35BWW04	202.11	20.07	12/1/07	182.04	Shallow	3308166.14	6958058.09
LHAAP-35B	35BWW05	202.57	20.35	12/1/07	182.22	Shallow	3308006.58	6958213.49
LHAAP-35B	35BWW07	203.53	22.84	12/1/07	180.69	Shallow	3308800.14	6958244.99
LHAAP-35B	35BWW08	204.12	21.59	12/1/07	182.53	Shallow	3307873.99	6958133.10
LHAAP-35B	LHSMW58	203.56	22.41	12/1/07	181.15	Shallow	3308108.48	6958036.44
LHAAP-46	46WW01	212.82	dry	12/2/07	NA	Shallow	3306046.3	6962839.74
LHAAP-46	46WW04	215.39	22.68	12/2/07	192.71	Shallow	3305584.77	6962709.27
LHAAP-46	LHSMW09	210.68	21.50	12/2/07	189.18	Shallow	3306348.65	6961074.99
LHAAP-46	LHSMW11	212.91	23.10	12/2/07	189.81	Shallow	3305792.93	6961100.93

2007 Groundwater Elevations
(Shallow Zone)

Site	Well ID	TOC_Elev	DTW	Date	GW Elev	Zone	East[a]	North[a]
LHAAP-46	LHSMW12	209.02	dry	12/2/07	NA	Shallow	3306021.93	6961387.04
LHAAP-46	LHSMW13	209.50	dry	12/2/07	NA	Shallow	3306005.55	6961754.85
LHAAP-46	LHSMW14	244.78	13.94	12/2/07	230.84	Shallow	3303935.98	6962600.77
LHAAP-46	LHSMW15	226.65	dry	12/2/07	NA	Shallow	3304451.98	6962630.67
LHAAP-46	LHSMW16	232.19	17.00	12/2/07	215.19	Shallow	3304181.02	6962728.61
LHAAP-46	LHSMW17	214.58	26.49	12/2/07	188.09	Shallow	3305920.58	6962318.35
LHAAP-46	LHSMW18	215.35	22.97	12/2/07	192.38	Shallow	3305918.42	6962572.94
LHAAP-46	LHSMW19	212.96	dry	12/2/07	NA	Shallow	3305863.42	6962939.93
LHAAP-46	LHSMW20	209.29	22.17	12/2/07	187.12	Shallow	3306305.05	6963272.98
LHAAP-46	LHSMW21	207.67	19.74	12/2/07	187.93	Shallow	3306499.52	6963621.13
LHAAP-46	LHSMW22	209.60	25.83	12/2/07	183.77	Shallow	3306377.68	6962766.71
LHAAP-46	LHSMW24	203.84	23.00	12/2/07	180.84	Shallow	3307057.41	6963099.29
LHAAP-46	LHSMW26	204.72	26.37	12/2/07	178.35	Shallow	3307440.02	6962398.18
LHAAP-46	LHSMW27	202.10	dry	12/1/07	NA	Shallow	3307262.99	6962173.9
LHAAP-47	105	199.41	20.25	12/2/07	179.16	Shallow	3310068.4	6960331.5
LHAAP-47	47WW01	194.40	19.12	11/30/07	175.28	Shallow	3310000.12	6961843.18
LHAAP-47	47WW02	197.23	19.76	12/1/07	177.47	Shallow	3309378.17	6961934.03
LHAAP-47	47WW03	195.24	20.15	12/1/07	175.09	Shallow	3310493.93	6961546.93
LHAAP-47	47WW04	190.90	15.80	11/30/07	175.10	Shallow	3310838.47	6960690.1
LHAAP-47	47WW05	198.55	20.78	11/30/07	177.77	Shallow	3309848.45	6960821.11
LHAAP-47	47WW08	199.45	dry	11/29/07	NA	Shallow	3309353.97	6961102.58
LHAAP-47	47WW11	199.14	21.95	11/30/07	177.19	Shallow	3310298.06	6959699.09
LHAAP-47	47WW12	202.27	dry	11/30/07	NA	Shallow	3309114.13	6960442.63
LHAAP-47	47WW13	204.97	11.83	11/29/07	193.14	Shallow	3308809.1	6959590.22
LHAAP-47	47WW16	203.73	dry	12/1/07	NA	Shallow	3308477.27	6959895.12
LHAAP-47	47WW17	201.76	dry	12/1/07	NA	Shallow	3309316.44	6959040.27
LHAAP-47	47WW18	199.69	21.86	11/30/07	177.83	Shallow	3310398.27	6959236.15
LHAAP-47	47WW21	187.59	14.75	12/1/07	172.84	Shallow	3311452.33	6959832.47
LHAAP-47	47WW22	195.62	21.83	11/29/07	173.79	Shallow	3311719.32	6959044.08
LHAAP-47	47WW23	197.86	12.61	12/1/07	185.25	Shallow	3311242.96	6958503.8
LHAAP-47	47WW24	207.90	dry	12/1/07	NA	Shallow	3307965.291	6959433.332
LHAAP-47	47WW25	208.53	26.94	12/1/07	181.59	Shallow	3307856.194	6959089.921
LHAAP-47	47WW26	203.99	dry	12/1/07	NA	Shallow	3309317.473	6958409.003
LHAAP-47	47WW27	200.97	20.24	12/1/07	180.73	Shallow	3309015.213	6957917.773
LHAAP-47	47WW28	194.43	19.00	12/1/07	175.43	Shallow	3310852.66	6960058.22
LHAAP-47	47WW30	197.12	21.50	11/30/07	175.62	Shallow	3310472.40	6961047.19
LHAAP-47	47WW32	193.82	21.75	11/30/07	172.07	Shallow	3311345.92	6961495.38
LHAAP-47	LHSMW28	205.52	dry	12/1/07	NA	Shallow	3307687.68	6960929.52
LHAAP-47	LHSMW29	203.24	dry	12/1/07	NA	Shallow	3308072.27	6960870.26
LHAAP-47	LHSMW30	203.74	dry	12/1/07	NA	Shallow	3308292.41	6960875.45
LHAAP-47	LHSMW31	201.03	22.37	12/1/07	178.66	Shallow	3308967.29	6961159.76
LHAAP-47	LHSMW32	200.18	dry	12/1/07	NA	Shallow	3308982.12	6961386.69
LHAAP-47	LHSMW33	199.39	dry	12/1/07	NA	Shallow	3309334.56	6961289.52
LHAAP-47	LHSMW34	198.59	21.25	12/1/07	177.34	Shallow	3309336.51	6961492.68
LHAAP-47	LHSMW35	198.37	21.31	12/1/07	177.06	Shallow	3309372.86	6961685.43
LHAAP-47	LHSMW36	196.53	20.26	12/1/07	176.27	Shallow	3309579.44	6961872.42
LHAAP-47	LHSMW37	195.18	19.63	12/1/07	175.55	Shallow	3309709.41	6962063.52
LHAAP-47	LHSMW38	200.84	22.50	12/1/07	178.34	Shallow	3308183.93	6961505.71
LHAAP-47	LHSMW39	198.71	dry	11/30/07	NA	Shallow	3309910.17	6960715.16
LHAAP-47	LHSMW40	199.99	dry	11/30/07	NA	Shallow	3309952.76	6960415.08
LHAAP-47	LHSMW41	199.85	21.50	11/30/07	178.35	Shallow	3309724.81	6960514.8
LHAAP-47	LHSMW42	200.29	21.23	11/30/07	179.06	Shallow	3309660.32	6960354.74
LHAAP-47	LHSMW43	200.26	20.73	12/1/07	179.53	Shallow	3309632.51	6960009.65
LHAAP-47	LHSMW44	200.36	20.85	11/30/07	179.51	Shallow	3309302.29	6960305.01
LHAAP-47	LHSMW45	201.39	21.34	12/1/07	180.05	Shallow	3309140.91	6960145.58

2007 Groundwater Elevations
(Shallow Zone)

Site	Well ID	TOC_Elev	DTW	Date	GW Elev	Zone	East[a]	North[a]
LHAAP-47	LHSMW46	201.72	dry	12/1/07	NA	Shallow	3309392.38	6959763.44
LHAAP-47	LHSMW47	200.54	dry	12/1/07	NA	Shallow	3309339.52	6959602.92
LHAAP-47	LHSMW48	202.06	dry	12/1/07	NA	Shallow	3309435.63	6959322.73
LHAAP-47	LHSMW49	201.74	dry	12/1/07	NA	Shallow	3309024.61	6959475.7
LHAAP-47	LHSMW50	205.17	23.46	12/1/07	181.71	Shallow	3308464.11	6959084.87
LHAAP-47	LHSMW51	208.50	dry	12/1/07	NA	Shallow	3307496.83	6959185.29
LHAAP-47	LHSMW52	205.91	24.46	12/1/07	181.45	Shallow	3308621.6	6958448.8
LHAAP-47	LHSMW53	197.61	dry	12/1/07	NA	Shallow	3309903.12	6958096.73
LHAAP-47	LHSMW55	199.76	dry	11/30/07	NA	Shallow	3310174.99	6959043.13
LHAAP-47	LHSMW56	198.59	21.30	11/30/07	177.29	Shallow	3310570.56	6959009.13
LHAAP-47	LHSMW57	200.53	dry	11/30/07	NA	Shallow	3310398.96	6959436.18
LHAAP-47	LHSMW60	199.28	19.01	12/1/07	180.27	Shallow	3309451.7	6957945.07
LHAAP-49	49WW01	232.01	27.56	12/3/07	204.45	Shallow	3304439.76	6957833.57
LHAAP-49	49WW02	232.92	dry	12/3/07	NA	Shallow	3303973.53	6957381.31
LHAAP-49	49WW03	232.09	24.09	12/3/07	208.00	Shallow	3304181.87	6957653.35
LHAAP-50	50WW01	198.50	18.14	12/1/07	180.36	Shallow	3309311	6957599.96
LHAAP-50	50WW02	200.74	20.69	12/1/07	180.05	Shallow	3309569.44	6957436.64
LHAAP-50	50WW03	202.94	21.57	12/1/07	181.37	Shallow	3309376.1	6957162.82
LHAAP-50	50WW05	197.68	18.67	12/1/07	179.01	Shallow	3309709.686	6957581.445
LHAAP-58	LHSMW06	223.18	18.66	12/2/07	204.52	Shallow	3304628.53	6960079.99
LHAAP-67	67WW01	200.89	23.96	12/2/07	176.93	Shallow	3311444.82	6956911.4
LHAAP-67	67WW02	199.79	22.61	12/2/07	177.18	Shallow	3311390.65	6957060.76
LHAAP-67	67WW03	200.19	23.28	12/2/07	176.91	Shallow	3311534.45	6957010.74
LHAAP-67	67WW04	203.76	dry	12/2/07	NA	Shallow	3311590.753	6956536.519
LHAAP-67	67WW05	201.00	23.23	12/2/07	177.77	Shallow	3311095.986	6957105.216
LHAAP-67	67WW07	200.84	23.97	12/2/07	176.87	Shallow	3311722.975	6956894.798

Notes and Abbreviations:

[a] East and north in feet, North American Datum 1983, Texas North Central State Plane Coordinates (Zone 4202).

DTW - depth-to-water in feet from top of casing

GW Elev - groundwater elevation in feet above mean sea level

ID - identification

TOC Elev - top of casing elevation in feet above mean sea level

156 Starlite Drive, Marietta, OH 45750 • TEL 740-373-4071 • FAX 740-373-4835 • http://www.kemron.com

Laboratory Report Number: L0710597

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box bleow at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

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This report was reviewed on November 02, 2007.

Stephanie Mossburg

STEPHANIE MOSSBURG - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

This report was certified on November 02, 2007.

David E. Vandenberg

David Vandenberg - Vice President

FL DOH NELAP ID: E8755
This report contains a total of 266 pages.

Protecting Our Environmental Future

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1.0 Introduction

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

00072324

KEMRON Login No.: L0710597

CHAIN OF CUSTODY: The chain of custody numbers were 10301 and 10304.

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 4 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 25-OCT-07

Stephanie Mossburg

Laboratory Data Package Cover Page

00072325

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

✓R5 Test reports/summary forms for blank samples;

✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

✓R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

MICHAEL D. COCHRAN		Semivolatiles Lab Supervisor	November 1, 2007
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00072326

Laboratory Name:	KEMRON
Laboratory Log Number:	L0710597
Project Name:	798-LONGHORN
Method:	314
Prep Batch Number(s):	WG254202, WG254325
Reviewer Name:	MICHAEL D. COCHRAN
LRC Date:	October 31, 2007

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?			✓		
Were % moisture (or solids) reported for all soil and sediment samples?			✓		
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		1
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

00072327

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00072328

KEMRON Environmental Services
Laboratory Review Checklist

00072329

Laboratory Name:	KEMRON
Laboratory Log Number:	L0710597
Project Name:	798-LONGHORN
Method:	314
Prep Batch Number(s):	WG254202, WG254325
Reviewer Name:	MICHAEL D. COCHRAN
LRC Date:	October 31, 2007

EXCEPTIONS REPORT
ER# - Description
1. Samples -02, -03 and -04 extractions were not suitable to acquire enough volume for the MS/MSD analysis. The turbidity was too great to acquire volume beyond the sample and one duplicate.

(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

Laboratory Data Package Cover Page

00072330

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

DEANNA I. HESSON	Deanna I Hesson	Conventional Lab Supervisor	October 30, 2007
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00072331

Laboratory Name:	KEMRON
Laboratory Log Number:	L0710597
Project Name:	798-LONGHORN
Method:	PCTSOLIDS
Prep Batch Number(s):	WG253661
Reviewer Name:	DEANNA I. HESSON
LRC Date:	October 30, 2007

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?			✓		
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?			✓		
Were sample quantitation limits reported for all analytes not detected?			✓		
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?			✓		
Were blanks analyzed at the appropriate frequency?			✓		
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?			✓		
Were blank concentrations <MQL?			✓		
Laboratory control samples (LCS):					
Were all COCs included in the LCS?			✓		
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			✓		
Were LCSs analyzed at the required frequency?			✓		
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			✓		
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?			✓		
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?			✓		
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?			✓		
Are unadjusted MQLs included in the laboratory data package?			✓		
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?			✓		
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?			✓		
Was the number of standards recommended in the method used for all analytes?			✓		
Were all points generated between the lowest and highest standard used to calculate the curve?			✓		
Are ICAL data available for all instruments used?			✓		
Has the initial calibration curve been verified using an appropriate second source standard?			✓		
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			✓		
Were percent differences for each analyte within the method-required QC limits?			✓		
Was the ICAL curve verified for each analyte?			✓		
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?			✓		
Is the MDL either adjusted or supported by the analysis of DCSs?			✓		
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?			✓		

00072332

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?			✓		
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?			✓		
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00072333

KEMRON Environmental Services
Laboratory Review Checklist

00072334

Laboratory Name:	KEMRON
Laboratory Log Number:	L0710597
Project Name:	798-LONGHORN
Method:	PCTSOLIDS
Prep Batch Number(s):	WG253661
Reviewer Name:	DEANNA I. HESSON
LRC Date:	October 30, 2007

EXCEPTIONS REPORT
ER# - Description
Footnotes:
(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

Laboratory Data Package Cover Page

00072335

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

✓R1 Field chain-of-custody documentation;

✓R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

✓R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

✓R5 Test reports/summary forms for blank samples;

✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

✓R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

✓R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

✓R10 Other problems or anomalies.

✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: [✓] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

MIKE D. ALBERTSON		Volatiles Lab Supervisor	November 2, 2007
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00072336

Laboratory Name:	KEMRON
Laboratory Log Number:	L0710597
Project Name:	798-LONGHORN
Method:	8260B
Prep Batch Number(s):	253794, 253910, 254006, 253678, 253819, 253919, 254048
Reviewer Name:	MIKE D. ALBERTSON
LRC Date:	November 02, 2007

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?	✓				
Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓			1,2
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓			2
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?		✓			2
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			✓		
Were analytical duplicates analyzed at the appropriate frequency?			✓		
Were RPDs or relative standard deviations within the laboratory QC limits?			✓		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				4
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
ICAL					
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?		✓			3
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?	✓				
Were ion abundance data within the method-required QC limits?	✓				
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?	✓				
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

00072337

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00072338

EXCEPTIONS REPORT

ER# - Description

#1: 1,2-Dichloroethane-d4 was below the lower control limit in the analysis of sample 11 and exceeded the upper control limit in the dilution analysis of sample 09. Toluene-d8 was below the lower control limit in the analysis of sample 09. Toluene-d8 was below the lower control limit in the method blank analyzed 10/24/07 on HPMS-11. 1,2-Dichloroethane-d4 was below the lower control limit in the LCS/LCSD analzyed 10/25/07 on HPMS-6.

#2: MTBE exceeded the upper advisory limit in the LCS/LCSDs analyzed 10/25/07 on HPMS-10 and 10/26/07 on HPMS-6. Methyl acetate and MTBE exceeded the upper advisory limits in the LCS/LCSD analyzed 10/24/07 on HPMS-11. The % recoveries for methyl acetate and MTBE and the RPD for 1,2-dibromo-3-chloropropane exceeded the upper advisory limits in the LCS/LCSD analyzed 10/26/07 on HPMS-10. Methyl acetate and MTBE exceeded the upper advisory limits in the LCS analyzed 10/29/07 on HPMS-8.

#3: Methyl acetate exceeded the upper control limit in the alternate source analyzed 10/01/07 on HPMS-11.

#4: The result for trichloroethene in the un-diluted analysis of sample 09 may be bias high due to possible carry-over contamination from a previous analysis. Un-diluted reanalysis of sample 09 was not performed due to the amount of 1,1,2-trichloro-1,2,2-trifluoroethane present.

Footnotes:

(1) NA = Not applicable to method or project

(2) NR = Not reviewed

(3) ER# = Exception report number

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

LABORATORY REPORT

L0710597

11/02/07 15:18

00072342

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Biulding
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Account Number: 2773
Work ID: LHAAP

P.O. Number: 322255 OP

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
47WW18-101807	L0710597-05	8260B	1	23-OCT-07
47WW18-101807-DUP	L0710597-06	8260B	1	23-OCT-07
47WW32-101807	L0710597-07	8260B	1	23-OCT-07
47WW30-101807	L0710597-08	8260B	1	23-OCT-07
47WW30-101807	L0710597-08	8260B	25	23-OCT-07
47WW36-101907	L0710597-09	8260B	1	23-OCT-07
47WW36-101907	L0710597-09	8260B	5	23-OCT-07
47WW31-101807	L0710597-10	8260B	1	23-OCT-07
47WW25-101607	L0710597-11	8260B	1	23-OCT-07
47WW25-101607	L0710597-11	8260B	100	23-OCT-07
47WW25-101607	L0710597-11	8260B	500	23-OCT-07
LHSMW34-101807	L0710597-12	8260B	2	23-OCT-07
EQUIPMENT RINSE #1	L0710597-13	8260B	1	23-OCT-07
TRIP BLANK	L0710597-14	8260B	1	23-OCT-07

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072343

Sample Number: **L0710597-05**
Client ID: **47WW18-101807**
Matrix: **Water**
Workgroup Number: **WG253794**
Collect Date: **10/18/2007 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/25/2007 18:23**
Cal Date: **10/18/2007 16:51**
Run Date: **10/25/2007 18:23**
File ID: **10M59870**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4	0.756	J	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	5.61		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	147		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4	0.575	J	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072344

Sample Number: **L0710597-05**
Client ID: **47WW18-101807**
Matrix: **Water**
Workgroup Number: **WG253794**
Collect Date: **10/18/2007 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/25/2007 18:23**
Cal Date: **10/18/2007 16:51**
Run Date: **10/25/2007 18:23**
File ID: **10M59870**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	112	80	120	
Dibromofluoromethane	110	86	118	
p-Bromofluorobenzene	103	86	115	
Toluene-d8	98.1	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072345

Sample Number: **L0710597-06**
Client ID: **47WW18-101807-DUP**
Matrix: **Water**
Workgroup Number: **WG253794**
Collect Date: **10/18/2007 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/25/2007 18:54**
Cal Date: **10/18/2007 16:51**
Run Date: **10/25/2007 18:54**
File ID: **10M59871**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4	0.680	J	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	5.40		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	134		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4	0.520	J	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072346

Sample Number: **L0710597-06**
Client ID: **47WW18-101807-DUP**
Matrix: **Water**
Workgroup Number: **WG253794**
Collect Date: **10/18/2007 08:45**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/25/2007 18:54**
Cal Date: **10/18/2007 16:51**
Run Date: **10/25/2007 18:54**
File ID: **10M59871**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	115	80	120	
Dibromofluoromethane	110	86	118	
p-Bromofluorobenzene	97.5	86	115	
Toluene-d8	97.3	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072347

Sample Number: **L0710597-07**
Client ID: **47WW32-101807**
Matrix: **Water**
Workgroup Number: **WG254006**
Collect Date: **10/18/2007 14:45**
Sample Tag: **02**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/27/2007 14:37**
Cal Date: **10/18/2007 16:51**
Run Date: **10/27/2007 14:37**
File ID: **10M59920**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4	0.632	J	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	0.698	J	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	34.0		1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4	0.302	J	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072348

Sample Number: **L0710597-07**
Client ID: **47WW32-101807**
Matrix: **Water**
Workgroup Number: **WG254006**
Collect Date: **10/18/2007 14:45**
Sample Tag: **02**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/27/2007 14:37**
Cal Date: **10/18/2007 16:51**
Run Date: **10/27/2007 14:37**
File ID: **10M59920**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	115	80	120	
Dibromofluoromethane	108	86	118	
p-Bromofluorobenzene	101	86	115	
Toluene-d8	99.8	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072349

Sample Number: **L0710597-08**
Client ID: **47WW30-101807**
Matrix: **Water**
Workgroup Number: **WG253794**
Collect Date: **10/18/2007 10:32**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/25/2007 19:26**
Cal Date: **10/18/2007 16:51**
Run Date: **10/25/2007 19:26**
File ID: **10M59872**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4	1.94		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	10.4		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	0.336	J	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	1620	I	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4	0.747	J	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072350

Sample Number: **L0710597-08**
Client ID: **47WW30-101807**
Matrix: **Water**
Workgroup Number: **WG253794**
Collect Date: **10/18/2007 10:32**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/25/2007 19:26**
Cal Date: **10/18/2007 16:51**
Run Date: **10/25/2007 19:26**
File ID: **10M59872**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	114	80	120	
Dibromofluoromethane	109	86	118	
p-Bromofluorobenzene	97.1	86	115	
Toluene-d8	95.0	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL
I Semiquantitative result (out of instrument calibration range)

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072351

Sample Number: **L0710597-08**
Client ID: **47WW30-101807**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 10:32**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **25**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 14:04**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 14:04**
File ID: **10M59889**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	25.0	6.25
1,1,2,2-Tetrachloroethane	79-34-5		U	25.0	3.13
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	125	6.25
1,1,2-Trichloroethane	79-00-5		U	25.0	6.25
1,1-Dichloroethane	75-34-3		U	25.0	3.13
1,1-Dichloroethene	75-35-4		U	25.0	12.5
1,2,4-Trichlorobenzene	120-82-1		U	25.0	5.00
1,2-Dibromo-3-chloropropane	96-12-8		U	125	25.0
1,2-Dibromoethane	106-93-4		U	25.0	6.25
1,2-Dichlorobenzene	95-50-1		U	25.0	3.13
1,2-Dichloroethane	107-06-2		U	25.0	6.25
cis-1,2-Dichloroethene	156-59-2	9.88	J	25.0	6.25
trans-1,2-Dichloroethene	156-60-5		U	25.0	6.25
1,2-Dichloropropane	78-87-5		U	25.0	5.00
1,3-Dichlorobenzene	541-73-1		U	25.0	6.25
1,4-Dichlorobenzene	106-46-7		U	25.0	3.13
2-Butanone	78-93-3		U	250	62.5
2-Hexanone	591-78-6		U	250	62.5
4-Methyl-2-pentanone	108-10-1		U	250	62.5
Acetone	67-64-1		U	250	62.5
Benzene	71-43-2		U	25.0	3.13
Bromodichloromethane	75-27-4		U	25.0	6.25
Bromoform	75-25-2		U	25.0	12.5
Bromomethane	74-83-9		U	25.0	12.5
Carbon disulfide	75-15-0		U	25.0	12.5
Carbon tetrachloride	56-23-5		U	25.0	6.25
Chlorobenzene	108-90-7		U	25.0	3.13
Chloroethane	75-00-3		U	25.0	12.5
Chloroform	67-66-3		U	25.0	3.13
Chloromethane	74-87-3		U	25.0	6.25
cis-1,3-Dichloropropene	10061-01-5		U	25.0	6.25
Cyclohexane	110-82-7		U	125	6.25
Dibromochloromethane	124-48-1		U	25.0	6.25
Dichlorodifluoromethane	75-71-8		U	25.0	6.25
Ethyl benzene	100-41-4		U	25.0	6.25
Isopropylbenzene	98-82-8		U	25.0	6.25
Methyl acetate	79-20-9		U	250	6.25
Methyl tert-butyl ether	1634-04-4		U	125	12.5
Methylcyclohexane	108-87-2		U	250	6.25
Methylene chloride	75-09-2		U	50.0	6.25
Styrene	100-42-5		U	25.0	3.13
Tetrachloroethene	127-18-4		U	25.0	6.25
Toluene	108-88-3		U	25.0	6.25
trans-1,3-Dichloropropene	10061-02-6		U	25.0	12.5
Trichloroethene	79-01-6	1370		25.0	6.25
Trichlorofluoromethane	75-69-4		U	25.0	6.25
Vinyl chloride	75-01-4		U	25.0	6.25
Xylenes, Total	1330-20-7		U	25.0	12.5

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072352

Sample Number: **L0710597-08**
Client ID: **47WW30-101807**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 10:32**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **25**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 14:04**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 14:04**
File ID: **10M59889**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	92.7	80	120	
Dibromofluoromethane	96.4	86	118	
p-Bromofluorobenzene	101	86	115	
Toluene-d8	98.0	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072353

Sample Number: **L0710597-09**
Client ID: **47WW36-101907**
Matrix: **Water**
Workgroup Number: **WG253678**
Collect Date: **10/19/2007 09:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/24/2007 17:54**
Cal Date: **10/01/2007 15:48**
Run Date: **10/24/2007 17:54**
File ID: **11M46867**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	603	I	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	0.799	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072354

Sample Number: **L0710597-09**
Client ID: **47WW36-101907**
Matrix: **Water**
Workgroup Number: **WG253678**
Collect Date: **10/19/2007 09:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/24/2007 17:54**
Cal Date: **10/01/2007 15:48**
Run Date: **10/24/2007 17:54**
File ID: **11M46867**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	93.9	80	120	
Dibromofluoromethane	92.0	86	118	
p-Bromofluorobenzene	90.4	86	115	
Toluene-d8	87.1	88	110	*

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL
***** Surrogate or spike compound out of range
I Semiquantitative result (out of instrument calibration range)

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072355

Sample Number: **L0710597-09**
Client ID: **47WW36-101907**
Matrix: **Water**
Workgroup Number: **WG254006**
Collect Date: **10/19/2007 09:55**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **5**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/27/2007 17:19**
Cal Date: **10/18/2007 16:51**
Run Date: **10/27/2007 17:19**
File ID: **10M59925**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	5.00	1.25
1,1,2,2-Tetrachloroethane	79-34-5		U	5.00	0.625
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	606		25.0	1.25
1,1,2-Trichloroethane	79-00-5		U	5.00	1.25
1,1-Dichloroethane	75-34-3		U	5.00	0.625
1,1-Dichloroethene	75-35-4		U	5.00	2.50
1,2,4-Trichlorobenzene	120-82-1		U	5.00	1.00
1,2-Dibromo-3-chloropropane	96-12-8		U	25.0	5.00
1,2-Dibromoethane	106-93-4		U	5.00	1.25
1,2-Dichlorobenzene	95-50-1		U	5.00	0.625
1,2-Dichloroethane	107-06-2		U	5.00	1.25
cis-1,2-Dichloroethene	156-59-2		U	5.00	1.25
trans-1,2-Dichloroethene	156-60-5		U	5.00	1.25
1,2-Dichloropropane	78-87-5		U	5.00	1.00
1,3-Dichlorobenzene	541-73-1		U	5.00	1.25
1,4-Dichlorobenzene	106-46-7		U	5.00	0.625
2-Butanone	78-93-3		U	50.0	12.5
2-Hexanone	591-78-6		U	50.0	12.5
4-Methyl-2-pentanone	108-10-1		U	50.0	12.5
Acetone	67-64-1		U	50.0	12.5
Benzene	71-43-2		U	5.00	0.625
Bromodichloromethane	75-27-4		U	5.00	1.25
Bromoform	75-25-2		U	5.00	2.50
Bromomethane	74-83-9		U	5.00	2.50
Carbon disulfide	75-15-0		U	5.00	2.50
Carbon tetrachloride	56-23-5		U	5.00	1.25
Chlorobenzene	108-90-7		U	5.00	0.625
Chloroethane	75-00-3		U	5.00	2.50
Chloroform	67-66-3		U	5.00	0.625
Chloromethane	74-87-3		U	5.00	1.25
cis-1,3-Dichloropropene	10061-01-5		U	5.00	1.25
Cyclohexane	110-82-7		U	25.0	1.25
Dibromochloromethane	124-48-1		U	5.00	1.25
Dichlorodifluoromethane	75-71-8		U	5.00	1.25
Ethyl benzene	100-41-4		U	5.00	1.25
Isopropylbenzene	98-82-8		U	5.00	1.25
Methyl acetate	79-20-9		U	50.0	1.25
Methyl tert-butyl ether	1634-04-4		U	25.0	2.50
Methylcyclohexane	108-87-2		U	50.0	1.25
Methylene chloride	75-09-2		U	10.0	1.25
Styrene	100-42-5		U	5.00	0.625
Tetrachloroethene	127-18-4		U	5.00	1.25
Toluene	108-88-3		U	5.00	1.25
trans-1,3-Dichloropropene	10061-02-6		U	5.00	2.50
Trichloroethene	79-01-6		U	5.00	1.25
Trichlorofluoromethane	75-69-4		U	5.00	1.25
Vinyl chloride	75-01-4		U	5.00	1.25
Xylenes, Total	1330-20-7		U	5.00	2.50

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072356

Sample Number: **L0710597-09**
Client ID: **47WW36-101907**
Matrix: **Water**
Workgroup Number: **WG254006**
Collect Date: **10/19/2007 09:55**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **5**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/27/2007 17:19**
Cal Date: **10/18/2007 16:51**
Run Date: **10/27/2007 17:19**
File ID: **10M59925**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	127	80	120	*
Dibromofluoromethane	116	86	118	
p-Bromofluorobenzene	101	86	115	
Toluene-d8	101	88	110	

U Not detected at or above adjusted sample detection limit
***** Surrogate or spike compound out of range

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072357

Sample Number: **L0710597-10**
Client ID: **47WW31-101807**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 11:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 19:55**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 19:55**
File ID: **10M59900**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	0.329	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

00072358

Sample Number: **L0710597-10**
Client ID: **47WW31-101807**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 11:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 19:55**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 19:55**
File ID: **10M59900**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	120	80	120	
Dibromofluoromethane	110	86	118	
p-Bromofluorobenzene	103	86	115	
Toluene-d8	96.8	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072359

Sample Number: **L0710597-11**
Client ID: **47WW25-101607**
Matrix: **Water**
Workgroup Number: **WG253819**
Collect Date: **10/18/2007 09:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **10/25/2007 14:54**
Cal Date: **10/24/2007 17:33**
Run Date: **10/25/2007 14:54**
File ID: **6M70263**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3	1.81		1.00	0.125
1,1-Dichloroethene	75-35-4	19.3		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	1690	I	1.00	0.250
trans-1,2-Dichloroethene	156-60-5	3.60		1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2	0.738	J	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.288	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4	0.343	J	1.00	0.250
Toluene	108-88-3	0.660	J	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	3850	I	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4	34.9		1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072360

Sample Number: **L0710597-11**
Client ID: **47WW25-101607**
Matrix: **Water**
Workgroup Number: **WG253819**
Collect Date: **10/18/2007 09:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **10/25/2007 14:54**
Cal Date: **10/24/2007 17:33**
Run Date: **10/25/2007 14:54**
File ID: **6M70263**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	77.1	80	120	*
Dibromofluoromethane	88.6	86	118	
p-Bromofluorobenzene	98.9	86	115	
Toluene-d8	95.5	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL
***** Surrogate or spike compound out of range
I Semiquantitative result (out of instrument calibration range)

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072361

Sample Number: **L0710597-11**
Client ID: **47WW25-101607**
Matrix: **Water**
Workgroup Number: **WG253919**
Collect Date: **10/18/2007 09:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **100**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **10/26/2007 13:22**
Cal Date: **10/24/2007 17:33**
Run Date: **10/26/2007 13:22**
File ID: **6M70292**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	100	25.0
1,1,2,2-Tetrachloroethane	79-34-5		U	100	12.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	500	25.0
1,1,2-Trichloroethane	79-00-5		U	100	25.0
1,1-Dichloroethane	75-34-3		U	100	12.5
1,1-Dichloroethene	75-35-4		U	100	50.0
1,2,4-Trichlorobenzene	120-82-1		U	100	20.0
1,2-Dibromo-3-chloropropane	96-12-8		U	500	100
1,2-Dibromoethane	106-93-4		U	100	25.0
1,2-Dichlorobenzene	95-50-1		U	100	12.5
1,2-Dichloroethane	107-06-2		U	100	25.0
cis-1,2-Dichloroethene	156-59-2	1420		100	25.0
trans-1,2-Dichloroethene	156-60-5		U	100	25.0
1,2-Dichloropropane	78-87-5		U	100	20.0
1,3-Dichlorobenzene	541-73-1		U	100	25.0
1,4-Dichlorobenzene	106-46-7		U	100	12.5
2-Butanone	78-93-3		U	1000	250
2-Hexanone	591-78-6		U	1000	250
4-Methyl-2-pentanone	108-10-1		U	1000	250
Acetone	67-64-1		U	1000	250
Benzene	71-43-2		U	100	12.5
Bromodichloromethane	75-27-4		U	100	25.0
Bromoform	75-25-2		U	100	50.0
Bromomethane	74-83-9		U	100	50.0
Carbon disulfide	75-15-0		U	100	50.0
Carbon tetrachloride	56-23-5		U	100	25.0
Chlorobenzene	108-90-7		U	100	12.5
Chloroethane	75-00-3		U	100	50.0
Chloroform	67-66-3		U	100	12.5
Chloromethane	74-87-3		U	100	25.0
cis-1,3-Dichloropropene	10061-01-5		U	100	25.0
Cyclohexane	110-82-7		U	500	25.0
Dibromochloromethane	124-48-1		U	100	25.0
Dichlorodifluoromethane	75-71-8		U	100	25.0
Ethyl benzene	100-41-4		U	100	25.0
Isopropylbenzene	98-82-8		U	100	25.0
Methyl acetate	79-20-9		U	1000	25.0
Methyl tert-butyl ether	1634-04-4		U	500	50.0
Methylcyclohexane	108-87-2		U	1000	25.0
Methylene chloride	75-09-2		U	200	25.0
Styrene	100-42-5		U	100	12.5
Tetrachloroethene	127-18-4		U	100	25.0
Toluene	108-88-3		U	100	25.0
trans-1,3-Dichloropropene	10061-02-6		U	100	50.0
Trichloroethene	79-01-6	21600	I	100	25.0
Trichlorofluoromethane	75-69-4		U	100	25.0
Vinyl chloride	75-01-4		U	100	25.0
Xylenes, Total	1330-20-7		U	100	50.0

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072362

Sample Number: **L0710597-11**
Client ID: **47WW25-101607**
Matrix: **Water**
Workgroup Number: **WG253919**
Collect Date: **10/18/2007 09:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **100**
Units: **ug/L**

Instrument: **HPMS6**
Prep Date: **10/26/2007 13:22**
Cal Date: **10/24/2007 17:33**
Run Date: **10/26/2007 13:22**
File ID: **6M70292**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	81.1	80	120	
Dibromofluoromethane	89.3	86	118	
p-Bromofluorobenzene	98.8	86	115	
Toluene-d8	97.5	88	110	

U Not detected at or above adjusted sample detection limit
I Semiquantitative result (out of instrument calibration range)

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072363

Sample Number: **L0710597-11**
Client ID: **47WW25-101607**
Matrix: **Water**
Workgroup Number: **WG254048**
Collect Date: **10/18/2007 09:00**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **500**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **10/29/2007 14:04**
Cal Date: **10/22/2007 15:58**
Run Date: **10/29/2007 14:04**
File ID: **8M341032**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	500	125
1,1,2,2-Tetrachloroethane	79-34-5		U	500	62.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	2500	125
1,1,2-Trichloroethane	79-00-5		U	500	125
1,1-Dichloroethane	75-34-3		U	500	62.5
1,1-Dichloroethene	75-35-4		U	500	250
1,2,4-Trichlorobenzene	120-82-1		U	500	100
1,2-Dibromo-3-chloropropane	96-12-8		U	2500	500
1,2-Dibromoethane	106-93-4		U	500	125
1,2-Dichlorobenzene	95-50-1		U	500	62.5
1,2-Dichloroethane	107-06-2		U	500	125
cis-1,2-Dichloroethene	156-59-2	1800		500	125
trans-1,2-Dichloroethene	156-60-5		U	500	125
1,2-Dichloropropane	78-87-5		U	500	100
1,3-Dichlorobenzene	541-73-1		U	500	125
1,4-Dichlorobenzene	106-46-7		U	500	62.5
2-Butanone	78-93-3		U	5000	1250
2-Hexanone	591-78-6		U	5000	1250
4-Methyl-2-pentanone	108-10-1		U	5000	1250
Acetone	67-64-1		U	5000	1250
Benzene	71-43-2		U	500	62.5
Bromodichloromethane	75-27-4		U	500	125
Bromoform	75-25-2		U	500	250
Bromomethane	74-83-9		U	500	250
Carbon disulfide	75-15-0		U	500	250
Carbon tetrachloride	56-23-5		U	500	125
Chlorobenzene	108-90-7		U	500	62.5
Chloroethane	75-00-3		U	500	250
Chloroform	67-66-3		U	500	62.5
Chloromethane	74-87-3		U	500	125
cis-1,3-Dichloropropene	10061-01-5		U	500	125
Cyclohexane	110-82-7		U	2500	125
Dibromochloromethane	124-48-1		U	500	125
Dichlorodifluoromethane	75-71-8		U	500	125
Ethyl benzene	100-41-4		U	500	125
Isopropylbenzene	98-82-8		U	500	125
Methyl acetate	79-20-9		U	5000	125
Methyl tert-butyl ether	1634-04-4		U	2500	250
Methylcyclohexane	108-87-2		U	5000	125
Methylene chloride	75-09-2		U	1000	125
Styrene	100-42-5		U	500	62.5
Tetrachloroethene	127-18-4		U	500	125
Toluene	108-88-3		U	500	125
trans-1,3-Dichloropropene	10061-02-6		U	500	250
Trichloroethene	79-01-6	26700		500	125
Trichlorofluoromethane	75-69-4		U	500	125
Vinyl chloride	75-01-4		U	500	125
Xylenes, Total	1330-20-7		U	500	250

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072364

Sample Number: **L0710597-11**
Client ID: **47WW25-101607**
Matrix: **Water**
Workgroup Number: **WG254048**
Collect Date: **10/18/2007 09:00**
Sample Tag: **DL02**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **CMS**
Dilution: **500**
Units: **ug/L**

Instrument: **HPMS8**
Prep Date: **10/29/2007 14:04**
Cal Date: **10/22/2007 15:58**
Run Date: **10/29/2007 14:04**
File ID: **8M341032**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	99.4	80	120	
Dibromofluoromethane	100	86	118	
p-Bromofluorobenzene	100	86	115	
Toluene-d8	101	88	110	

U Not detected at or above adjusted sample detection limit

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072365

Sample Number: **L0710597-12**
Client ID: **LHSMW34-101807**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 16:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **2**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 20:27**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 20:27**
File ID: **10M59901**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	2.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	2.00	0.250
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	270		10.0	0.500
1,1,2-Trichloroethane	79-00-5		U	2.00	0.500
1,1-Dichloroethane	75-34-3	0.960	J	2.00	0.250
1,1-Dichloroethene	75-35-4		U	2.00	1.00
1,2,4-Trichlorobenzene	120-82-1		U	2.00	0.400
1,2-Dibromo-3-chloropropane	96-12-8		U	10.0	2.00
1,2-Dibromoethane	106-93-4		U	2.00	0.500
1,2-Dichlorobenzene	95-50-1		U	2.00	0.250
1,2-Dichloroethane	107-06-2		U	2.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.523	J	2.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	2.00	0.500
1,2-Dichloropropane	78-87-5		U	2.00	0.400
1,3-Dichlorobenzene	541-73-1		U	2.00	0.500
1,4-Dichlorobenzene	106-46-7		U	2.00	0.250
2-Butanone	78-93-3		U	20.0	5.00
2-Hexanone	591-78-6		U	20.0	5.00
4-Methyl-2-pentanone	108-10-1		U	20.0	5.00
Acetone	67-64-1		U	20.0	5.00
Benzene	71-43-2		U	2.00	0.250
Bromodichloromethane	75-27-4		U	2.00	0.500
Bromoform	75-25-2		U	2.00	1.00
Bromomethane	74-83-9		U	2.00	1.00
Carbon disulfide	75-15-0		U	2.00	1.00
Carbon tetrachloride	56-23-5		U	2.00	0.500
Chlorobenzene	108-90-7		U	2.00	0.250
Chloroethane	75-00-3		U	2.00	1.00
Chloroform	67-66-3		U	2.00	0.250
Chloromethane	74-87-3		U	2.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	2.00	0.500
Cyclohexane	110-82-7		U	10.0	0.500
Dibromochloromethane	124-48-1		U	2.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	2.00	0.500
Isopropylbenzene	98-82-8		U	2.00	0.500
Methyl acetate	79-20-9		U	20.0	0.500
Methyl tert-butyl ether	1634-04-4		U	10.0	1.00
Methylcyclohexane	108-87-2		U	20.0	0.500
Methylene chloride	75-09-2		U	4.00	0.500
Styrene	100-42-5		U	2.00	0.250
Tetrachloroethene	127-18-4		U	2.00	0.500
Toluene	108-88-3		U	2.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	2.00	1.00
Trichloroethene	79-01-6		U	2.00	0.500
Trichlorofluoromethane	75-69-4		U	2.00	0.500
Vinyl chloride	75-01-4		U	2.00	0.500
Xylenes, Total	1330-20-7		U	2.00	1.00

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072366

Sample Number: **L0710597-12**
Client ID: **LHSMW34-101807**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 16:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **2**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 20:27**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 20:27**
File ID: **10M59901**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	118	80	120	
Dibromofluoromethane	111	86	118	
p-Bromofluorobenzene	101	86	115	
Toluene-d8	98.9	88	110	

U Not detected at or above adjusted sample detection limit
J The analyte was positively identified, but the quantitation was below the RL

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072367

Sample Number: **L0710597-13**
Client ID: **EQUIPMENT RINSE #1**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 17:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 20:59**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 20:59**
File ID: **10M59902**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072368

Sample Number: **L0710597-13**
Client ID: **EQUIPMENT RINSE #1**
Matrix: **Water**
Workgroup Number: **WG253910**
Collect Date: **10/18/2007 17:00**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS10**
Prep Date: **10/26/2007 20:59**
Cal Date: **10/18/2007 16:51**
Run Date: **10/26/2007 20:59**
File ID: **10M59902**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	118	80	120	
Dibromofluoromethane	112	86	118	
p-Bromofluorobenzene	101	86	115	
Toluene-d8	98.7	88	110	

U Not detected at or above adjusted sample detection limit

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072369

Sample Number: **L0710597-14**
Client ID: **TRIP BLANK**
Matrix: **Water**
Workgroup Number: **WG253678**
Collect Date: **10/19/2007 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/24/2007 13:52**
Cal Date: **10/01/2007 15:48**
Run Date: **10/24/2007 13:52**
File ID: **11M46859**

Analyte	CAS. Number	Result	Qual	PQL	SDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.125
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	0.250
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	10.0	0.250
Methyl tert-butyl ether	1634-04-4		U	5.00	0.500
Methylcyclohexane	108-87-2		U	10.0	0.250
Methylene chloride	75-09-2		U	2.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Xylenes, Total	1330-20-7		U	1.00	0.500

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072370

Sample Number: **L0710597-14**
Client ID: **TRIP BLANK**
Matrix: **Water**
Workgroup Number: **WG253678**
Collect Date: **10/19/2007 00:01**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **5030B**
Analytical Method: **8260B**
Analyst: **MES**
Dilution: **1**
Units: **ug/L**

Instrument: **HPMS11**
Prep Date: **10/24/2007 13:52**
Cal Date: **10/01/2007 15:48**
Run Date: **10/24/2007 13:52**
File ID: **11M46859**

Surrogate	% Recovery	Lower	Upper	Qual
1,2-Dichloroethane-d4	88.3	80	120	
Dibromofluoromethane	91.3	86	118	
p-Bromofluorobenzene	90.5	86	115	
Toluene-d8	89.0	88	110	

U Not detected at or above adjusted sample detection limit

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

RF = [(Ax) (Cis)] / [(Ais) (Cx)]

where:	Example
Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
RF = Calculated Response Factor	**1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Vs = Purge volume of sample (mL)	**10**
Vn = Nominal purge volume of sample (mL) (10.0 mL)	**10**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]

where:	**Example**
Ax = Area of the characteristic ion for the compound being measured	**3122498**
Cis = Concentration of the specific internal standard (ug/L)	**25**
D = Dilution factor for sample as a multiplier (10x = 10)	**1**
Ais = Area of the characteristic ion of the specific internal standard	**611048**
RF = Average RF from the ICAL	**1.004**
Ws = Weight of sample purged (g)	**5**
Wn = Nominal purge weight (g) (5.0 g)	**5**
Cx = Concentration of the compound in the sample being measured (ug/L)	**127.2428**

Dry weight correction:

Percent solids (PCT_S)	**50**
Cd = (Cx) (100)/PCT_S	**254.4856**

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

y = 86550/593147 = 0.1459

Step 3: Solve for x

x = (y - b)/m = [(0.1459 -(- 0.00642)]/ 0.213 = 0.7152

Step 4: Solve for analyte concentration Cx

Cx = Cis (x) = (25.0)(0.7152) = 17.88

Example Spreadsheet Calculation:

Slope from curve, m:	**0.213**
Intercept from curve, b:	**-0.00642**
Area of analyte, Ax:	**86550**
Area of Internal Standard , Ais:	**593147**
Concentration of IS, Cis	**25.00**
Response Ratio:	**0.145917**
Amount Ratio:	**0.715195**
Concentration:	**17.87988**
Units of Internal Standard:	**ug/L**

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, y = Ax^2 + Bx + C
Where:
Ax^2 + Bx + (C - y) = 0
A, B, C = constants from the ICAL quadratic regression
y = Response ratio = Area of analyte/Area of internal standard (IS)
x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

y = Ax/Ais

Step 3: Solve for x using the quadratic formula
Ax^2 + Bx + C - y = 0

$$x = \frac{b \pm \sqrt{\left(b^2 - 4a(c - y)\right)}}{2a}$$ (Two possible solutions)

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(Amount ratio)

Example Spreadsheet Calculation:

Value of A from plot:	**-0.00629**	
Value of B from plot:	**0.511**	
Value of C from plot:	**-0.0276**	
Area of unknown from quantitation report:	**293821**	
Area of IS from quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

KEMRON Environmental Services

Instrument Run Log

00072374

Instrument: HPMS11 Dataset: 100107
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21097

Internal Standard: STD21833 Surrogate Standard: STD22023
CCV: STD22186 LCS: STD22188 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG251532,WG251619

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M46046	SYSTEM BLANK	NA	1	1		10/01/07 08:53
2	11M46047	SYSTEM BLANK	NA	1	1		10/01/07 09:23
3	11M46048	SYSTEM BLANK	NA	1	1		10/01/07 10:00
4	11M46049	SYSTEM BLANK	NA	1	1		10/01/07 10:40
5	11M46050	WG251532-01 50NG BFB STD 8260	NA	1	1	STD21685	10/01/07 11:15
6	11M46051	WG251532-02 0.3ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 11:40
7	11M46052	WG251532-03 0.4 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 12:11
8	11M46053	WG251532-04 1 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 12:42
9	11M46054	WG251532-05 2 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 13:12
10	11M46055	WG251532-06 5 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 13:42
11	11M46056	WG251532-07 20 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 14:18
12	11M46057	WG251532-08 50 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 14:48
13	11M46058	WG251532-09 100 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 15:18
14	11M46059	WG251532-10 200 ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 15:48
15	11M46060	SYSTEM BLANK	NA	1	1		10/01/07 16:19
16	11M46061	SYSTEM BLANK	NA	1	1		10/01/07 16:49
17	11M46062	SYSTEM BLANK	NA	1	1		10/01/07 17:23
18	11M46063	WG251532-11 20ug/L ALT SOURCE 8260	NA	1	1	STD22188	10/01/07 18:05
19	11M46064	WG251618-01 50NG BFB STD 8260	NA	1	1	STD21685	10/01/07 18:38
42	11M46065	WG251618-02 50ug/L WATER STD 8260	NA	1	1	STD22186	10/01/07 19:02
20	11M46066	SYSTEM BLANK	NA	1	1		10/01/07 19:32
21	11M46067	WG251532-11 20ug/L ALT SOURCE	NA	1	1	STD22188	10/01/07 20:02
22	11M46068	WG251619-01 VBLK1001 BLANK 8260	NA	1	1		10/01/07 20:32
23	11M46069	WG251619-01 VBLK1001 BLANK 8260	NA	1	1		10/01/07 21:02
24	11M46070	WG251619-02 20ug/L LCS 8260	NA	1	1	STD22188	10/01/07 21:32
25	11M46071	WG251619-03 20ug/L LCSDUP 8260	NA	1	1	STD22188	10/01/07 22:02
26	11M46072	L0709662-09 B D1 5X 826-SPE	<2	1	5		10/01/07 22:33
27	11M46073	L0709662-10 B D1 10X 826-SPE	<2	1	10		10/01/07 23:03
28	11M46074	L0709662-11 B D1 10X 826-SPE	5	1	10		10/01/07 23:33
29	11M46075	L0709499-11 B D1 10X 826-SPE	<2	1	10		10/02/07 00:03
30	11M46076	L0709540-08 A 826-SPE	<2	1	1		10/02/07 00:33
31	11M46077	L0709542-09 A 826-SPE	<2	1	1		10/02/07 01:03
32	11M46078	L0709540-01 A 826-SPE	<2	1	1		10/02/07 01:34
33	11M46079	L0709540-02 A 826-SPE	<2	1	1		10/02/07 02:04

Approved: October 03, 2007

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KEMRON Environmental Services

Instrument Run Log

00072375

Instrument: HPMS11 Dataset: 100107
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21097

Internal Standard: STD21833 Surrogate Standard: STD22023
CCV: STD22186 LCS: STD22188 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG251532,WG251619

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
34	11M46080	L0709540-04 A 826-SPE	<2	1	1		10/02/07 02:34
35	11M46081	L0709540-05 A 826-SPE	<2	1	1		10/02/07 03:04
36	11M46082	L0709540-06 A 826-SPE	<2	1	1		10/02/07 03:34
37	11M46083	L0709540-07 A 826-SPE	<2	1	1		10/02/07 04:05
38	11M46084	L0709538-05 A 826-SPE	<2	1	1		10/02/07 04:35
39	11M46085	L0709538-07 A 826-SPE	<2	1	1		10/02/07 05:05
40	11M46086	L0709600-19 A 826-SPE	<2	1	1		10/02/07 05:35
41	11M46087	L0709600-21 A 826-SPE	<2	1	1		10/02/07 06:05

Comments

Seq.	Rerun	Dil.	Reason	Analytes
18				
File ID: 11M46063				
Do not report.				

Approved: October 03, 2007

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KEMRON Environmental Services

Instrument Run Log

00072376

Instrument: HPMS10 Dataset: 101807
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21384

Internal Standard: STD22019 Surrogate Standard: STD22132
CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253187

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	10M59716	WG253187-01 50NG BFB STD 8260	NA	1	1	STD22252	10/18/07 08:52
2	10M59717	SYSTEM BLANK	NA	1	1		10/18/07 09:18
3	10M59718	WG253187-02 0.3 ug/L WATER STD 8260	NA	1	1	STD22560	10/18/07 09:57
4	10M59719	WG253187-03 0.4 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 10:29
5	10M59720	WG253187-04 1 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 11:00
6	10M59721	WG253187-05 2 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 11:31
7	10M59722	WG253187-06 5 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 12:03
8	10M59723	WG253187-07 20 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 12:35
9	10M59724	WG253187-08 50 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 13:07
10	10M59725	WG253187-09 100 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 13:45
11	10M59726	WG253187-10 200 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 14:16
12	10M59727	WG253187-11 300 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 14:47
13	10M59728	SYSTEM BLANK	NA	1	1		10/18/07 15:18
14	10M59729	SYSTEM BLANK	NA	1	1		10/18/07 15:49
15	10M59730	SYSTEM BLANK	NA	1	1		10/18/07 16:20
16	10M59731	WG253187-03 0.4 ug/L WATER STD 8260	NA	1	1	STD22565	10/18/07 16:51
17	10M59732	WG253187-12 20ug/L ALT SOURCE	NA	1	1	STD22409	10/18/07 18:23
18	10M59733	WG253187-12 100ug/L MA OXY ALT SOUR	NA	1	1	STD22474	10/18/07 18:55
19	10M59734	WG253187-13 100ug/L MA OXY ALT SOUR	NA	1	1	STD22474	10/18/07 19:37
20	10M59735	SYSTEM BLANK	NA	1	1		10/18/07 20:08

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4 File ID: 10M59719				
Do not report.				
18 File ID: 10M59733				
Do not report.				

Approved: October 23, 2007

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KEMRON Environmental Services

Instrument Run Log

00072377

Instrument: HPMS8 Dataset: 102207
Analyst1: CMS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 624 SOP: MSV10 Rev: 9
Method: 5030B SOP: PAT01 Rev: 10
Maintenance Log ID: 21419

Internal Standard: STD22561 Surrogate Standard: STD22637
CCV: STD22616 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253480

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	8M340855	SYSTEM BLANK	NA	1	1		10/22/07 08:24
2	8M340856	50ug/L STD CHK	NA	1	1	STD22560	10/22/07 09:04
3	8M340857	SYSTEM BLANK	NA	1	1		10/22/07 09:36
4	8M340858	WG253480-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/22/07 10:02
5	8M340859	WG253480-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/22/07 10:16
6	8M340860	WG253480-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/22/07 11:00
7	8M340861	WG253480-02 0.30ug/L STD 8260	NA	1	1	STD22616	10/22/07 11:30
8	8M340862	WG253480-03 0.40ug/L STD 8260	NA	1	1	STD22616	10/22/07 12:00
9	8M340863	WG253480-04 1ug/L STD 8260	NA	1	1	STD22616	10/22/07 12:29
10	8M340864	WG253480-05 2ug/L STD 8260	NA	1	1	STD22616	10/22/07 12:59
11	8M340865	WG253480-06 5ug/L STD 8260	NA	1	1	STD22616	10/22/07 13:30
12	8M340866	WG253480-07 20ug/L STD 8260	NA	1	1	STD22616	10/22/07 14:00
13	8M340867	WG253480-08 50ug/L STD 8260	NA	1	1	STD22616	10/22/07 14:29
14	8M340868	WG253480-09 100ug/L STD 8260	NA	1	1	STD22616	10/22/07 14:59
15	8M340869	WG253480-10 200ug/L STD 8260	NA	1	1	STD22616	10/22/07 15:28
16	8M340870	WG253480-11 300ug/L STD 8260	NA	1	1	STD22616	10/22/07 15:58
17	8M340871	SYSTEM BLANK	NA	1	1		10/22/07 16:27
18	8M340872	SYSTEM BLANK	NA	1	1		10/22/07 16:57
19	8M340873	WG253480-12 20ug/L ALT SOURCE STD 8	NA	1	1	STD22622	10/22/07 17:26
20	8M340874	SYSTEM BLANK	NA	1	1		10/22/07 17:56
21	8M340875	SYSTEM BLANK	NA	1	1		10/22/07 18:25

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X			
File ID: 8M340858				
	Tune failed/DNR			
5	X			
File ID: 8M340859				
	Tune failed/DNR-Baked system out and replaced septa			
19	X		Surrogate standard failure	
File ID: 8M340873				
	DNR			

Approved: October 24, 2007

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KEMRON Environmental Services

Instrument Run Log

00072378

Instrument: HPMS8 Dataset: 102307
Analyst1: CMS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030B SOP: PAT01 Rev: 10

Maintenance Log ID: 21424

Internal Standard: STD22561 Surrogate Standard: STD22637
CCV: STD22616;STD22513 LCS: STD22622;STD22514 MS/MSD: STD22622

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253480;WG253579

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	8M340877	WG253578-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/23/07 08:29
2	8M340878	WG253578-02 50ug/L STD 8260	NA	1	1	STD22616	10/23/07 08:57
3	8M340879	WG253578-02 50ug/L STD 8260	NA	1	1	STD22616	10/23/07 09:34
4	8M340880	WG253580-01 100ug/L A9FOO STD 8260	NA	1	1	STD22513	10/23/07 10:07
5	8M340881	WG253579-01 VBLK1023 BLANK 8260	NA	1	1		10/23/07 10:37
6	8M340882	WG253480-12 20ug/L ALT SOURCE STD 8	NA	1	1	STD22622	10/23/07 11:07
7	8M340883	WG253579-02 20ug/L LCS STD 8260	NA	1	1	STD22622	10/23/07 11:36
8	8M340884	WG253579-03 100ug/L A9FOOLCS STD 82	NA	1	1	STD22514	10/23/07 12:06
9	8M340885	L0710575-01 B 826-SPE2	=7	1	1		10/23/07 12:36
10	8M340886	L0710574-03 B 20X 826-SPE2 D1	=7	1	20		10/23/07 13:05
11	8M340887	L0710577-01 A 826-SPE1	<2	1	1		10/23/07 13:35
12	8M340888	L0710577-02 A 826-SPE1	<2	1	1		10/23/07 14:05
13	8M340889	L0710526-05 A 826-SPE	<2	1	1		10/23/07 14:34
14	8M340890	L0710526-01 A 826-SPE	<2	1	1		10/23/07 15:04
15	8M340891	L0710526-02 A 826-SPE	<2	1	1		10/23/07 15:34
16	8M340892	L0710526-03 A 826-SPE	<2	1	1		10/23/07 16:03
17	8M340893	L0710526-04 A 826-SPE	<2	1	1		10/23/07 16:33
18	8M340894	WG253579-04 L0710527-03 A 826-SPE1	<2	1	1		10/23/07 17:03
19	8M340895	WG253579-05 L0710527-04 MS A 826-SP	<2	1	1	STD22622	10/23/07 17:33
20	8M340896	WG253579-06 L0710527-05 MSD A 826-S	<2	1	1	STD22622	10/23/07 18:03
21	8M340897	L0710556-01 A 10X 826-TC	NA	17	10		10/23/07 18:33
22	8M340898	L0710556-03 A 10X 826-TC	NA	17	10		10/23/07 19:03
23	8M340899	L0710556-05 A 10X 826-TC	NA	17	10		10/23/07 19:33
24	8M340900	L0710556-07 A 10X 826-TC	NA	17	10		10/23/07 20:03
25	8M340901	SYSTEM BLANK	NA	1	1		10/23/07 20:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X		Check Standard Failure	
File ID: 8M340878				
	DNR			
17	X	10	Over Calibration Range	TCE
File ID: 8M340893				

Approved: October 24, 2007

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KEMRON Environmental Services

Instrument Run Log

00072379

Instrument: HPMS8 Dataset: 102307

Analyst1: CMS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 10

Method: 5030B SOP: PAT01 Rev: 10

Maintenance Log ID: 21424

Internal Standard: STD22561 Surrogate Standard: STD22637

CCV: STD22616;STD22513 LCS: STD22622;STD22514 MS/MSD: STD22622

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253480;WG253579

Comments

Seq.	Rerun	Dil.	Reason	Analytes
18	X		Carry-over contamination	
File ID: 8M340894				
	QC ONLY			
19	X			
File ID: 8M340895				
	QC ONLY			
20	X			
File ID: 8M340896				
	QC ONLY			

Approved: October 24, 2007

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KEMRON Environmental Services

Instrument Run Log

00072380

Instrument: HPMS11 Dataset: 102407
Analyst1: MES Analyst2: TMB
Method: 8260B SOP: MSV01 Rev: 10
Method: 624 SOP: MSV10 Rev: 9
Method: 5030/5035 SOP: PAT01 Rev: 10
Maintenance Log ID: 21449

Internal Standard: STD22304 Surrogate Standard: STD22615
CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253678

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	11M46848	SYSTEM BLANK	NA	1	1		10/24/07 08:23
2	11M46849	SYSTEM BLANK	NA	1	1		10/24/07 08:54
3	11M46850	WG253676-01 50ng BFB STD 8260	NA	1	1	STD22252	10/24/07 09:19
4	11M46851	WG253676-02 50ug/L CCV STD 8260	NA	1	1	STD22565	10/24/07 09:42
5	11M46852	WG253678-01 VBLK1024 BLANK 8260	NA	1	1		10/24/07 10:21
6	11M46853	WG253678-01 VBLK1024 BLANK 8260	NA	1	1		10/24/07 10:51
7	11M46854	WG253678-02 20ug/L LCS STD 8260	NA	1	1	STD22574	10/24/07 11:21
8	11M46855	WG253678-03 20ug/L LCSDUP STD 8260	NA	1	1	STD22574	10/24/07 11:52
9	11M46856	L0710605-01 A 826-BETX	<2	1	1		10/24/07 12:22
10	11M46857	L0710610-05 A 826-SPE	<2	1	1		10/24/07 12:52
11	11M46858	L0710596-15 A 826-SPE	<2	1	1		10/24/07 13:22
12	11M46859	L0710597-14 A 826-SPE	<2	1	1		10/24/07 13:52
13	11M46860	L0710610-01 A 826-SPE	<2	1	1		10/24/07 14:23
14	11M46861	L0710610-02 A 826-SPE	<2	1	1		10/24/07 14:53
15	11M46862	L0710610-03 A 826-SPE	<2	1	1		10/24/07 15:23
16	11M46863	L0710610-04 A 10X 826-SPE	<2	1	10		10/24/07 15:54
17	11M46864	L0710596-01 A 826-SPE	<2	1	1		10/24/07 16:23
18	11M46865	L0710596-02 A 826-SPE	5	1	1		10/24/07 16:53
19	11M46866	L0710596-05 A 826-SPE	<2	1	1		10/24/07 17:23
20	11M46867	L0710597-09 A 826-SPE	<2	1	1		10/24/07 17:54
21	11M46868	L0710596-07 A 826-SPE	<2	1	1		10/24/07 18:24
22	11M46869	L0710596-08 A 826-SPE	<2	1	1		10/24/07 18:55
23	11M46870	L0710596-09 A 826-SPE	<2	1	1		10/24/07 19:25
24	11M46871	L0710596-10 A 826-SPE	<2	1	1		10/24/07 19:56
25	11M46872	L0710596-11 A 826-SPE	<2	1	1		10/24/07 20:26
26	11M46873	L0710597-07 A 826-SPE	<2	1	1		10/24/07 20:56
27	11M46874	SYSTEM BLANK	NA	1	1		10/24/07 21:27
28	11M46875	WG253678-04 624 BLANK	NA	1	1		10/24/07 21:57
29	11M46876	L0710674-01 A 624-SPE	3	2	1		10/24/07 22:28
30	11M46877	L0710680-01 A 624-SPE	7	2	1		10/24/07 22:59

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Approved: October 26, 2007

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KEMRON Environmental Services

Instrument Run Log

00072381

Instrument: HPMS11 Dataset: 102407

Analyst1: MES Analyst2: TMB

Method: 8260B SOP: MSV01 Rev: 10

Method: 624 SOP: MSV10 Rev: 9

Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21449

Internal Standard: STD22304 Surrogate Standard: STD22615

CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253678

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16	X	1	Analyzed too dilute	
File ID: 11M46863				
	Do not report.			
17	X	100	Over Calibration Range	cis-1,2-DCE and TCE
File ID: 11M46864				
18	X	10	Over Calibration Range	TCE
File ID: 11M46865				
19	X	1	Carry-over contamination	
File ID: 11M46866				
	Do not report.			
20	X	5	Over Calibration Range	FREON-113
File ID: 11M46867				
21	X	1	Carry-over contamination	
File ID: 11M46868				
	Do not report.			
23	X	20	Over Calibration Range	FREON-113
File ID: 11M46870				
24	X	1	Carry-over contamination	
File ID: 11M46871				
	Do not report.			

Approved: October 26, 2007

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KEMRON Environmental Services

Instrument Run Log

00072382

Instrument: HPMS6 Dataset: 102407
Analyst1: CMS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21450

Internal Standard: NA Surrogate Standard: NA
CCV: STD22673 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253721

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M70223	WG253668-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/24/07 07:18
2	6M70224	WG253668-02 50ug/L STD 8260	NA	1	1	STD22640	10/24/07 07:41
3	6M70225	WG253669-01 VBLK1024 BLANK 8260	NA	1	1		10/24/07 08:14
4	6M70226	WG253669-01 VBLK1024 BLANK 8260	NA	1	1		10/24/07 08:46
5	6M70228	SYSTEM BLANK FILAMENT 2	NA	1	1		10/24/07 09:50
6	6M70229	SYSTEM BLANK FILAMENT 2	NA	1	1		10/24/07 10:23
7	6M70230	SYSTEM BLANK FILAMENT 2	NA	1	1		10/24/07 11:07
8	6M70231	BFB STD CHK	NA	1	1	STD22252	10/24/07 11:37
9	6M70232	WG253721-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/24/07 11:50
10	6M70233	WG253721-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/24/07 12:10
11	6M70234	WG253721-03 0.40ug/L STD 8260	NA	1	1	STD22673	10/24/07 12:45
12	6M70235	WG253721-02 0.30ug/L STD 8260	NA	1	1	STD22673	10/24/07 13:17
13	6M70236	WG253721-04 1ug/L STD 8260	NA	1	1	STD22673	10/24/07 13:49
14	6M70237	WG253721-05 2ug/L STD 8260	NA	1	1	STD22673	10/24/07 14:21
15	6M70238	WG253721-06 5ug/L STD 8260	NA	1	1	STD22673	10/24/07 14:53
16	6M70239	WG253721-07 20ug/L STD 8260	NA	1	1	STD22673	10/24/07 15:25
17	6M70240	WG253721-08 50ug/L STD 8260	NA	1	1	STD22673	10/24/07 15:57
18	6M70241	WG253721-09 100ug/L STD 8260	NA	1	1	STD22673	10/24/07 16:29
19	6M70242	WG253721-10 200ug/L STD 8260	NA	1	1	STD22673	10/24/07 17:01
20	6M70243	WG253721-11 300ug/L STD 8260	NA	1	1	STD22673	10/24/07 17:33
21	6M70244	SYSTEM BLANK	NA	1	1		10/24/07 18:05
22	6M70245	SYSTEM BLANK	NA	1	1		10/24/07 18:36
23	6M70246	WG253721-12 20ug/L ALT SOURCE STD 8	NA	1	1	STD22622	10/24/07 19:08
24	6M70247	SYSTEM BLANK	NA	1	1		10/24/07 19:40
25	6M70248	SYSTEM BLANK	NA	1	1		10/24/07 20:12
26	6M70249	SYSTEM BLANK	NA	1	1		10/24/07 20:44
27	6M70250	SYSTEM BLANK	NA	1	1		10/24/07 21:17

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4				
File ID: 6M70226				
Blew filament 1, switched to filament 2.				

Approved: October 26, 2007

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KEMRON Environmental Services

Instrument Run Log

00072383

Instrument: HPMS6 Dataset: 102407

Analyst1: CMS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 10

Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21450

Internal Standard: NA Surrogate Standard: NA

CCV: STD22673 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253721

Comments

Seq.	Rerun	Dil.	Reason	Analytes
9 File ID: 6M70232				
	Do not report-running to make sure that BFB is passing.			
23 File ID: 6M70246				
	Do not report-RR for Trichlorofluoromethane.			

Approved: October 26, 2007

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KEMRON Environmental Services

Instrument Run Log

00072384

Instrument: HPMS10 Dataset: 102507
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21463

Internal Standard: STD22019 Surrogate Standard: STD22132
CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253794

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	10M59849	WG253793-01 50NG BFB STD 8260	NA	1	1	STD22252	10/25/07 07:51
2	10M59850	WG253793-01 50NG BFB STD 8260	NA	1	1	STD22252	10/25/07 08:04
3	10M59851	WG253793-02 50ug/L WATER STD 8260	NA	1	1	STD22565	10/25/07 08:27
4	10M59852	WG253794-01 VBLK1025 BLANK 8260	NA	1	1		10/25/07 09:00
5	10M59853	WG253794-01 VBLK1025 BLANK 8260	NA	1	1		10/25/07 09:31
6	10M59854	WG253794-02 20ug/L LCS 8260	NA	1	1	STD22574	10/25/07 10:03
7	10M59855	WG253794-03 20ug/L LCSDUP 8260	NA	1	1	STD22574	10/25/07 10:35
8	10M59856	L0710582-10 B D1 10X 826-LOW	<2	1	10		10/25/07 11:06
9	10M59857	L0710616-01 A 826-SPE	<2	1	1		10/25/07 11:37
10	10M59858	L0710557-03 B 826-SPE	<2	1	1		10/25/07 12:08
11	10M59859	L0710596-05 B 826-SPE	<2	1	1		10/25/07 12:40
12	10M59860	L0710596-07 B 826-SPE	<2	1	1		10/25/07 13:11
13	10M59861	L0710596-10 B 826-SPE	<2	1	1		10/25/07 13:42
14	10M59862	L0710582-11 B D1 10X 826-LOW	<2	1	10		10/25/07 14:13
15	10M59863	L0710582-15 B D1 10X 826-LOW	<2	1	10		10/25/07 14:44
16	10M59864	L0710582-05 B D1 10X 826-LOW	<2	1	10		10/25/07 15:15
17	10M59865	L0710616-02 A 826-SPE	<2	1	1		10/25/07 15:46
18	10M59866	L0710616-03 A 826-SPE	<2	1	1		10/25/07 16:17
19	10M59867	L0710616-04 A 826-SPE	<2	1	1		10/25/07 16:48
20	10M59868	L0710616-05 A 826-SPE	<2	1	1		10/25/07 17:19
21	10M59869	L0710616-06 A 826-SPE	<2	1	1		10/25/07 17:51
22	10M59870	L0710597-05 A 826-SPE	<2	1	1		10/25/07 18:23
23	10M59871	L0710597-06 A 826-SPE	<2	1	1		10/25/07 18:54
24	10M59872	L0710597-08 A 826-SPE	<2	1	1		10/25/07 19:26
25	10M59873	L0710597-10 A 826-SPE	<2	1	1		10/25/07 19:57
26	10M59874	SYSTEM BLANK	NA	1	1		10/25/07 20:28
27	10M59875	SYSTEM BLANK	NA	1	1		10/25/07 21:00
28	10M59877	SYSTEM CHECK	NA	1	1		10/25/07 21:32

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1				
File ID: 10M59849				

Approved: October 29, 2007

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KEMRON Environmental Services

Instrument Run Log

00072385

Instrument: HPMS10 Dataset: 102507

Analyst1: MES Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 10

Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21463

Internal Standard: STD22019 Surrogate Standard: STD22132

CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253794

Comments

Seq.	Rerun	Dil.	Reason	Analytes
			RR, BFB failed.	
24	X	25	Over Calibration Range	TCE
File ID: 10M59872				
25	X	1	Carry-over contamination	
File ID: 10M59873				
			Do not report.	

Approved: October 29, 2007

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KEMRON Environmental Services

Instrument Run Log

00072386

Instrument: HPMS6 Dataset: 102507
Analyst1: CMS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 624 SOP: MSV10 Rev: 9
Method: 5030B SOP: PAT01 Rev: 10
Maintenance Log ID: 21477

Internal Standard: STD22318 Surrogate Standard: STD22613
CCV: STD22673 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253819

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M70252	WG253818-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/25/07 09:30
2	6M70253	WG253818-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/25/07 09:44
3	6M70254	WG253818-02 50ug/L WATER STD 8260	NA	1	1	STD22673	10/25/07 10:08
4	6M70255	SYSTEM BLANK	NA	1	1		10/25/07 10:40
5	6M70256	WG253721-12 20ug/L ALT SOURCE 8260	NA	1	1	STD22622	10/25/07 11:12
6	6M70257	WG253819-01 VBLK1025 BLANK 8260	NA	1	1		10/25/07 11:44
7	6M70258	WG253819-02 20ug/L LCS 8260	NA	1	1	STD226222	10/25/07 12:15
8	6M70259	WG253819-03 20ug/L LCSDUP 8260	NA	1	1	STD226222	10/25/07 12:47
9	6M70260	L0710578-05 A 826-SPE1	<2	1	1		10/25/07 13:19
10	6M70261	L0710578-06 A 826-SPE1	<2	1	1		10/25/07 13:50
11	6M70262	L0710547-06 B 200X 826-LOW	<2	1	200		10/25/07 14:22
12	6M70263	L0710597-11 A 826-SPE	<2	1	1		10/25/07 14:54
13	6M70264	L0710597-12 A 826-SPE	<2	1	1		10/25/07 15:26
14	6M70265	L0710597-13 A 826-SPE	<2	1	1		10/25/07 15:58
15	6M70266	L0710578-02 A 826-SPE1	<2	1	1		10/25/07 16:30
16	6M70267	L0710536-16 A 8260	<2	1	1		10/25/07 17:02
17	6M70268	L0710536-11 A 8260	<2	1	1		10/25/07 17:35
18	6M70269	L0710536-14 A 8260	<2	1	1		10/25/07 18:07
19	6M70270	L0710536-01 A 200X 8260	<2	1	200		10/25/07 18:39
20	6M70271	L0710536-03 A 100X 8260	<2	1	100		10/25/07 19:11
21	6M70272	L0710536-05 A 100X 8260	<2	1	100		10/25/07 19:43
22	6M70273	L0710536-07 A 100X 8260	<2	1	100		10/25/07 20:15
23	6M70274	L0710536-09 A 50X 8260	=7	1	50		10/25/07 20:47
24	6M70275	L0710536-12 A 500X 8260	=6	1	500		10/25/07 21:20
25	6M70276	SYSTEM BLANK	NA	1	1		10/25/07 21:52
26	6M70277	WG253819-04 624 BLANK	NA	2	1		10/25/07 22:24
27	6M70278	L0710681-01 A 624-SPE	=7	2	1		10/25/07 22:56
28	6M70279	L0710681-02 A 624-SPE	=7	2	1		10/25/07 23:28
29	6M70280	L0710153-01 B 826-REF-BLK	<2	1	1		10/26/07 00:00

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			

Approved: October 30, 2007

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KEMRON Environmental Services

Instrument Run Log

00072387

Instrument: HPMS6 Dataset: 102507
Analyst1: CMS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 624 SOP: MSV10 Rev: 9
Method: 5030B SOP: PAT01 Rev: 10
Maintenance Log ID: 21477

Internal Standard: STD22318 Surrogate Standard: STD22613
CCV: STD22673 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253819

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 6M70252				
	Tune failed/DNR			
9	X		Surrogate standard failure	
File ID: 6M70260				
	DNR			
12	X	100	Over Calibration Range	cis-1,2-DCE, TCE
File ID: 6M70263				
13	X	2	Carry-over contamination	
File ID: 6M70264				
	DNR			
14	X		Carry-over contamination	
File ID: 6M70265				
	DNR			
15	X	25	Over Calibration Range	cis-1,2-DCE, TCE
File ID: 6M70266				
16	X		Carry-over contamination	
File ID: 6M70267				
	DNR			
17	X		Carry-over contamination	
File ID: 6M70268				
	DNR			
18	X		Carry-over contamination	
File ID: 6M70269				
	DNR			
21	X	1000	Over Calibration Range	Tol., CB, Styrene
File ID: 6M70272				
22	X	1000	Over Calibration Range	Tol., CB, Styrene
File ID: 6M70273				
23	X	100	Over Calibration Range	Tol.
File ID: 6M70274				
24	X	1000	Over Calibration Range	CB

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KEMRON Environmental Services

Instrument Run Log

00072388

Instrument: HPMS6 Dataset: 102507

Analyst1: CMS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 10

Method: 624 SOP: MSV10 Rev: 9

Method: 5030B SOP: PAT01 Rev: 10

Maintenance Log ID: 21477

Internal Standard: STD22318 Surrogate Standard: STD22613

CCV: STD22673 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253819

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 6M70275				

Approved: October 30, 2007

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KEMRON Environmental Services

Instrument Run Log

00072389

Instrument: HPMS6 Dataset: 102607

Analyst1: MES Analyst2: CMS

Method: 8260B SOP: MSV01 Rev: 10

Method: 624 SOP: MSV10 Rev: 9

Method: 5030B SOP: PAT01 Rev: 10

Maintenance Log ID: 21480

Internal Standard: STD22318 Surrogate Standard: SD22613

CCV: STD22673 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253919

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	6M70282	SYSTEM BLANK	NA	1	1		10/26/07 07:40
2	6M70283	WG253918-01 50NG BFB STD 8260	NA	1	1	STD22252	10/26/07 08:32
3	6M70284	WG253918-01 50NG BFB STD 8260	NA	1	1	STD22252	10/26/07 08:45
4	6M70285	WG253918-01 50NG BFB STD 8260	NA	1	1	STD22252	10/26/07 09:28
5	6M70286	WG253918-02 50ug/L WATER STD 8260	NA	1	1	STD22673	10/26/07 09:51
6	6M70287	WG253918-02 50ug/L WATER STD 8260	NA	1	1	STD22673	10/26/07 10:25
7	6M70288	WG253919-01 VBLK1026 BLANK 8260	NA	1	1		10/26/07 11:10
8	6M70289	WG253919-01 VBLK1026 BLANK 8260	NA	1	1		10/26/07 11:43
9	6M70290	WG253919-02 20ug/L LCS 8260	NA	1	1	STD22622	10/26/07 12:16
10	6M70291	WG253919-03 20ug/L LCSDUP 8260	NA	1	1	STD22622	10/26/07 12:48
11	6M70292	L0710597-11 B 100X 826-SPE D1	<2	1	100		10/26/07 13:22
12	6M70293	L0710583-02 A 10X 826-SPLP	NA	18	10		10/26/07 13:55
13	6M70294	L0710578-02 B 25X 826-SPE1 D1	<2	1	25		10/26/07 14:27
14	6M70295	L0710536-05 B 1000X 8260 D1	<2	1	1000		10/26/07 14:59
15	6M70296	L0710536-07 B 1000X 8260 D1	<2	1	1000		10/26/07 15:31
16	6M70297	L0710536-09 B 100X 8260 D1	=7	1	100		10/26/07 16:03
17	6M70298	L0710536-12 B 1000X 8260 D1	=7	1	1000		10/26/07 16:35
18	6M70299	WG253919-04 624 BLANK	NA	1	1		10/26/07 17:07
19	6M70300	L0710718-02 A 624	=7	2	1		10/26/07 17:39
20	6M70301	L0710718-01 A 2X 624	=7	2	2		10/26/07 18:11
21	6M70302	L0710718-03 A 5X 624	=7	2	5		10/26/07 18:44
22	6M70303	L0710513-07 A 826-LOW	<2	1	1		10/26/07 19:16
23	6M70304	L0710447-05 B 826-SPE	<2	1	1		10/26/07 19:49
24	6M70305	L0710447-06 B 826-SPE	<2	1	1		10/26/07 20:21
25	6M70306	L0710513-04 A 826-LOW	<2	1	1		10/26/07 20:54
26	6M70307	L0710513-05 A 826-LOW	<2	1	1		10/26/07 21:26
27	6M70308	SYSTEM BLANK	NA	1	1		10/26/07 21:58
28	6M70309	SYSTEM BLANK	NA	1	1		10/26/07 22:31
29	6M70310	L0710737-03 A 624-SPE	=7	2	1		10/26/07 23:03
30	6M70311	VIAL 10/24/07	NA	2	1		10/26/07 23:35
31	6M70312	VIAL 10/24/07 HCL	NA	2	1		10/27/07 00:08

Comments

Approved: October 30, 2007

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KEMRON Environmental Services

Instrument Run Log

00072390

Instrument: HPMS6 Dataset: 102607

Analyst1: MES Analyst2: CMS

Method: 8260B SOP: MSV01 Rev: 10

Method: 624 SOP: MSV10 Rev: 9

Method: 5030B SOP: PAT01 Rev: 10

Maintenance Log ID: 21480

Internal Standard: STD22318 Surrogate Standard: SD22613

CCV: STD22673 LCS: STD22622 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253919

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 6M70283				
	Tune failed/DNR			
3	X			
File ID: 6M70284				
	Tune failed/DNR			
5	X		Check Standard Failure	
File ID: 6M70286				
	DNR			
7	X		Carry-over contamination	
File ID: 6M70288				
	DNR			
11	X	500	Over Calibration Range	TCE
File ID: 6M70292				
12	X	500	Over Calibration Range	PCE, 1,2-DCB
File ID: 6M70293				
20	X	1	Analyzed too dilute	
File ID: 6M70301				
	DNR			

Approved: October 30, 2007

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KEMRON Environmental Services

Instrument Run Log

00072391

Instrument: HPMS10 Dataset: 102607
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21478

Internal Standard: STD22714 Surrogate Standard: STD22715
CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG253910

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
28	10M59879	WG253909-01 50NG BFB STD 8260	NA	1	1	STD22252	10/26/07 08:31
29	10M59880	WG253909-01 50NG BFB STD 8260	NA	1	1	STD22252	10/26/07 08:45
30	10M59881	WG253909-01 50NG BFB STD 8260	NA	1	1	STD22252	10/26/07 09:27
1	10M59882	WG253909-01 50NG BFB STD 8260	NA	1	1	STD22252	10/26/07 09:43
2	10M59883	WG253909-02 50ug/L WATER STD 8260	NA	1	1	STD22565	10/26/07 10:07
3	10M59884	WG253909-02 50ug/L WATER STD 8260	NA	1	1	STD22565	10/26/07 11:25
4	10M59885	WG253910-01 VBLK1026 BLANK 8260	NA	1	1		10/26/07 11:57
5	10M59886	WG253910-01 VBLK1026 BLANK 8260	NA	1	1		10/26/07 12:28
6	10M59887	WG253910-02 20ug/L LCS 8260	NA	1	1	STD22574	10/26/07 13:00
7	10M59888	WG253910-03 20ug/L LCSDUP 8260	NA	1	1	STD22574	10/26/07 13:32
8	10M59889	L0710597-08 B D1 25X 826-SPE	<2	1	25		10/26/07 14:04
9	10M59890	L0710730-24 A 826-SPE	<2	1	1		10/26/07 14:35
10	10M59891	L0710582-03 A 826-LOW	<2	1	1		10/26/07 15:07
11	10M59892	L0710675-01 A 826-SPE	<2	1	1		10/26/07 15:39
12	10M59893	L0710675-08 A 826-SPE	<2	1	1		10/26/07 16:10
13	10M59894	L0710675-02 A 826-SPE	<2	1	1		10/26/07 16:42
14	10M59895	L0710675-03 A 826-SPE	<2	1	1		10/26/07 17:14
15	10M59896	L0710675-04 A 826-SPE	<2	1	1		10/26/07 17:47
16	10M59897	L0710675-05 A 826-SPE	<2	1	1		10/26/07 18:19
17	10M59898	L0710675-06 A 826-SPE	<2	1	1		10/26/07 18:51
18	10M59899	L0710675-07 A 826-SPE	<2	1	1		10/26/07 19:23
19	10M59900	L0710597-10 B 286-SPE	<2	1	1		10/26/07 19:55
20	10M59901	L0710597-12 B 2X 286-SPE	<2	1	2		10/26/07 20:27
21	10M59902	L0710597-13 B 286-SPE	<2	1	1		10/26/07 20:59
22	10M59903	L0710582-06 B 826-LOW	<2	1	1		10/26/07 21:31
23	10M59904	L0710582-16 B 826-LOW	<2	1	1		10/26/07 22:03
24	10M59905	L0710582-17 A 826-LOW	<2	1	1		10/26/07 22:35
25	10M59906	SYSTEM BLANK	NA	1	1		10/26/07 23:07
26	10M59907	SYSTEM BLANK	NA	1	1		10/26/07 23:39
27	10M59908	SYSTEM CHECK	NA	1	1		10/27/07 00:11

Comments

Seq.	Rerun	Dil.	Reason	Analytes

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KEMRON Environmental Services

Instrument Run Log

00072392

Instrument: HPMS10 Dataset: 102607

Analyst1: MES Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 10

Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21478

Internal Standard: STD22714 Surrogate Standard: STD22715

CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG253910

Comments

Seq.	Rerun	Dil.	Reason	Analytes
28				
File ID: 10M59879				
	RR, BFB failed.			
29				
File ID: 10M59880				
	RR, BFB failed. Baking out for 30 minutes.			
30	X			
File ID: 10M59881				
	RR, BFB failed. Replaced septum.			
4	X	1		
File ID: 10M59885				
	CMPTR ERROR			
23	X	1	Missed Tune	
File ID: 10M59904				
	DO NOT REPORT			
24	X	1	Missed Tune	
File ID: 10M59905				
	DO NOT REPORT			

Approved: October 30, 2007

KEMRON Environmental Services

Instrument Run Log

00072393

Instrument: HPMS10 Dataset: 102707
Analyst1: MES Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030/5035 SOP: PAT01 Rev: 10

Maintenance Log ID: 21484

Internal Standard: STD22714 Surrogate Standard: STD22715
CCV: STD22565 LCS: STD22574 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG254006

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	10M59910	WG254005-01 50NG BFB STD 8260	NA	1	1	STD22252	10/27/07 09:21
2	10M59911	WG254005-02 50ug/L WATER STD 8260	NA	1	1	STD22565	10/27/07 09:47
3	10M59912	WG254006-01 VBLK1027 BLANK 8260	NA	1	1		10/27/07 10:19
4	10M59913	WG254006-01 VBLK1027 BLANK 8260	NA	1	1		10/27/07 10:52
5	10M59914	WG254006-02 20ug/L LCS 8260	NA	1	1	STD22574	10/27/07 11:24
6	10M59915	WG254006-03 20ug/L LCSDUP 8260	NA	1	1	STD22574	10/27/07 11:56
7	10M59916	L0710596-01 B D1 100X 826-SPE	<2	1	100		10/27/07 12:28
8	10M59917	L0710596-02 B D1 10X 826-SPE	5	1	10		10/27/07 13:00
9	10M59918	L0710596-09 B D1 20X 826-SPE	<2	1	20		10/27/07 13:32
10	10M59919	L0710596-11 B 826-SPE	<2	1	1		10/27/07 14:05
11	10M59920	L0710597-07 B 826-SPE	<2	1	1		10/27/07 14:37
12	10M59921	L0710582-07 B 826-LOW	<2	1	1		10/27/07 15:10
13	10M59922	L0710582-09 B 826-LOW	<2	1	1		10/27/07 15:42
14	10M59923	L0710582-16 B 826-LOW	<2	1	1		10/27/07 16:15
15	10M59924	L0710582-17 B 826-LOW	<2	1	1		10/27/07 16:46
16	10M59925	L0710597-09 B D1 5X 826-SPE	<2	1	5		10/27/07 17:19
17	10M59926	L0710447-03 B D1 10X 826-SPE	<2	1	10		10/27/07 17:51
18	10M59927	L0710447-04 B D1 5X 826-SPE	<2	1	5		10/27/07 18:24
19	10M59928	L0710447-07 B D1 5X 826-SPE	<2	1	5		10/27/07 18:56
20	10M59929	L0710494-03 B D1 20X 826-SPE	<2	1	20		10/27/07 19:29
21	10M59930	L0710494-04 B D1 20X 826-SPE	<2	1	20		10/27/07 20:03
22	10M59931	L0710494-05 B D1 50X 826-SPE	<2	1	50		10/27/07 20:35
23	10M59932	L0710494-07 B D1 5X 826-SPE	<2	1	5		10/27/07 21:08
24	10M59933	L0710582-04 A 826-LOW	<2	1	1		10/27/07 21:41
25	10M59934	SYSTEM BLANK	NA	1	1		10/27/07 22:13
26	10M59935	SYSTEM CHECK	NA	1	1		10/27/07 22:44

Comments

Seq.	Rerun	Dil.	Reason	Analytes
24	X	2.5	Missed Tune	
File ID: 10M59933				

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KEMRON Environmental Services

Instrument Run Log

00072394

Instrument: HPMS8 Dataset: 102907
Analyst1: CMS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 10
Method: 5030B SOP: PAT01 Rev: 10

Maintenance Log ID: 21490

Internal Standard: STD22561 Surrogate Standard: STD22637
CCV: STD22616;STD22513 LCS: STD22622;STD22514 MS/MSD: STD22622

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG254048

Comments:

Seq.	File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
1	8M341020	WG254047-01 BFB 50ng STD 8260	NA	1	1	STD22252	10/29/07 08:05
2	8M341021	WG254047-02 50ug/L STD 8260	NA	1	1	STD22616	10/29/07 08:31
3	8M341022	WG254049-01 100ug/L A9FOO STD 8260	NA	1	1	STD22513	10/29/07 09:04
4	8M341023	WG254048-01 VBLK1029 BLANK 8260	NA	1	1		10/29/07 09:34
5	8M341024	WG254048-02 20ug/L LCS STD 8260	NA	1	1	STD22622	10/29/07 10:04
6	8M341025	WG254048-03 100ug/L A9FOOLCS STD 82	NA	1	1	STD22514	10/29/07 10:34
7	8M341026	L0710001-01 826-SPE 4th QTR MDL	NA	1	1	STD22720	10/29/07 11:04
8	8M341027	L0710002-01 826-SPE 4th QTR MDL	NA	1	1	STD22720	10/29/07 11:34
9	8M341028	L0710769-01 B 826-SPE2	=7	1	1		10/29/07 12:04
10	8M341029	L0710771-01 B 826-SPE2	=7	1	1		10/29/07 12:34
11	8M341030	L0710766-01 B 10X 826-SPE2 D1	=7	1	10		10/29/07 13:04
12	8M341031	L0710583-02 B 500X 826-SPLP D1	NA	18	500		10/29/07 13:34
13	8M341032	L0710597-11 C 500X 826-SPE D1	<2	1	500		10/29/07 14:04
14	8M341033	L0710620-05 B 826-SPE1	<2	1	1		10/29/07 14:34
15	8M341034	L0710494-08 B 826-SPE	<2	1	1		10/29/07 15:03
16	8M341035	L0710548-01 B 826-SPE	<2	1	1		10/29/07 15:33
17	8M341036	L0710548-02 B 826-SPE	<2	1	1		10/29/07 16:03
18	8M341037	L0710548-03 B 826-SPE	<2	1	1		10/29/07 16:33
19	8M341038	L0710620-18 A 826-SPE	<2	1	1		10/29/07 17:03
20	8M341039	L0710620-19 MS A 826-SPE	<2	1	1	STD22622	10/29/07 17:32
21	8M341040	L0710620-20 MSD A 826-SPE	<2	1	1	STD22622	10/29/07 18:02
22	8M341041	L0710620-04 B 10X 826-SPE1 D1	<2	1	10		10/29/07 18:32
23	8M341042	L0710582-04 B 2.5X 826-LOW	<2	1	2.5		10/29/07 19:02
24	8M341043	L0710582-08 A 826-LOW	<2	1	1		10/29/07 19:32
25	8M341044	SYSTEM BLANK	NA	1	1		10/29/07 20:02
26	8M341045	WG254048-07 624 BLANK	NA	1	1		10/29/07 20:32
27	8M341046	L0710668-02 D 624UL	=7	2	1		10/29/07 21:02
28	8M341047	L0710668-01 D 624UL	=7	2	1		10/29/07 21:32
29	8M341048	L0710670-01 D 624UL	=7	2	1		10/29/07 22:02
30	8M341049	SYSTEM BLANK	NA	2	1		10/29/07 22:33

Comments

Seq.	Rerun	Dil.	Reason	Analytes

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KEMRON Environmental Services

Instrument Run Log

00072395

Instrument: HPMS8 Dataset: 102907

Analyst1: CMS Analyst2: NA

Method: 8260B SOP: MSV01 Rev: 10

Method: 5030B SOP: PAT01 Rev: 10

Maintenance Log ID: 21490

Internal Standard: STD22561 Surrogate Standard: STD22637

CCV: STD22616;STD22513 LCS: STD22622;STD22514 MS/MSD: STD22622

Column 1 ID: RTX502.2 Column 2 ID: NA

Workgroups: WG254048

Comments

Seq.	Rerun	Dil.	Reason	Analytes
27	X			
File ID: 8M341046				
	RR as an ulta low			
28	X			
File ID: 8M341047				
	RR as an ulta low			
29	X			
File ID: 8M341048				
	RR as an ulta low			

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KEMRON Environmental Services
Data Checklist

00072396

Date: 01-OCT-2007
Analyst: MES
Analyst: NA
Method: 8260
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 18538
Analytical Workgroups: WG251532,WG251619

BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
02-OCT-2007

Secondary Reviewer:
03-OCT-2007

Generated: OCT-03-2007 10:10:17

KEMRON Environmental Services
Data Checklist

00072397

Date: 18-OCT-2007
Analyst: MES
Analyst: NA
Method: 8260
Instrument: HPMS10
Curve Workgroup: NA
Runlog ID: 18888
Analytical Workgroups: WG253187

BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	NA
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	NA
TCL's	NA
Surrogates	NA
LCS (Laboratory Control Sample)	NA
Recoveries	NA
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer: 22-OCT-2007

Secondary Reviewer: 23-OCT-2007

Generated: OCT-23-2007 11:16:45

KEMRON Environmental Services
Data Checklist

00072398

Date: 22-OCT-2007
Analyst: CMS
Analyst: NA
Method: 8260B/624
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 18926
Analytical Workgroups: WG253480

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	NA
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	NA
TCL's	NA
Surrogates	NA
LCS (Laboratory Control Sample)	NA
Recoveries	NA
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	CMS
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
23-OCT-2007

Secondary Reviewer:
24-OCT-2007

Generated: OCT-24-2007 12:18:27

KEMRON Environmental Services
Data Checklist

00072399

Date: 23-OCT-2007
Analyst: CMS
Analyst: NA
Method: 8260B
Instrument: HPMS8
Curve Workgroup: NA
Runlog ID: 18933
Analytical Workgroups: WG253480;WG253579

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	CMS
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
24-OCT-2007

Secondary Reviewer:
24-OCT-2007

Generated: OCT-24-2007 11:20:01

KEMRON Environmental Services
Data Checklist

00072400

Date: 24-OCT-2007
Analyst: MES
Analyst: TMB
Method: 8260/624
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 18964
Analytical Workgroups: WG253678

BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer: 25-OCT-2007

Secondary Reviewer: 26-OCT-2007

Generated: OCT-26-2007 13:30:22

KEMRON Environmental Services
Data Checklist

00072401

Date: 24-OCT-2007
Analyst: CMS
Analyst: NA
Method: 8260
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 18967
Analytical Workgroups: WG253721

BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	NA
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	NA
TCL's	NA
Surrogates	NA
LCS (Laboratory Control Sample)	NA
Recoveries	NA
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	NA
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer: 25-OCT-2007

Secondary Reviewer: 26-OCT-2007

Generated: OCT-26-2007 10:28:33

KEMRON Environmental Services
Data Checklist

00072402

Date: 25-OCT-2007
Analyst: MES
Analyst: NA
Method: 8260
Instrument: HPMS10
Curve Workgroup: NA
Runlog ID: 18983
Analytical Workgroups: WG253794

BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
26-OCT-2007

Secondary Reviewer:
29-OCT-2007

Generated: OCT-29-2007 09:10:40

KEMRON Environmental Services
Data Checklist

00072403

Date: 25-OCT-2007
Analyst: MES
Analyst: CMS
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 18999
Analytical Workgroups: WG253819

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	CMS
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
29-OCT-2007

Secondary Reviewer:
30-OCT-2007

Generated: OCT-30-2007 12:23:09

KEMRON Environmental Services
Data Checklist

00072404

Date: 26-OCT-2007
Analyst: MES
Analyst: CMS
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 19002
Analytical Workgroups: WG253919

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	CMS
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
29-OCT-2007

Secondary Reviewer:
30-OCT-2007

Generated: OCT-30-2007 12:33:43

KEMRON Environmental Services
Data Checklist

00072405

Date: 26-OCT-2007
Analyst: MES
Analyst: NA
Method: 8260
Instrument: HPMS10
Curve Workgroup: NA
Runlog ID: 19000
Analytical Workgroups: WG253910

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
29-OCT-2007
Tiffany Bailey

Secondary Reviewer:
30-OCT-2007

Generated: OCT-30-2007 12:12:12

KEMRON Environmental Services
Data Checklist

00072406

Date: 27-OCT-2007
Analyst: MES
Analyst: NA
Method: 8260
Instrument: HPMS10
Curve Workgroup: NA
Runlog ID: 19007
Analytical Workgroups: WG254006

BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	MES
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer: 29-OCT-2007

Secondary Reviewer: 30-OCT-2007

Generated: OCT-30-2007 08:43:08

KEMRON Environmental Services
Data Checklist

00072407

Date: 29-OCT-2007
Analyst: CMS
Analyst: NA
Method: 8260B
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 19014
Analytical Workgroups: WG254048

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	NA
Manual Integrations	X
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	CMS
Secondary Reviewer	LSB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
30-OCT-2007

Secondary Reviewer:
31-OCT-2007

Generated: OCT-31-2007 17:39:19

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
Login Number: L0710597

AAB#: WG253919 00072408

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
47WW25-101607	10/18/07	10/23/07	10/26/07	14	8.18	10/26/07	14	8.18	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
Login Number: L0710597

AAB#: WG254006 00072409

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
47WW32-101807	10/18/07	10/23/07	10/27/07	14	8.99	10/27/07	14	8.99	
47WW36-101907	10/19/07	10/23/07	10/27/07	14	8.31	10/27/07	14	8.31	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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Report generated 11/01/2007 15:45

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B

Login Number: L0710597

AAB#: WG254048 00072410

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
47WW25-101607	10/18/07	10/23/07	10/29/07	14	11.2	10/29/07	14	11.2	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
Login Number: L0710597

AAB#: WG253678 00072411

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
TRIP BLANK	10/19/07	10/23/07	10/24/07	14	5.58	10/24/07	14	5.58	
47WW36-101907	10/19/07	10/23/07	10/24/07	14	5.33	10/24/07	14	5.33	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B

AAB#: WG233794 00072412

Login Number: L0710597

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
47WW18-101807	10/18/07	10/23/07	10/25/07	14	7.40	10/25/07	14	7.40	
47WW18-101807-DUP	10/18/07	10/23/07	10/25/07	14	7.42	10/25/07	14	7.42	
47WW30-101807	10/18/07	10/23/07	10/25/07	14	7.37	10/25/07	14	7.37	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
Login Number: L0710597

AAB#: WG253910 00072413

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
EQUIPMENT RINSE #1	10/18/07	10/23/07	10/26/07	14	8.17	10/26/07	14	8.17	
LHSMW34-101807	10/18/07	10/23/07	10/26/07	14	8.15	10/26/07	14	8.15	
47WW30-101807	10/18/07	10/23/07	10/26/07	14	8.15	10/26/07	14	8.15	
47WW31-101807	10/18/07	10/23/07	10/26/07	14	8.34	10/26/07	14	8.34	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
Login Number: L0710597

AAB#: WG253819 00072414

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
47WW25-101607	10/18/07	10/23/07	10/25/07	14	7.25	10/25/07	14	7.25	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

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KEMRON Environmental Services

SURROGATE STANDARDS

00072415

Login Number: L0710597
Instrument Id: HPMS10
Workgroup (AAB#): WG254006

Method: 8260
CAL ID: HPMS10-18-OCT-07
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L0710597-07	1.00	02	115	108	101	99.8
L0710597-09	5.00	DL01	127	116	101	101
WG254006-01	1.00	01	98.2	96.5	97.5	94.7
WG254006-02	1.00	01	102	102	97.1	97.3
WG254006-03	1.00	01	98.3	101	101	99.4

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

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KEMRON Environmental Services

SURROGATE STANDARDS

00072416

Login Number: L0710597
Instrument Id: HPMS11
Workgroup (AAB#): WG253678

Method: 8260
CAL ID: HPMS11-01-OCT-07
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L0710597-09	1.00	01	93.9	92.0	90.4	87.1
L0710597-14	1.00	01	88.3	91.3	90.5	89.0
WG253678-01	1.00	01	90.9	90.6	88.4	87.6
WG253678-02	1.00	01	89.4	93.1	87.1	88.0
WG253678-03	1.00	01	90.1	93.3	87.5	89.5
WG253678-04	1.00	01	94.9	93.8	89.2	87.4

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

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KEMRON Environmental Services

SURROGATE STANDARDS

00072417

Login Number: L0710597
Instrument Id: HPMS10
Workgroup (AAB#): WG253794

Method: 8260
CAL ID: HPMS10-18-OCT-07
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L0710597-05	1.00	01	112	110	103	98.1
L0710597-06	1.00	01	115	110	97.5	97.3
L0710597-08	1.00	01	114	109	97.1	95.0
WG253794-01	1.00	01	99.7	101	105	105
WG253794-02	1.00	01	99.3	102	96.6	98.5
WG253794-03	1.00	01	93.7	96.4	95.9	96.5

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

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KEMRON Environmental Services

SURROGATE STANDARDS

00072418

Login Number: L0710597
Instrument Id: HPMS8
Workgroup (AAB#): WG254048

Method: 8260
CAL ID: HPMS8-22-OCT-07
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L0710597-11	500	DL02	99.4	100	100	101
WG254048-01	1.00	01	100	99.6	99.8	101
WG254048-02	1.00	01	101	102	99.8	100
WG254048-03	1.00	01	98.7	99.7	101	101

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

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KEMRON Environmental Services

SURROGATE STANDARDS

00072419

Login Number: L0710597
Instrument Id: HPMS10
Workgroup (AAB#): WG253910

Method: 8260
CAL ID: HPMS10-18-OCT-07
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L0710597-08	25.0	DL01	92.7	96.4	101	98.0
L0710597-10	1.00	01	120	110	103	96.8
L0710597-12	2.00	DL01	118	111	101	98.9
L0710597-13	1.00	01	118	112	101	98.7
WG253910-01	1.00	01	93.4	97.8	99.8	99.5
WG253910-02	1.00	01	95.6	101	98.2	98.6
WG253910-03	1.00	01	99.4	101	99.1	98.8

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

KEMRON FORMS - Modified 09/27/2006
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KEMRON Environmental Services

SURROGATE STANDARDS

00072420

Login Number: L0710597
Instrument Id: HPMS6
Workgroup (AAB#): WG253919

Method: 8260
CAL ID: HPMS6-24-OCT-07
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L0710597-11	100	DL01	81.1	89.3	98.8	97.5
WG253919-01	1.00	01	82.2	88.9	97.7	96.7
WG253919-02	1.00	01	84.4	90.3	93.7	96.0
WG253919-03	1.00	01	82.0	90.4	92.2	96.3
WG253919-04	1.00	01	84.0	91.5	98.7	97.3

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

KEMRON FORMS - Modified 09/27/2006
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KEMRON Environmental Services

SURROGATE STANDARDS

00072421

Login Number: L0710597
Instrument Id: HPMS6
Workgroup (AAB#): WG253819

Method: 8260
CAL ID: HPMS6-24-OCT-07
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L0710597-11	1.00	01	77.1	88.6	98.9	95.5
WG253819-01	1.00	01	75.9	86.1	98.0	97.6
WG253819-02	1.00	01	80.2	88.6	95.4	98.9
WG253819-03	1.00	01	77.9	87.8	95.7	97.7

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

KEMRON FORMS - Modified 09/27/2006
Version 1.5 PDF File ID: 919909
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KEMRON Environmental Services

METHOD BLANK SUMMARY

00072422

Login Number: L0710597
Blank File ID: 10M59853
Prep Date: 10/25/07 09:31
Analyzed Date: 10/25/07 09:31
Analyst: MES

Work Group: WG253794
Blank Sample ID: WG253794-01
Instrument ID: HPMS10
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG253794-02	10M59854	10/25/07 10:03	01
LCS2	WG253794-03	10M59855	10/25/07 10:35	01
47WW18-101807	L0710597-05	10M59870	10/25/07 18:23	01
47WW18-101807-DUP	L0710597-06	10M59871	10/25/07 18:54	01
47WW30-101807	L0710597-08	10M59872	10/25/07 19:26	01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 919902
Report generated 11/01/2007 15:46

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072423

Login Number: L0710597
Blank File ID: 10M59886
Prep Date: 10/26/07 12:28
Analyzed Date: 10/26/07 12:28
Analyst: MES

Work Group: WG253910
Blank Sample ID: WG253910-01
Instrument ID: HPMS10
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG253910-02	10M59887	10/26/07 13:00	01
LCS2	WG253910-03	10M59888	10/26/07 13:32	01
47WW30-101807	L0710597-08	10M59889	10/26/07 14:04	DL01
47WW31-101807	L0710597-10	10M59900	10/26/07 19:55	01
LHSMW34-101807	L0710597-12	10M59901	10/26/07 20:27	DL01
EQUIPMENT RINSE #1	L0710597-13	10M59902	10/26/07 20:59	01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 919902
Report generated 11/01/2007 15:46

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072424

Login Number: L0710597
Blank File ID: 10M59913
Prep Date: 10/27/07 10:52
Analyzed Date: 10/27/07 10:52
Analyst: MES

Work Group: WG254006
Blank Sample ID: WG254006-01
Instrument ID: HPMS10
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG254006-02	10M59914	10/27/07 11:24	01
LCS2	WG254006-03	10M59915	10/27/07 11:56	01
47WW32-101807	L0710597-07	10M59920	10/27/07 14:37	02
47WW36-101907	L0710597-09	10M59925	10/27/07 17:19	DL01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 919902
Report generated 11/01/2007 15:46

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072425

Login Number: L0710597
Blank File ID: 11M46853
Prep Date: 10/24/07 10:51
Analyzed Date: 10/24/07 10:51
Analyst: MES

Work Group: WG253678
Blank Sample ID: WG253678-01
Instrument ID: HPMS11
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG253678-02	11M46854	10/24/07 11:21	01
LCS2	WG253678-03	11M46855	10/24/07 11:52	01
TRIP BLANK	L0710597-14	11M46859	10/24/07 13:52	01
47WW36-101907	L0710597-09	11M46867	10/24/07 17:54	01

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KEMRON Environmental Services

METHOD BLANK SUMMARY

00072426

Login Number: L0710597
Blank File ID: 6M70257
Prep Date: 10/25/07 11:44
Analyzed Date: 10/25/07 11:44
Analyst: MES

Work Group: WG253819
Blank Sample ID: WG253819-01
Instrument ID: HPMS6
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG253819-02	6M70258	10/25/07 12:15	01
LCS2	WG253819-03	6M70259	10/25/07 12:47	01
47WW25-101607	L0710597-11	6M70263	10/25/07 14:54	01

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KEMRON Environmental Services

METHOD BLANK SUMMARY

00072427

Login Number: L0710597
Blank File ID: 6M70289
Prep Date: 10/26/07 11:43
Analyzed Date: 10/26/07 11:43
Analyst: MES

Work Group: WG253919
Blank Sample ID: WG253919-01
Instrument ID: HPMS6
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG253919-02	6M70290	10/26/07 12:16	01
LCS2	WG253919-03	6M70291	10/26/07 12:48	01
47WW25-101607	L0710597-11	6M70292	10/26/07 13:22	DL01

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KEMRON Environmental Services

METHOD BLANK SUMMARY

00072428

Login Number: L0710597
Blank File ID: 8M341023
Prep Date: 10/29/07 09:34
Analyzed Date: 10/29/07 09:34
Analyst: CMS

Work Group: WG254048
Blank Sample ID: WG254048-01
Instrument ID: HPMS8
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG254048-02	8M341024	10/29/07 10:04	01
LCS	WG254048-03	8M341025	10/29/07 10:34	01
47WW25-101607	L0710597-11	8M341032	10/29/07 14:04	DL02

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KEMRON Environmental Services

METHOD BLANK REPORT

00072429

Login Number: L0710597 Prep Date: 10/25/07 09:31 Sample ID: WG253794-01
Instrument ID: HPMS10 Run Date: 10/25/07 09:31 Prep Method: 5030B
File ID: 10M59853 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253794 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-18-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.250	5.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	0.250	5.00	0.250	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	0.250	10.0	0.250	1	U
Methyl tert-butyl ether	0.500	5.00	0.500	1	U
Methylcyclohexane	0.250	10.0	0.250	1	U
Methylene chloride	0.250	2.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U

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KEMRON Environmental Services

METHOD BLANK REPORT

00072430

Login Number: L0710597 Prep Date: 10/25/07 09:31 Sample ID: WG253794-01
Instrument ID: HPMS10 Run Date: 10/25/07 09:31 Prep Method: 5030B
File ID: 10M59853 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253794 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-18-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
Xylenes, Total	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	99.7	80 - 120	PASS
Dibromofluoromethane	101	86 - 118	PASS
p-Bromofluorobenzene	105	86 - 115	PASS
Toluene-d8	105	88 - 110	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

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KEMRON Environmental Services

METHOD BLANK REPORT

00072431

Login Number: L0710597 Prep Date: 10/26/07 12:28 Sample ID: WG253910-01
Instrument ID: HPMS10 Run Date: 10/26/07 12:28 Prep Method: 5030B
File ID: 10M59886 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253910 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-18-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.250	5.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	0.250	5.00	0.250	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	0.250	10.0	0.250	1	U
Methyl tert-butyl ether	0.500	5.00	0.500	1	U
Methylcyclohexane	0.250	10.0	0.250	1	U
Methylene chloride	0.250	2.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U

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METHOD BLANK REPORT

00072432

Login Number: L0710597 Prep Date: 10/26/07 12:28 Sample ID: WG253910-01
Instrument ID: HPMS10 Run Date: 10/26/07 12:28 Prep Method: 5030B
File ID: 10M59886 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253910 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-18-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
Xylenes, Total	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	93.4	80 - 120	PASS
Dibromofluoromethane	97.8	86 - 118	PASS
p-Bromofluorobenzene	99.8	86 - 115	PASS
Toluene-d8	99.5	88 - 110	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

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KEMRON Environmental Services

METHOD BLANK REPORT

00072433

Login Number: L0710597 Prep Date: 10/27/07 10:52 Sample ID: WG254006-01
Instrument ID: HPMS10 Run Date: 10/27/07 10:52 Prep Method: 5030B
File ID: 10M59913 Analyst: MES Method: 8260B
Workgroup (AAB#): WG254006 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-18-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.250	5.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	0.250	5.00	0.250	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	0.250	10.0	0.250	1	U
Methyl tert-butyl ether	0.500	5.00	0.500	1	U
Methylcyclohexane	0.250	10.0	0.250	1	U
Methylene chloride	0.250	2.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U

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METHOD BLANK REPORT

00072434

Login Number: L0710597 Prep Date: 10/27/07 10:52 Sample ID: WG254006-01
Instrument ID: HPMS10 Run Date: 10/27/07 10:52 Prep Method: 5030B
File ID: 10M59913 Analyst: MES Method: 8260B
Workgroup (AAB#): WG254006 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS10-18-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
Xylenes, Total	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	98.2	80 - 120	PASS
Dibromofluoromethane	96.5	86 - 118	PASS
p-Bromofluorobenzene	97.5	86 - 115	PASS
Toluene-d8	94.7	88 - 110	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

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KEMRON Environmental Services

METHOD BLANK REPORT

00072435

Login Number: L0710597 Prep Date: 10/24/07 10:51 Sample ID: WG253678-01
Instrument ID: HPMS11 Run Date: 10/24/07 10:51 Prep Method: 5030B
File ID: 11M46853 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253678 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS11-01-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.250	5.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	0.250	5.00	0.250	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	0.250	10.0	0.250	1	U
Methyl tert-butyl ether	0.500	5.00	0.500	1	U
Methylcyclohexane	0.250	10.0	0.250	1	U
Methylene chloride	0.250	2.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U

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KEMRON Environmental Services

METHOD BLANK REPORT

00072436

Login Number: L0710597 Prep Date: 10/24/07 10:51 Sample ID: WG253678-01
Instrument ID: HPMS11 Run Date: 10/24/07 10:51 Prep Method: 5030B
File ID: 11M46853 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253678 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS11-01-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
Xylenes, Total	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	90.9	80 - 120	PASS
Dibromofluoromethane	90.6	86 - 118	PASS
p-Bromofluorobenzene	88.4	86 - 115	PASS
Toluene-d8	87.6	88 - 110	FAIL

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

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KEMRON Environmental Services

METHOD BLANK REPORT

00072437

Login Number: L0710597 Prep Date: 10/25/07 11:44 Sample ID: WG253819-01
Instrument ID: HPMS6 Run Date: 10/25/07 11:44 Prep Method: 5030B
File ID: 6M70257 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253819 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS6-24-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.250	5.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	0.250	5.00	0.250	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	0.250	10.0	0.250	1	U
Methyl tert-butyl ether	0.500	5.00	0.500	1	U
Methylcyclohexane	0.250	10.0	0.250	1	U
Methylene chloride	0.250	2.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U

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KEMRON Environmental Services

METHOD BLANK REPORT

00072438

Login Number: L0710597 Prep Date: 10/25/07 11:44 Sample ID: WG253819-01
Instrument ID: HPMS6 Run Date: 10/25/07 11:44 Prep Method: 5030B
File ID: 6M70257 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253819 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS6-24-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
Xylenes, Total	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	75.9	80 - 120	FAIL
Dibromofluoromethane	86.1	86 - 118	PASS
p-Bromofluorobenzene	98.0	86 - 115	PASS
Toluene-d8	97.6	88 - 110	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

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KEMRON Environmental Services

METHOD BLANK REPORT

00072439

Login Number: L0710597 Prep Date: 10/26/07 11:43 Sample ID: WG253919-01
Instrument ID: HPMS6 Run Date: 10/26/07 11:43 Prep Method: 5030B
File ID: 6M70289 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253919 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS6-24-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.250	5.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	0.250	5.00	0.250	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	0.250	10.0	0.250	1	U
Methyl tert-butyl ether	0.500	5.00	0.500	1	U
Methylcyclohexane	0.250	10.0	0.250	1	U
Methylene chloride	0.250	2.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U

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METHOD BLANK REPORT

00072440

Login Number: L0710597 Prep Date: 10/26/07 11:43 Sample ID: WG253919-01
Instrument ID: HPMS6 Run Date: 10/26/07 11:43 Prep Method: 5030B
File ID: 6M70289 Analyst: MES Method: 8260B
Workgroup (AAB#): WG253919 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS6-24-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
Xylenes, Total	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	82.2	80 - 120	PASS
Dibromofluoromethane	88.9	86 - 118	PASS
p-Bromofluorobenzene	97.7	86 - 115	PASS
Toluene-d8	96.7	88 - 110	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

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KEMRON Environmental Services

METHOD BLANK REPORT

00072441

Login Number: L0710597 Prep Date: 10/29/07 09:34 Sample ID: WG254048-01
Instrument ID: HPMS8 Run Date: 10/29/07 09:34 Prep Method: 5030B
File ID: 8M341023 Analyst: CMS Method: 8260B
Workgroup (AAB#): WG254048 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS8-22-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.125	1.00	0.125	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.250	5.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	0.250	5.00	0.250	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	0.250	10.0	0.250	1	U
Methyl tert-butyl ether	0.500	5.00	0.500	1	U
Methylcyclohexane	0.250	10.0	0.250	1	U
Methylene chloride	0.250	2.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U

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METHOD BLANK REPORT

00072442

Login Number: L0710597 Prep Date: 10/29/07 09:34 Sample ID: WG254048-01
Instrument ID: HPMS8 Run Date: 10/29/07 09:34 Prep Method: 5030B
File ID: 8M341023 Analyst: CMS Method: 8260B
Workgroup (AAB#): WG254048 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: HPMS8-22-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
Xylenes, Total	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	100	80 - 120	PASS
Dibromofluoromethane	99.6	86 - 118	PASS
p-Bromofluorobenzene	99.8	86 - 115	PASS
Toluene-d8	101	88 - 110	PASS

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072443

Login Number: L0710597 Run Date: 10/29/2007 Sample ID: WG254048-02
Instrument ID: HPMS8 Run Time: 10:04 Prep Method: 5030B
File ID: 8M341024 Analyst: CMS Method: 8260B
Workgroup (AAB#): WG254048 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD22622 Cal ID: HPMS8-22-OCT-07

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,1,1-Trichloroethane	20.0	22.2	111	80 - 134	
1,1,2,2-Tetrachloroethane	20.0	21.4	107	79 - 125	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	20.6	103	80 - 130	
1,1,2-Trichloroethane	20.0	21.7	108	80 - 125	
1,1-Dichloroethane	20.0	20.9	104	80 - 125	
1,1-Dichloroethene	20.0	22.2	111	80 - 132	
1,2,4-Trichlorobenzene	20.0	20.4	102	65 - 135	
1,2-Dibromo-3-chloropropane	20.0	22.4	112	50 - 130	
1,2-Dibromoethane	20.0	21.7	108	80 - 125	
1,2-Dichlorobenzene	20.0	19.3	96.4	80 - 125	
1,2-Dichloroethane	20.0	21.9	109	80 - 129	
cis-1,2-Dichloroethene	20.0	22.2	111	70 - 125	
trans-1,2-Dichloroethene	20.0	21.1	105	80 - 127	
1,2-Dichloropropane	20.0	21.2	106	80 - 120	
1,3-Dichlorobenzene	20.0	19.6	97.9	80 - 120	
1,4-Dichlorobenzene	20.0	18.8	94.2	80 - 120	
2-Butanone	20.0	23.4	117	30 - 150	
2-Hexanone	20.0	19.6	97.8	55 - 130	
4-Methyl-2-pentanone	20.0	20.8	104	64 - 140	
Acetone	20.0	23.8	119	40 - 142	
Benzene	20.0	19.0	94.8	80 - 121	
Bromodichloromethane	20.0	22.9	114	80 - 131	
Bromoform	20.0	22.0	110	70 - 130	
Bromomethane	20.0	19.3	96.6	30 - 145	
Carbon disulfide	20.0	18.7	93.6	58 - 138	
Carbon tetrachloride	20.0	22.2	111	65 - 140	
Chlorobenzene	20.0	19.8	99.0	80 - 120	
Chloroethane	20.0	22.0	110	60 - 135	
Chloroform	20.0	20.5	103	80 - 125	
Chloromethane	20.0	19.2	96.2	40 - 125	
cis-1,3-Dichloropropene	20.0	21.8	109	70 - 130	
Cyclohexane	20.0	20.8	104	80 - 130	
Dibromochloromethane	20.0	21.7	108	60 - 135	
Dichlorodifluoromethane	20.0	22.5	112	50 - 133	
Ethyl benzene	20.0	20.8	104	80 - 122	
Isopropylbenzene	20.0	19.6	98.2	80 - 122	
Methyl acetate	20.0	28.8	144	80 - 130	*
Methyl tert-butyl ether	20.0	26.9	134	65 - 125	*
Methylcyclohexane	20.0	21.2	106	80 - 130	
Methylene chloride	20.0	20.6	103	80 - 123	
Styrene	20.0	22.3	112	80 - 123	

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072444

Login Number: L0710597 Run Date: 10/29/2007 Sample ID: WG254048-02
Instrument ID: HPMS8 Run Time: 10:04 Prep Method: 5030B
File ID: 8M341024 Analyst: CMS Method: 8260B
Workgroup (AAB#): WG254048 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD22622 Cal ID: HPMS8-22-OCT-07

Analytes	Expected	Found	% Rec	LCS Limits	Q
Tetrachloroethene	20.0	21.0	105	80 - 124	
Toluene	20.0	20.8	104	80 - 124	
trans-1,3-Dichloropropene	20.0	20.2	101	80 - 130	
Trichloroethene	20.0	21.8	109	80 - 122	
Trichlorofluoromethane	20.0	17.8	88.9	62 - 151	
Vinyl chloride	20.0	23.6	118	65 - 140	
Xylenes, Total	60.0	62.7	104	80 - 121	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	101	80 - 120	PASS
Dibromofluoromethane	102	86 - 118	PASS
p-Bromofluorobenzene	99.8	86 - 115	PASS
Toluene-d8	100	88 - 110	PASS

* FAILS %REC LIMIT

KEMRON FORMS - Modified 09/06/2007
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Report generated 10/30/2007 09:57

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS10 Matrix: Water Method: 8260B
Workgroup (AAB#): WG253794 Units: ug/L
QC Key: STD Lot #: STD22574

00072445

Sample ID: WG253794-02 LCS File ID: 10M59854 Run Date: 10/25/2007 10:03
Sample ID: WG253794-03 LCS2 File ID: 10M59855 Run Date: 10/25/2007 10:35

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	21.5	107	20.0	19.5	97.3	9.80	80 - 134	20	
1,1,2,2-Tetrachloroethane	20.0	20.3	102	20.0	20.1	101	0.954	79 - 125	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	19.7	98.7	20.0	17.8	89.1	10.2	80 - 130	20	
1,1,2-Trichloroethane	20.0	21.1	105	20.0	20.3	101	3.93	80 - 125	20	
1,1-Dichloroethane	20.0	20.8	104	20.0	19.2	95.9	8.14	80 - 125	20	
1,1-Dichloroethene	20.0	19.9	99.5	20.0	18.5	92.3	7.51	80 - 132	20	
1,2,4-Trichlorobenzene	20.0	19.7	98.3	20.0	19.3	96.5	1.86	65 - 135	20	
1,2-Dibromo-3-chloropropane	20.0	17.4	87.2	20.0	17.8	89.0	2.05	50 - 130	20	
1,2-Dibromoethane	20.0	22.0	110	20.0	20.9	104	5.45	80 - 125	20	
1,2-Dichlorobenzene	20.0	19.7	98.4	20.0	19.4	97.2	1.24	80 - 125	20	
1,2-Dichloroethane	20.0	21.1	106	20.0	19.5	97.3	8.14	80 - 129	20	
cis-1,2-Dichloroethene	20.0	22.4	112	20.0	20.7	104	7.83	70 - 125	20	
trans-1,2-Dichloroethene	20.0	21.4	107	20.0	20.1	101	6.37	80 - 127	20	
1,2-Dichloropropane	20.0	21.9	110	20.0	20.1	101	8.65	80 - 120	20	
1,3-Dichlorobenzene	20.0	19.1	95.5	20.0	18.6	93.1	2.53	80 - 120	20	
1,4-Dichlorobenzene	20.0	18.5	92.4	20.0	17.7	88.4	4.40	80 - 120	20	
2-Butanone	20.0	19.6	98.2	20.0	19.2	96.0	2.31	30 - 150	20	
2-Hexanone	20.0	17.7	88.7	20.0	17.9	89.3	0.714	55 - 130	20	
4-Methyl-2-pentanone	20.0	19.3	96.5	20.0	18.3	91.4	5.40	64 - 140	20	
Acetone	20.0	18.2	90.8	20.0	17.6	87.9	3.23	40 - 142	20	
Benzene	20.0	20.0	100	20.0	18.8	94.0	6.21	80 - 121	20	
Bromodichloromethane	20.0	22.0	110	20.0	20.4	102	7.57	80 - 131	20	
Bromoform	20.0	20.6	103	20.0	19.8	98.9	4.17	70 - 130	20	
Bromomethane	20.0	24.6	123	20.0	22.5	112	8.78	30 - 145	20	
Carbon disulfide	20.0	17.9	89.6	20.0	16.3	81.7	9.15	58 - 138	20	
Carbon tetrachloride	20.0	21.9	109	20.0	19.7	98.3	10.8	65 - 140	20	
Chlorobenzene	20.0	19.8	98.9	20.0	18.5	92.5	6.69	80 - 120	20	
Chloroethane	20.0	21.6	108	20.0	19.8	99.0	8.47	60 - 135	20	
Chloroform	20.0	21.2	106	20.0	19.7	98.4	7.44	80 - 125	20	
Chloromethane	20.0	18.7	93.3	20.0	17.5	87.7	6.16	40 - 125	20	
cis-1,3-Dichloropropene	20.0	22.9	115	20.0	21.7	108	5.61	70 - 130	20	
Cyclohexane	20.0	20.9	105	20.0	19.2	96.1	8.60	80 - 130	20	
Dibromochloromethane	20.0	21.6	108	20.0	20.5	102	5.24	60 - 135	20	
Dichlorodifluoromethane	20.0	23.4	117	20.0	21.1	105	10.2	50 - 133	20	
Ethyl benzene	20.0	21.3	106	20.0	19.9	99.7	6.39	80 - 122	20	
Isopropylbenzene	20.0	17.5	87.7	20.0	16.3	81.6	7.22	80 - 122	20	
Methyl acetate	20.0	24.9	125	20.0	24.1	121	3.21	80 - 130	20	
Methyl tert-butyl ether	20.0	25.6	128	20.0	24.1	121	6.03	65 - 125	20	*
Methylcyclohexane	20.0	20.7	104	20.0	18.9	94.3	9.55	80 - 130	20	
Methylene chloride	20.0	20.5	102	20.0	19.4	97.0	5.44	80 - 123	20	

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS10 Matrix: Water Method: 8260B 00072446
Workgroup (AAB#): WG253794 Units: ug/L
QC Key: STD Lot #: STD22574

Sample ID: WG253794-02 LCS File ID: 10M59854 Run Date: 10/25/2007 10:03
Sample ID: WG253794-03 LCS2 File ID: 10M59855 Run Date: 10/25/2007 10:35

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Styrene	20.0	19.3	96.7	20.0	18.1	90.7	6.37	80 - 123	20	
Tetrachloroethene	20.0	20.4	102	20.0	18.5	92.7	9.62	80 - 124	20	
Toluene	20.0	21.5	108	20.0	19.9	99.5	7.75	80 - 124	20	
trans-1,3-Dichloropropene	20.0	20.5	102	20.0	19.2	96.1	6.23	80 - 130	20	
Trichloroethene	20.0	21.8	109	20.0	20.3	102	6.91	80 - 122	20	
Trichlorofluoromethane	20.0	16.9	84.3	20.0	15.2	76.0	10.4	62 - 151	20	
Vinyl chloride	20.0	20.9	105	20.0	17.8	88.8	16.5	65 - 140	20	
Xylenes, Total	60.0	63.7	106	60.0	59.4	99.0	7.02	80 - 121	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Dibromofluoromethane	102	96.4	86 - 118	PASS
1,2-Dichloroethane-d4	99.3	93.7	80 - 120	PASS
Toluene-d8	98.5	96.5	88 - 110	PASS
p-Bromofluorobenzene	96.6	95.9	86 - 115	PASS

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS10 Matrix: Water Method: 8260B 00072447
Workgroup (AAB#): WG254006 Units: ug/L
QC Key: STD Lot #: STD22574

Sample ID: WG254006-02 LCS File ID: 10M59914 Run Date: 10/27/2007 11:24
Sample ID: WG254006-03 LCS2 File ID: 10M59915 Run Date: 10/27/2007 11:56

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	22.5	112	20.0	21.6	108	4.00	80 - 134	20	
1,1,2,2-Tetrachloroethane	20.0	20.6	103	20.0	20.2	101	2.12	79 - 125	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	20.4	102	20.0	19.0	94.9	7.11	80 - 130	20	
1,1,2-Trichloroethane	20.0	21.5	108	20.0	20.7	104	4.00	80 - 125	20	
1,1-Dichloroethane	20.0	21.2	106	20.0	20.3	102	4.33	80 - 125	20	
1,1-Dichloroethene	20.0	19.8	99.2	20.0	19.1	95.3	4.04	80 - 132	20	
1,2,4-Trichlorobenzene	20.0	18.9	94.4	20.0	19.3	96.7	2.43	65 - 135	20	
1,2-Dibromo-3-chloropropane	20.0	18.1	90.4	20.0	16.2	81.1	10.8	50 - 130	20	
1,2-Dibromoethane	20.0	22.2	111	20.0	21.5	107	3.44	80 - 125	20	
1,2-Dichlorobenzene	20.0	19.8	99.1	20.0	19.7	98.6	0.557	80 - 125	20	
1,2-Dichloroethane	20.0	22.4	112	20.0	21.3	106	5.26	80 - 129	20	
cis-1,2-Dichloroethene	20.0	22.1	111	20.0	21.5	107	2.97	70 - 125	20	
trans-1,2-Dichloroethene	20.0	21.9	109	20.0	20.9	105	4.47	80 - 127	20	
1,2-Dichloropropane	20.0	21.8	109	20.0	21.6	108	0.854	80 - 120	20	
1,3-Dichlorobenzene	20.0	18.8	94.2	20.0	19.0	94.9	0.788	80 - 120	20	
1,4-Dichlorobenzene	20.0	18.2	91.1	20.0	18.4	92.0	0.915	80 - 120	20	
2-Butanone	20.0	15.0	74.9	20.0	13.1	65.3	13.6	30 - 150	20	
2-Hexanone	20.0	17.8	88.8	20.0	15.7	78.6	12.2	55 - 130	20	
4-Methyl-2-pentanone	20.0	20.0	99.8	20.0	18.7	93.6	6.36	64 - 140	20	
Acetone	20.0	15.1	75.5	20.0	14.2	70.8	6.45	40 - 142	20	
Benzene	20.0	20.0	99.8	20.0	19.6	98.0	1.86	80 - 121	20	
Bromodichloromethane	20.0	23.2	116	20.0	22.2	111	4.51	80 - 131	20	
Bromoform	20.0	22.1	110	20.0	21.0	105	4.93	70 - 130	20	
Bromomethane	20.0	23.9	120	20.0	23.5	117	1.88	30 - 145	20	
Carbon disulfide	20.0	17.9	89.7	20.0	17.2	86.1	4.12	58 - 138	20	
Carbon tetrachloride	20.0	23.1	116	20.0	21.7	109	6.29	65 - 140	20	
Chlorobenzene	20.0	19.6	97.9	20.0	19.3	96.7	1.17	80 - 120	20	
Chloroethane	20.0	21.7	109	20.0	21.1	105	3.14	60 - 135	20	
Chloroform	20.0	22.0	110	20.0	21.1	106	4.23	80 - 125	20	
Chloromethane	20.0	19.8	98.8	20.0	18.9	94.7	4.26	40 - 125	20	
cis-1,3-Dichloropropene	20.0	23.3	117	20.0	22.4	112	3.83	70 - 130	20	
Cyclohexane	20.0	21.0	105	20.0	20.0	100	4.86	80 - 130	20	
Dibromochloromethane	20.0	22.1	110	20.0	21.6	108	2.01	60 - 135	20	
Dichlorodifluoromethane	20.0	24.1	121	20.0	22.2	111	8.18	50 - 133	20	
Ethyl benzene	20.0	20.8	104	20.0	20.4	102	1.99	80 - 122	20	
Isopropylbenzene	20.0	17.5	87.5	20.0	17.2	86.0	1.76	80 - 122	20	
Methyl acetate	20.0	25.9	130	20.0	22.7	113	13.4	80 - 130	20	
Methyl tert-butyl ether	20.0	23.9	119	20.0	22.5	113	5.70	65 - 125	20	
Methylcyclohexane	20.0	20.8	104	20.0	20.0	100	3.75	80 - 130	20	
Methylene chloride	20.0	21.0	105	20.0	20.0	100	4.81	80 - 123	20	

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS10 Matrix: Water Method: 8260B 00072448
Workgroup (AAB#): WG254006 Units: ug/L
QC Key: STD Lot #: STD22574

Sample ID: WG254006-02 LCS File ID: 10M59914 Run Date: 10/27/2007 11:24
Sample ID: WG254006-03 LCS2 File ID: 10M59915 Run Date: 10/27/2007 11:56

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Styrene	20.0	19.3	96.6	20.0	19.0	95.0	1.66	80 - 123	20	
Tetrachloroethene	20.0	21.1	105	20.0	20.1	100	4.93	80 - 124	20	
Toluene	20.0	21.1	105	20.0	20.6	103	2.05	80 - 124	20	
trans-1,3-Dichloropropene	20.0	21.3	107	20.0	20.4	102	4.49	80 - 130	20	
Trichloroethene	20.0	22.2	111	20.0	21.0	105	5.56	80 - 122	20	
Trichlorofluoromethane	20.0	17.9	89.4	20.0	16.8	83.9	6.34	62 - 151	20	
Vinyl chloride	20.0	23.2	116	20.0	20.4	102	12.5	65 - 140	20	
Xylenes, Total	60.0	63.5	106	60.0	62.3	104	1.87	80 - 121	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Dibromofluoromethane	102	101	86 - 118	PASS
1,2-Dichloroethane-d4	102	98.3	80 - 120	PASS
Toluene-d8	97.3	99.4	88 - 110	PASS
p-Bromofluorobenzene	97.1	101	86 - 115	PASS

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS11 Matrix: Water Method: 8260B 00072449
Workgroup (AAB#): WG253678 Units: ug/L
QC Key: STD Lot #: STD22574

Sample ID: WG253678-02 LCS File ID: 11M46854 Run Date: 10/24/2007 11:21
Sample ID: WG253678-03 LCS2 File ID: 11M46855 Run Date: 10/24/2007 11:52

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	21.5	108	20.0	21.0	105	2.46	80 - 134	20	
1,1,2,2-Tetrachloroethane	20.0	22.3	111	20.0	22.4	112	0.512	79 - 125	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	20.3	102	20.0	19.8	99.0	2.56	80 - 130	20	
1,1,2-Trichloroethane	20.0	22.6	113	20.0	22.6	113	0.118	80 - 125	20	
1,1-Dichloroethane	20.0	21.6	108	20.0	21.1	106	2.12	80 - 125	20	
1,1-Dichloroethene	20.0	20.4	102	20.0	20.1	101	1.35	80 - 132	20	
1,2,4-Trichlorobenzene	20.0	22.1	111	20.0	22.0	110	0.611	65 - 135	20	
1,2-Dibromo-3-chloropropane	20.0	21.7	109	20.0	21.2	106	2.15	50 - 130	20	
1,2-Dibromoethane	20.0	22.2	111	20.0	22.0	110	0.915	80 - 125	20	
1,2-Dichlorobenzene	20.0	21.2	106	20.0	21.0	105	0.693	80 - 125	20	
1,2-Dichloroethane	20.0	21.3	107	20.0	20.9	105	1.89	80 - 129	20	
cis-1,2-Dichloroethene	20.0	22.3	111	20.0	22.1	111	0.760	70 - 125	20	
trans-1,2-Dichloroethene	20.0	21.1	106	20.0	21.0	105	0.447	80 - 127	20	
1,2-Dichloropropane	20.0	21.2	106	20.0	21.6	108	1.94	80 - 120	20	
1,3-Dichlorobenzene	20.0	20.7	103	20.0	20.8	104	0.299	80 - 120	20	
1,4-Dichlorobenzene	20.0	20.7	103	20.0	20.5	103	0.823	80 - 120	20	
2-Butanone	20.0	20.1	101	20.0	19.9	99.7	0.901	30 - 150	20	
2-Hexanone	20.0	21.0	105	20.0	20.5	102	2.70	55 - 130	20	
4-Methyl-2-pentanone	20.0	21.4	107	20.0	20.6	103	4.02	64 - 140	20	
Acetone	20.0	21.2	106	20.0	22.0	110	3.80	40 - 142	20	
Benzene	20.0	21.1	105	20.0	21.3	106	0.861	80 - 121	20	
Bromodichloromethane	20.0	22.6	113	20.0	22.7	113	0.615	80 - 131	20	
Bromoform	20.0	21.8	109	20.0	21.4	107	1.63	70 - 130	20	
Bromomethane	20.0	25.6	128	20.0	26.1	131	1.99	30 - 145	20	
Carbon disulfide	20.0	18.6	92.8	20.0	17.7	88.6	4.63	58 - 138	20	
Carbon tetrachloride	20.0	19.5	97.4	20.0	19.0	95.1	2.38	65 - 140	20	
Chlorobenzene	20.0	20.1	100	20.0	20.1	100	0.177	80 - 120	20	
Chloroethane	20.0	22.4	112	20.0	22.7	113	1.09	60 - 135	20	
Chloroform	20.0	21.8	109	20.0	21.5	108	1.30	80 - 125	20	
Chloromethane	20.0	21.7	109	20.0	22.0	110	1.23	40 - 125	20	
cis-1,3-Dichloropropene	20.0	21.5	108	20.0	21.7	108	0.573	70 - 130	20	
Cyclohexane	20.0	20.0	99.8	20.0	19.5	97.7	2.07	80 - 130	20	
Dibromochloromethane	20.0	22.4	112	20.0	22.2	111	0.862	60 - 135	20	
Dichlorodifluoromethane	20.0	21.8	109	20.0	21.4	107	1.68	50 - 133	20	
Ethyl benzene	20.0	21.3	106	20.0	21.1	106	0.513	80 - 122	20	
Isopropylbenzene	20.0	17.5	87.6	20.0	17.5	87.5	0.139	80 - 122	20	
Methyl acetate	20.0	29.2	146	20.0	28.8	144	1.33	80 - 130	20	*
Methyl tert-butyl ether	20.0	25.4	127	20.0	24.8	124	2.36	65 - 125	20	*
Methylcyclohexane	20.0	19.7	98.6	20.0	19.5	97.7	0.909	80 - 130	20	
Methylene chloride	20.0	21.0	105	20.0	21.1	105	0.497	80 - 123	20	

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG253678 Units: ug/L
QC Key: STD Lot #: STD22574

00072450

Sample ID: WG253678-02 LCS File ID: 11M46854 Run Date: 10/24/2007 11:21
Sample ID: WG253678-03 LCS2 File ID: 11M46855 Run Date: 10/24/2007 11:52

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Styrene	20.0	19.6	97.9	20.0	19.7	98.3	0.428	80 - 123	20	
Tetrachloroethene	20.0	19.0	95.1	20.0	18.7	93.5	1.61	80 - 124	20	
Toluene	20.0	20.8	104	20.0	20.8	104	0.0245	80 - 124	20	
trans-1,3-Dichloropropene	20.0	20.4	102	20.0	20.0	99.9	2.04	80 - 130	20	
Trichloroethene	20.0	21.8	109	20.0	21.3	106	2.30	80 - 122	20	
Trichlorofluoromethane	20.0	17.0	84.9	20.0	16.5	82.3	3.10	62 - 151	20	
Vinyl chloride	20.0	21.6	108	20.0	20.7	103	4.60	65 - 140	20	
Xylenes, Total	60.0	62.1	103	60.0	62.6	104	0.762	80 - 121	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Dibromofluoromethane	93.1	93.3	86 - 118	PASS
1,2-Dichloroethane-d4	89.4	90.1	80 - 120	PASS
Toluene-d8	88.0	89.5	88 - 110	PASS
p-Bromofluorobenzene	87.1	87.5	86 - 115	PASS

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS6 Matrix: Water Method: 8260B 00072451
Workgroup (AAB#): WG253919 Units: ug/L
QC Key: STD Lot #: STD22622

Sample ID: WG253919-02 LCS File ID: 6M70290 Run Date: 10/26/2007 12:16
Sample ID: WG253919-03 LCS2 File ID: 6M70291 Run Date: 10/26/2007 12:48

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	21.1	105	20.0	20.0	100	5.08	80 - 134	20	
1,1,2,2-Tetrachloroethane	20.0	20.4	102	20.0	20.0	100	1.89	79 - 125	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	19.1	95.7	20.0	17.9	89.4	6.78	80 - 130	20	
1,1,2-Trichloroethane	20.0	20.8	104	20.0	20.9	105	0.555	80 - 125	20	
1,1-Dichloroethane	20.0	21.1	105	20.0	20.3	101	3.79	80 - 125	20	
1,1-Dichloroethene	20.0	21.8	109	20.0	20.5	103	5.82	80 - 132	20	
1,2,4-Trichlorobenzene	20.0	20.9	105	20.0	20.7	104	0.754	65 - 135	20	
1,2-Dibromo-3-chloropropane	20.0	20.4	102	20.0	20.9	105	2.82	50 - 130	20	
1,2-Dibromoethane	20.0	21.8	109	20.0	21.6	108	0.869	80 - 125	20	
1,2-Dichlorobenzene	20.0	19.6	97.8	20.0	19.2	95.8	2.04	80 - 125	20	
1,2-Dichloroethane	20.0	19.8	98.8	20.0	19.0	95.2	3.71	80 - 129	20	
cis-1,2-Dichloroethene	20.0	22.3	112	20.0	21.7	108	3.08	70 - 125	20	
trans-1,2-Dichloroethene	20.0	21.9	110	20.0	21.2	106	3.52	80 - 127	20	
1,2-Dichloropropane	20.0	21.5	107	20.0	21.1	105	1.93	80 - 120	20	
1,3-Dichlorobenzene	20.0	19.6	97.8	20.0	19.3	96.4	1.41	80 - 120	20	
1,4-Dichlorobenzene	20.0	18.5	92.6	20.0	18.2	90.8	1.99	80 - 120	20	
2-Butanone	20.0	18.7	93.7	20.0	18.9	94.3	0.717	30 - 150	20	
2-Hexanone	20.0	19.5	97.6	20.0	20.2	101	3.38	55 - 130	20	
4-Methyl-2-pentanone	20.0	19.9	99.7	20.0	20.6	103	3.13	64 - 140	20	
Acetone	20.0	22.9	114	20.0	23.3	116	1.63	40 - 142	20	
Benzene	20.0	20.4	102	20.0	20.0	99.9	2.14	80 - 121	20	
Bromodichloromethane	20.0	21.3	107	20.0	20.6	103	3.80	80 - 131	20	
Bromoform	20.0	19.5	97.6	20.0	19.0	94.8	2.94	70 - 130	20	
Bromomethane	20.0	23.6	118	20.0	23.4	117	1.04	30 - 145	20	
Carbon disulfide	20.0	16.9	84.7	20.0	16.5	82.5	2.70	58 - 138	20	
Carbon tetrachloride	20.0	21.4	107	20.0	19.9	99.3	7.33	65 - 140	20	
Chlorobenzene	20.0	19.5	97.6	20.0	19.2	95.9	1.74	80 - 120	20	
Chloroethane	20.0	21.7	109	20.0	21.3	106	2.17	60 - 135	20	
Chloroform	20.0	20.4	102	20.0	19.7	98.6	3.22	80 - 125	20	
Chloromethane	20.0	20.5	102	20.0	19.2	95.9	6.46	40 - 125	20	
cis-1,3-Dichloropropene	20.0	22.6	113	20.0	21.9	110	2.94	70 - 130	20	
Cyclohexane	20.0	19.5	97.4	20.0	18.9	94.6	2.93	80 - 130	20	
Dibromochloromethane	20.0	20.8	104	20.0	20.4	102	2.01	60 - 135	20	
Dichlorodifluoromethane	20.0	21.0	105	20.0	20.0	99.8	5.15	50 - 133	20	
Ethyl benzene	20.0	20.8	104	20.0	20.3	101	2.46	80 - 122	20	
Isopropylbenzene	20.0	20.4	102	20.0	19.7	98.3	3.67	80 - 122	20	
Methyl acetate	20.0	23.2	116	20.0	23.9	120	3.02	80 - 130	20	
Methyl tert-butyl ether	20.0	25.6	128	20.0	25.6	128	0.322	65 - 125	20	*
Methylcyclohexane	20.0	20.1	100	20.0	19.5	97.4	3.11	80 - 130	20	
Methylene chloride	20.0	21.1	106	20.0	20.7	104	1.82	80 - 123	20	

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS6 Matrix: Water Method: 8260B 00072452
Workgroup (AAB#): WG253919 Units: ug/L
QC Key: STD Lot #: STD22622

Sample ID: WG253919-02 LCS File ID: 6M70290 Run Date: 10/26/2007 12:16
Sample ID: WG253919-03 LCS2 File ID: 6M70291 Run Date: 10/26/2007 12:48

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Styrene	20.0	21.8	109	20.0	21.5	107	1.55	80 - 123	20	
Tetrachloroethene	20.0	21.0	105	20.0	20.3	102	3.35	80 - 124	20	
Toluene	20.0	21.8	109	20.0	21.6	108	0.961	80 - 124	20	
trans-1,3-Dichloropropene	20.0	20.3	102	20.0	20.2	101	0.518	80 - 130	20	
Trichloroethene	20.0	21.4	107	20.0	20.7	103	3.34	80 - 122	20	
Trichlorofluoromethane	20.0	16.0	80.2	20.0	15.1	75.3	6.30	62 - 151	20	
Vinyl chloride	20.0	19.9	99.3	20.0	18.4	91.8	7.88	65 - 140	20	
Xylenes, Total	60.0	63.0	105	60.0	61.7	103	2.07	80 - 121	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Dibromofluoromethane	90.3	90.4	86 - 118	PASS
1,2-Dichloroethane-d4	84.4	82.0	80 - 120	PASS
Toluene-d8	96.0	96.3	88 - 110	PASS
p-Bromofluorobenzene	93.7	92.2	86 - 115	PASS

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS10 Matrix: Water Method: 8260B 00072453
Workgroup (AAB#): WG253910 Units: ug/L
QC Key: STD Lot #: STD22574

Sample ID: WG253910-02 LCS File ID: 10M59887 Run Date: 10/26/2007 13:00
Sample ID: WG253910-03 LCS2 File ID: 10M59888 Run Date: 10/26/2007 13:32

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	22.5	113	20.0	21.3	107	5.57	80 - 134	20	
1,1,2,2-Tetrachloroethane	20.0	20.0	100	20.0	22.1	110	9.69	79 - 125	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	20.3	101	20.0	19.5	97.4	3.95	80 - 130	20	
1,1,2-Trichloroethane	20.0	20.6	103	20.0	21.7	109	5.39	80 - 125	20	
1,1-Dichloroethane	20.0	21.4	107	20.0	21.0	105	2.06	80 - 125	20	
1,1-Dichloroethene	20.0	20.4	102	20.0	19.9	99.7	2.14	80 - 132	20	
1,2,4-Trichlorobenzene	20.0	19.7	98.3	20.0	20.5	102	3.98	65 - 135	20	
1,2-Dibromo-3-chloropropane	20.0	16.5	82.4	20.0	20.6	103	22.1	50 - 130	20	#
1,2-Dibromoethane	20.0	21.4	107	20.0	22.8	114	6.35	80 - 125	20	
1,2-Dichlorobenzene	20.0	20.5	103	20.0	20.5	103	0.0621	80 - 125	20	
1,2-Dichloroethane	20.0	21.3	107	20.0	21.9	109	2.37	80 - 129	20	
cis-1,2-Dichloroethene	20.0	23.0	115	20.0	22.9	115	0.239	70 - 125	20	
trans-1,2-Dichloroethene	20.0	22.4	112	20.0	21.5	107	4.17	80 - 127	20	
1,2-Dichloropropane	20.0	22.2	111	20.0	22.0	110	0.752	80 - 120	20	
1,3-Dichlorobenzene	20.0	20.0	100	20.0	19.4	97.2	2.97	80 - 120	20	
1,4-Dichlorobenzene	20.0	19.3	96.7	20.0	19.1	95.7	1.10	80 - 120	20	
2-Butanone	20.0	18.0	90.0	20.0	21.5	108	18.0	30 - 150	20	
2-Hexanone	20.0	16.0	80.0	20.0	19.5	97.7	20.0	55 - 130	20	
4-Methyl-2-pentanone	20.0	18.9	94.7	20.0	21.3	107	12.0	64 - 140	20	
Acetone	20.0	17.9	89.4	20.0	20.4	102	13.4	40 - 142	20	
Benzene	20.0	20.9	104	20.0	20.5	102	1.86	80 - 121	20	
Bromodichloromethane	20.0	22.6	113	20.0	22.9	114	0.950	80 - 131	20	
Bromoform	20.0	19.9	99.5	20.0	21.9	109	9.42	70 - 130	20	
Bromomethane	20.0	25.0	125	20.0	23.1	116	7.88	30 - 145	20	
Carbon disulfide	20.0	19.0	94.9	20.0	18.2	91.1	4.07	58 - 138	20	
Carbon tetrachloride	20.0	22.9	115	20.0	21.8	109	5.24	65 - 140	20	
Chlorobenzene	20.0	20.0	99.8	20.0	19.5	97.5	2.26	80 - 120	20	
Chloroethane	20.0	22.3	111	20.0	21.4	107	3.77	60 - 135	20	
Chloroform	20.0	21.8	109	20.0	21.2	106	2.68	80 - 125	20	
Chloromethane	20.0	19.8	99.0	20.0	17.7	88.7	10.9	40 - 125	20	
cis-1,3-Dichloropropene	20.0	23.2	116	20.0	23.7	119	2.28	70 - 130	20	
Cyclohexane	20.0	21.8	109	20.0	21.3	107	2.00	80 - 130	20	
Dibromochloromethane	20.0	21.3	107	20.0	22.3	111	4.42	60 - 135	20	
Dichlorodifluoromethane	20.0	23.5	118	20.0	22.3	112	5.25	50 - 133	20	
Ethyl benzene	20.0	21.6	108	20.0	20.6	103	4.62	80 - 122	20	
Isopropylbenzene	20.0	18.2	91.1	20.0	17.4	86.9	4.71	80 - 122	20	
Methyl acetate	20.0	24.2	121	20.0	27.4	137	12.2	80 - 130	20	*
Methyl tert-butyl ether	20.0	24.8	124	20.0	27.5	137	10.3	65 - 125	20	*
Methylcyclohexane	20.0	21.4	107	20.0	20.8	104	3.22	80 - 130	20	
Methylene chloride	20.0	21.2	106	20.0	21.3	107	0.633	80 - 123	20	

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS10 Matrix: Water Method: 8260B 00072454
Workgroup (AAB#): WG253910 Units: ug/L
QC Key: STD Lot #: STD22574

Sample ID: WG253910-02 LCS File ID: 10M59887 Run Date: 10/26/2007 13:00
Sample ID: WG253910-03 LCS2 File ID: 10M59888 Run Date: 10/26/2007 13:32

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Styrene	20.0	19.8	99.0	20.0	19.4	97.0	2.00	80 - 123	20	
Tetrachloroethene	20.0	21.3	107	20.0	20.2	101	5.40	80 - 124	20	
Toluene	20.0	22.0	110	20.0	21.2	106	3.53	80 - 124	20	
trans-1,3-Dichloropropene	20.0	20.2	101	20.0	21.4	107	5.79	80 - 130	20	
Trichloroethene	20.0	22.7	113	20.0	21.9	110	3.27	80 - 122	20	
Trichlorofluoromethane	20.0	17.6	88.0	20.0	16.5	82.7	6.19	62 - 151	20	
Vinyl chloride	20.0	21.2	106	20.0	19.0	95.2	10.6	65 - 140	20	
Xylenes, Total	60.0	65.3	109	60.0	63.9	106	2.24	80 - 121	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Dibromofluoromethane	101	101	86 - 118	PASS
1,2-Dichloroethane-d4	95.6	99.4	80 - 120	PASS
Toluene-d8	98.6	98.8	88 - 110	PASS
p-Bromofluorobenzene	98.2	99.1	86 - 115	PASS

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS6 Matrix: Water Method: 8260B 00072455
Workgroup (AAB#): WG253819 Units: ug/L
QC Key: STD Lot #: STD22622

Sample ID: WG253819-02 LCS File ID: 6M70258 Run Date: 10/25/2007 12:15
Sample ID: WG253819-03 LCS2 File ID: 6M70259 Run Date: 10/25/2007 12:47

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	20.7	103	20.0	19.0	94.8	8.74	80 - 134	20	
1,1,2,2-Tetrachloroethane	20.0	19.3	96.3	20.0	19.1	95.3	1.05	79 - 125	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	18.9	94.7	20.0	17.4	87.2	8.18	80 - 130	20	
1,1,2-Trichloroethane	20.0	20.3	101	20.0	20.0	100	1.30	80 - 125	20	
1,1-Dichloroethane	20.0	20.8	104	20.0	19.8	99.1	4.99	80 - 125	20	
1,1-Dichloroethene	20.0	21.7	109	20.0	19.9	99.4	8.93	80 - 132	20	
1,2,4-Trichlorobenzene	20.0	21.0	105	20.0	20.4	102	2.89	65 - 135	20	
1,2-Dibromo-3-chloropropane	20.0	18.7	93.4	20.0	18.7	93.4	0.0069	50 - 130	20	
1,2-Dibromoethane	20.0	20.6	103	20.0	20.0	99.9	3.25	80 - 125	20	
1,2-Dichlorobenzene	20.0	19.8	99.0	20.0	18.9	94.5	4.64	80 - 125	20	
1,2-Dichloroethane	20.0	18.3	91.6	20.0	17.5	87.3	4.88	80 - 129	20	
cis-1,2-Dichloroethene	20.0	22.2	111	20.0	20.9	104	6.03	70 - 125	20	
trans-1,2-Dichloroethene	20.0	21.6	108	20.0	20.3	101	6.55	80 - 127	20	
1,2-Dichloropropane	20.0	21.4	107	20.0	20.8	104	3.26	80 - 120	20	
1,3-Dichlorobenzene	20.0	20.0	100	20.0	19.0	95.1	5.26	80 - 120	20	
1,4-Dichlorobenzene	20.0	18.6	93.2	20.0	18.0	89.9	3.63	80 - 120	20	
2-Butanone	20.0	19.7	98.7	20.0	19.7	98.4	0.267	30 - 150	20	
2-Hexanone	20.0	17.8	89.0	20.0	17.6	87.9	1.19	55 - 130	20	
4-Methyl-2-pentanone	20.0	18.2	91.1	20.0	17.9	89.6	1.74	64 - 140	20	
Acetone	20.0	20.2	101	20.0	20.2	101	0.239	40 - 142	20	
Benzene	20.0	20.6	103	20.0	19.6	98.2	4.88	80 - 121	20	
Bromodichloromethane	20.0	20.2	101	20.0	19.0	95.0	5.94	80 - 131	20	
Bromoform	20.0	17.9	89.5	20.0	17.0	85.2	4.90	70 - 130	20	
Bromomethane	20.0	24.1	120	20.0	22.9	115	4.84	30 - 145	20	
Carbon disulfide	20.0	17.3	86.5	20.0	16.3	81.6	5.80	58 - 138	20	
Carbon tetrachloride	20.0	20.4	102	20.0	18.5	92.6	9.58	65 - 140	20	
Chlorobenzene	20.0	19.8	98.9	20.0	19.0	94.8	4.19	80 - 120	20	
Chloroethane	20.0	22.0	110	20.0	20.6	103	6.62	60 - 135	20	
Chloroform	20.0	19.7	98.5	20.0	18.5	92.6	6.13	80 - 125	20	
Chloromethane	20.0	19.2	96.2	20.0	17.7	88.4	8.53	40 - 125	20	
cis-1,3-Dichloropropene	20.0	21.6	108	20.0	20.6	103	4.80	70 - 130	20	
Cyclohexane	20.0	20.4	102	20.0	18.9	94.4	7.78	80 - 130	20	
Dibromochloromethane	20.0	20.0	100	20.0	19.1	95.7	4.48	60 - 135	20	
Dichlorodifluoromethane	20.0	21.0	105	20.0	19.3	96.5	8.35	50 - 133	20	
Ethyl benzene	20.0	21.5	107	20.0	20.0	100	6.94	80 - 122	20	
Isopropylbenzene	20.0	20.8	104	20.0	19.4	96.9	6.88	80 - 122	20	
Methyl acetate	20.0	22.9	115	20.0	22.0	110	4.26	80 - 130	20	
Methyl tert-butyl ether	20.0	23.7	119	20.0	23.0	115	3.34	65 - 125	20	
Methylcyclohexane	20.0	20.6	103	20.0	19.2	96.0	7.25	80 - 130	20	
Methylene chloride	20.0	21.0	105	20.0	20.2	101	4.11	80 - 123	20	

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KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: MES Prep Method: 5030B
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG253819 Units: ug/L
QC Key: STD Lot #: STD22622

00072456

Sample ID: WG253819-02 LCS File ID: 6M70258 Run Date: 10/25/2007 12:15
Sample ID: WG253819-03 LCS2 File ID: 6M70259 Run Date: 10/25/2007 12:47

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Styrene	20.0	22.0	110	20.0	21.0	105	4.72	80 - 123	20	
Tetrachloroethene	20.0	21.5	107	20.0	19.9	99.3	7.87	80 - 124	20	
Toluene	20.0	22.6	113	20.0	21.3	106	5.88	80 - 124	20	
trans-1,3-Dichloropropene	20.0	20.2	101	20.0	19.1	95.6	5.25	80 - 130	20	
Trichloroethene	20.0	21.0	105	20.0	19.8	99.0	6.06	80 - 122	20	
Trichlorofluoromethane	20.0	15.6	78.0	20.0	14.1	70.5	10.1	62 - 151	20	
Vinyl chloride	20.0	18.5	92.6	20.0	16.8	84.0	9.70	65 - 140	20	
Xylenes, Total	60.0	64.3	107	60.0	60.8	101	5.46	80 - 121	20	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
Dibromofluoromethane	88.6	87.8	86 - 118	PASS
1,2-Dichloroethane-d4	80.2	77.9	80 - 120	FAIL
Toluene-d8	98.9	97.7	88 - 110	PASS
p-Bromofluorobenzene	95.4	95.7	86 - 115	PASS

* FAILS %REC LIMIT

\# FAILS RPD LIMIT

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KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072457

BFB

Login Number: L0710597
Instrument: HPMS10
Analyst: MES
Workgroup: WG253187

Tune ID: WG253187-01
Run Date: 10/18/2007
Run Time: 08:52
File ID: 10M59716
Cal ID: HPMS10-18-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	22.0	7983	PASS
75.0	95.0	30.0	60.0	48.9	17728	PASS
95.0	95.0	100	100	100	36237	PASS
96.0	95.0	5.00	9.00	6.76	2448	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	80.4	29150	PASS
175	174	5.00	9.00	6.19	1804	PASS
176	174	95.0	101	98.5	28710	PASS
177	176	5.00	9.00	5.73	1644	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253187-02	STD	01	10/18/2007 09:57	
WG253187-04	STD	01	10/18/2007 11:00	
WG253187-05	STD	01	10/18/2007 11:31	
WG253187-06	STD	01	10/18/2007 12:03	
WG253187-07	STD	01	10/18/2007 12:35	
WG253187-08	STD-CCV	01	10/18/2007 13:07	
WG253187-09	STD	01	10/18/2007 13:45	
WG253187-10	STD	01	10/18/2007 14:16	
WG253187-11	STD	01	10/18/2007 14:47	
WG253187-03	STD	01	10/18/2007 16:51	
WG253187-12	SSCV	02	10/18/2007 18:23	
WG253187-12	SSCV	01	10/18/2007 18:55	
WG253187-13	SSCV	01	10/18/2007 19:37	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072458

BFB

Login Number: L0710597
Instrument: HPMS10
Analyst: MES
Workgroup: WG253793

Tune ID: WG253793-01
Run Date: 10/25/2007
Run Time: 08:04
File ID: 10M59850
Cal ID: HPMS10-18-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	21.8	8388	PASS
75.0	95.0	30.0	60.0	50.3	19337	PASS
95.0	95.0	100	100	100	38432	PASS
96.0	95.0	5.00	9.00	7.10	2727	PASS
173	174	0	2.00	0.648	205	PASS
174	95.0	50.0	100	82.3	31629	PASS
175	174	5.00	9.00	7.63	2414	PASS
176	174	95.0	101	97.0	30678	PASS
177	176	5.00	9.00	6.81	2088	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253793-02	CCV	01	10/25/2007 08:27	
WG253794-01	BLANK	01	10/25/2007 09:31	
WG253794-02	LCS	01	10/25/2007 10:03	
WG253794-03	LCS2	01	10/25/2007 10:35	
L0710597-05	47WW18-101807	01	10/25/2007 18:23	
L0710597-06	47WW18-101807-DUP	01	10/25/2007 18:54	
L0710597-08	47WW30-101807	01	10/25/2007 19:26	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072459

BFB

Login Number: L0710597
Instrument: HPMS10
Analyst: MES
Workgroup: WG253909

Tune ID: WG253909-01
Run Date: 10/26/2007
Run Time: 09:43
File ID: 10M59882
Cal ID: HPMS10-18-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	19.4	6624	PASS
75.0	95.0	30.0	60.0	50.9	17387	PASS
95.0	95.0	100	100	100	34133	PASS
96.0	95.0	5.00	9.00	6.91	2360	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	82.1	28029	PASS
175	174	5.00	9.00	8.29	2324	PASS
176	174	95.0	101	95.1	26669	PASS
177	176	5.00	9.00	6.38	1701	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253909-02	CCV	01	10/26/2007 11:25	
WG253910-01	BLANK	01	10/26/2007 12:28	
WG253910-02	LCS	01	10/26/2007 13:00	
WG253910-03	LCS2	01	10/26/2007 13:32	
L0710597-08	47WW30-101807	DL01	10/26/2007 14:04	
L0710597-10	47WW31-101807	01	10/26/2007 19:55	
L0710597-12	LHSMW34-101807	DL01	10/26/2007 20:27	
L0710597-13	EQUIPMENT RINSE #1	01	10/26/2007 20:59	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072460

BFB

Login Number: L0710597
Instrument: HPMS10
Analyst: MES
Workgroup: WG254005

Tune ID: WG254005-01
Run Date: 10/27/2007
Run Time: 09:21
File ID: 10M59910
Cal ID: HPMS10-18-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	23.6	8981	PASS
75.0	95.0	30.0	60.0	51.6	19625	PASS
95.0	95.0	100	100	100	38013	PASS
96.0	95.0	5.00	9.00	7.25	2756	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	79.5	30227	PASS
175	174	5.00	9.00	6.41	1937	PASS
176	174	95.0	101	96.7	29243	PASS
177	176	5.00	9.00	6.31	1844	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG254005-02	CCV	01	10/27/2007 09:47	
WG254006-01	BLANK	01	10/27/2007 10:52	
WG254006-02	LCS	01	10/27/2007 11:24	
WG254006-03	LCS2	01	10/27/2007 11:56	
L0710597-07	47WW32-101807	02	10/27/2007 14:37	
L0710597-09	47WW36-101907	DL01	10/27/2007 17:19	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072461

BFB

Login Number: L0710597
Instrument: HPMS11
Analyst: MES
Workgroup: WG251532

Tune ID: WG251532-01
Run Date: 10/01/2007
Run Time: 11:15
File ID: 11M46050
Cal ID: HPMS11-01-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	28.5	12940	PASS
75.0	95.0	30.0	60.0	55.6	25260	PASS
95.0	95.0	100	100	100	45413	PASS
96.0	95.0	5.00	9.00	7.38	3351	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	55.4	25144	PASS
175	174	5.00	9.00	7.53	1894	PASS
176	174	95.0	101	98.4	24744	PASS
177	176	5.00	9.00	7.33	1814	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG251532-02	STD	01	10/01/2007 11:40	
WG251532-03	STD	01	10/01/2007 12:11	
WG251532-04	STD	01	10/01/2007 12:42	
WG251532-05	STD	01	10/01/2007 13:12	
WG251532-06	STD	01	10/01/2007 13:42	
WG251532-07	STD	01	10/01/2007 14:18	
WG251532-08	STD-CCV	01	10/01/2007 14:48	
WG251532-09	STD	01	10/01/2007 15:18	
WG251532-10	STD	01	10/01/2007 15:48	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072462

BFB

Login Number: L0710597
Instrument: HPMS11
Analyst: MES
Workgroup: WG251618

Tune ID: WG251618-01
Run Date: 10/01/2007
Run Time: 18:38
File ID: 11M46064
Cal ID: HPMS11-01-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	28.1	15873	PASS
75.0	95.0	30.0	60.0	54.1	30544	PASS
95.0	95.0	100	100	100	56448	PASS
96.0	95.0	5.00	9.00	6.83	3854	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	59.4	33531	PASS
175	174	5.00	9.00	7.80	2616	PASS
176	174	95.0	101	98.1	32907	PASS
177	176	5.00	9.00	7.16	2357	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG251532-11	SSCV	01	10/01/2007 20:02	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072463

BFB

Login Number: L0710597
Instrument: HPMS11
Analyst: MES
Workgroup: WG253676

Tune ID: WG253676-01
Run Date: 10/24/2007
Run Time: 09:19
File ID: 11M46850
Cal ID: HPMS11-01-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	26.8	21342	PASS
75.0	95.0	30.0	60.0	54.4	43360	PASS
95.0	95.0	100	100	100	79645	PASS
96.0	95.0	5.00	9.00	6.91	5507	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	66.8	53218	PASS
175	174	5.00	9.00	7.97	4242	PASS
176	174	95.0	101	98.9	52613	PASS
177	176	5.00	9.00	5.91	3107	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253676-02	CCV	01	10/24/2007 09:42	
WG253678-01	BLANK	01	10/24/2007 10:51	
WG253678-02	LCS	01	10/24/2007 11:21	
WG253678-03	LCS2	01	10/24/2007 11:52	
L0710597-14	TRIP BLANK	01	10/24/2007 13:52	
L0710597-09	47WW36-101907	01	10/24/2007 17:54	
WG253678-04	BLANK2	01	10/24/2007 21:57	*

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072464

BFB

Login Number: L0710597
Instrument: HPMS6
Analyst: CMS
Workgroup: WG253721

Tune ID: WG253721-01
Run Date: 10/24/2007
Run Time: 12:10
File ID: 6M70233
Cal ID: HPMS6-24-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	23.3	8548	PASS
75.0	95.0	30.0	60.0	58.5	21434	PASS
95.0	95.0	100	100	100	36650	PASS
96.0	95.0	5.00	9.00	6.61	2421	PASS
173	174	0	2.00	0.590	164	PASS
174	95.0	50.0	100	75.9	27800	PASS
175	174	5.00	9.00	7.92	2202	PASS
176	174	95.0	101	99.8	27744	PASS
177	176	5.00	9.00	6.65	1845	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253721-03	STD	01	10/24/2007 12:45	
WG253721-02	STD	01	10/24/2007 13:17	
WG253721-04	STD	01	10/24/2007 13:49	
WG253721-05	STD	01	10/24/2007 14:21	
WG253721-06	STD	01	10/24/2007 14:53	
WG253721-07	STD	01	10/24/2007 15:25	
WG253721-08	STD-CCV	01	10/24/2007 15:57	
WG253721-09	STD	01	10/24/2007 16:29	
WG253721-10	STD	01	10/24/2007 17:01	
WG253721-11	STD	01	10/24/2007 17:33	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072465

BFB

Login Number: L0710597
Instrument: HPMS6
Analyst: MES
Workgroup: WG253818

Tune ID: WG253818-01
Run Date: 10/25/2007
Run Time: 09:44
File ID: 6M70253
Cal ID: HPMS6-24-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	22.7	17592	PASS
75.0	95.0	30.0	60.0	56.2	43629	PASS
95.0	95.0	100	100	100	77656	PASS
96.0	95.0	5.00	9.00	6.57	5103	PASS
173	174	0	2.00	0.955	571	PASS
174	95.0	50.0	100	77.0	59786	PASS
175	174	5.00	9.00	7.23	4322	PASS
176	174	95.0	101	95.9	57341	PASS
177	176	5.00	9.00	6.58	3771	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253818-02	CCV	01	10/25/2007 10:08	
WG253721-12	SSCV	01	10/25/2007 11:12	
WG253819-01	BLANK	01	10/25/2007 11:44	
WG253819-02	LCS	01	10/25/2007 12:15	
WG253819-03	LCS2	01	10/25/2007 12:47	
L0710597-11	47WW25-101607	01	10/25/2007 14:54	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072466

BFB

Login Number: L0710597
Instrument: HPMS6
Analyst: MES
Workgroup: WG253918

Tune ID: WG253918-01
Run Date: 10/26/2007
Run Time: 09:28
File ID: 6M70285
Cal ID: HPMS6-24-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	22.8	12760	PASS
75.0	95.0	30.0	60.0	59.5	33208	PASS
95.0	95.0	100	100	100	55858	PASS
96.0	95.0	5.00	9.00	6.75	3769	PASS
173	174	0	2.00	0.342	151	PASS
174	95.0	50.0	100	79.0	44120	PASS
175	174	5.00	9.00	6.99	3084	PASS
176	174	95.0	101	98.2	43309	PASS
177	176	5.00	9.00	6.35	2751	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253918-02	CCV	01	10/26/2007 10:25	
WG253919-01	BLANK	01	10/26/2007 11:43	
WG253919-02	LCS	01	10/26/2007 12:16	
WG253919-03	LCS2	01	10/26/2007 12:48	
L0710597-11	47WW25-101607	DL01	10/26/2007 13:22	
WG253919-04	BLANK2	01	10/26/2007 17:07	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072467

BFB

Login Number: L0710597
Instrument: HPMS8
Analyst: CMS
Workgroup: WG253480

Tune ID: WG253480-01
Run Date: 10/22/2007
Run Time: 11:00
File ID: 8M340860
Cal ID: HPMS8-22-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	19.9	16568	PASS
75.0	95.0	30.0	60.0	42.6	35464	PASS
95.0	95.0	100	100	100	83184	PASS
96.0	95.0	5.00	9.00	6.80	5656	PASS
173	174	0	2.00	0.233	168	PASS
174	95.0	50.0	100	86.8	72224	PASS
175	174	5.00	9.00	7.43	5364	PASS
176	174	95.0	101	96.0	69306	PASS
177	176	5.00	9.00	6.87	4761	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253480-02	STD	01	10/22/2007 11:30	
WG253480-03	STD	01	10/22/2007 12:00	
WG253480-04	STD	01	10/22/2007 12:29	
WG253480-05	STD	01	10/22/2007 12:59	
WG253480-06	STD	01	10/22/2007 13:30	
WG253480-07	STD	01	10/22/2007 14:00	
WG253480-08	STD-CCV	01	10/22/2007 14:29	
WG253480-09	STD	01	10/22/2007 14:59	
WG253480-10	STD	01	10/22/2007 15:28	
WG253480-11	STD	01	10/22/2007 15:58	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072468

BFB

Login Number: L0710597
Instrument: HPMS8
Analyst: CMS
Workgroup: WG253578

Tune ID: WG253578-01
Run Date: 10/23/2007
Run Time: 08:29
File ID: 8M340877
Cal ID: HPMS8-22-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	20.4	8950	PASS
75.0	95.0	30.0	60.0	41.7	18280	PASS
95.0	95.0	100	100	100	43874	PASS
96.0	95.0	5.00	9.00	7.12	3124	PASS
173	174	0	2.00	0.305	110	PASS
174	95.0	50.0	100	82.1	36021	PASS
175	174	5.00	9.00	6.79	2445	PASS
176	174	95.0	101	96.4	34733	PASS
177	176	5.00	9.00	6.51	2261	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG253480-12	SSCV	01	10/23/2007 11:07	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
ORGANIC INSTRUMENT CHECK

00072469

BFB

Login Number: L0710597
Instrument: HPMS8
Analyst: CMS
Workgroup: WG254047

Tune ID: WG254047-01
Run Date: 10/29/2007
Run Time: 08:05
File ID: 8M341020
Cal ID: HPMS8 - 22-OCT-07

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
50.0	95.0	15.0	40.0	19.6	20311	PASS
75.0	95.0	30.0	60.0	39.4	40746	PASS
95.0	95.0	100	100	100	103493	PASS
96.0	95.0	5.00	9.00	6.65	6878	PASS
173	174	0	2.00	0.417	370	PASS
174	95.0	50.0	100	85.7	88741	PASS
175	174	5.00	9.00	7.03	6237	PASS
176	174	95.0	101	98.1	87029	PASS
177	176	5.00	9.00	6.16	5358	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG254047-02	CCV	01	10/29/2007 08:31	
WG254048-01	BLANK	01	10/29/2007 09:34	
WG254048-02	LCS	01	10/29/2007 10:04	
WG254048-03	LCS	01	10/29/2007 10:34	
L0710597-11	47WW25-101607	DL02	10/29/2007 14:04	
WG254048-04	REF	01	10/29/2007 17:03	
WG254048-05	MS	01	10/29/2007 17:32	
WG254048-06	MSD	01	10/29/2007 18:02	

* Sample past 12 hour tune limit

KEMRON FORMS - Modified 03/12/2007
Version 1.3 PDF File ID: 919906
Report generated 11/01/2007 15:46

KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG253187

Instrument ID: HPMS10
Initial Calibration Date: 18-OCT-07 10:51
Column ID: F

00072470

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
1,1-Dichloroethene	CCC	0.2800	17.8		1.00
1,2-Dichloropropane	CCC	0.2830	6.65		
Chloroform	CCC	0.6766	4.91		
Ethylbenzene	CCC	0.5538	7.95		
Toluene	CCC	1.496	9.86		
Vinyl Chloride	CCC	0.2666	14.5		
1,1,2,2-Tetrachloroethane	SPCC	0.4069	11.9		
1,1-Dichloroethane	SPCC	0.6342	4.48		
Bromoform	SPCC	0.2059	9.21		
Chlorobenzene	SPCC	1.084	6.35		
Chloromethane	SPCC	0.3466	14.3		
1,1,1-Trichloroethane		0.6678	9.32		
1,1,2-Trichloro-1,2,2-Trifluoroethane		0.3924	3.52		
1,1,2-Trichloroethane		0.2498	6.24		
1,2,4-Trichlorobenzene		0.8839	9.53		
1,2-Dibromo-3-Chloropropane		0.07583	11.1		
1,2-Dibromoethane		0.2388	9.88		
1,2-Dichlorobenzene		1.366	7.24		
1,2-Dichloroethane		0.5033	6.76		
1,3-Dichlorobenzene		1.624	5.76		
1,4-Dichlorobenzene		1.710	4.91		
2-Butanone		0.06795	4.65		
2-Hexanone		0.1080	4.50		
4-Methyl-2-Pentanone		0.04997	8.69		
Acetone		0.05652	11.3		
Benzene		1.263	7.31		
Bromodichloromethane		0.4657	7.07		
Bromomethane		0.2330	6.15		
Carbon Disulfide		0.9550	8.03		
Carbon Tetrachloride		0.6168	13.0		
Chloroethane		0.2335	2.95		
Cyclohexane		0.5127	14.1		
Dibromochloromethane		0.3471	9.68		
Dichlorodifluoromethane		0.5643	7.39		
Isopropylbenzene		1.550	20.1		1.00
Methyl Tert Butyl Ether		0.6201	8.48		
Methyl acetate		0.1325	6.24		
Methylcyclohexane		0.4898	11.1		
Methylene Chloride		0.5198	63.2		1.00
Styrene		0.9348	24.3		1.00
Tetrachloroethene		0.3687	7.07		
Trichloroethene		0.3392	9.82		
Trichlorofluoromethane		0.7826	19.2		1.00
cis-1,2-Dichloroethene		0.3348	9.30		
cis-1,3-Dichloropropene		0.4349	14.4		

KEMRON FORMS - Modified 01/18/2007
Version 1.5 PDF File ID: 919904
Report generated 11/01/2007 15:46

KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG253187

Instrument ID: HPMS10
Initial Calibration Date: 18-OCT-07 16:51
Column ID: F

00072471

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
m-,p-Xylene		0.6626	10.9		
o-Xylene		0.6097	13.2		
trans-1,2-Dichloroethene		0.3243	10.7		
trans-1,3-Dichloropropene		0.5039	9.73		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

KEMRON FORMS - Modified 01/18/2007
Version 1.5 PDF File ID: 919904
Report generated 11/01/2007 15:46

KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG251532

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F

00072472

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
1,1-Dichloroethene	CCC	0.5856	17.3		1.00
1,2-Dichloropropane	CCC	0.2949	9.42		
Chloroform	CCC	0.5438	9.08		
Ethylbenzene	CCC	0.5272	14.3		
Toluene	CCC	1.521	10.7		
Vinyl Chloride	CCC	0.3573	16.5		1.00
1,1,2,2-Tetrachloroethane	SPCC	0.4632	5.71		
1,1-Dichloroethane	SPCC	0.6413	9.75		
Bromoform	SPCC	0.1592	10.4		
Chlorobenzene	SPCC	0.9874	7.61		
Chloromethane	SPCC	0.4467	6.42		
1,1,1-Trichloroethane		0.5202	15.0		
1,1,2-Trichloro-1,2,2-Trifluoroethane		0.2517	5.80		
1,1,2-Trichloroethane		0.2287	9.70		
1,2,4-Trichlorobenzene		0.8233	9.27		
1,2-Dibromo-3-Chloropropane		0.09771	8.36		
1,2-Dibromoethane		0.2272	8.17		
1,2-Dichlorobenzene		1.212	7.65		
1,2-Dichloroethane		0.5005	6.73		
1,3-Dichlorobenzene		1.377	12.8		
1,4-Dichlorobenzene		1.396	10.3		
2-Butanone		0.06584	5.59		
2-Hexanone		0.1555	4.45		
4-Methyl-2-Pentanone		0.06512	4.74		
Acetone		0.05000	11.0		
Benzene		1.001	6.65		
Bromodichloromethane		0.3822	10.1		
Bromomethane		0.1750	13.3		
Carbon Disulfide		0.7795	3.36		
Carbon Tetrachloride		0.4032	19.5		1.00
Chloroethane		0.2473	2.57		
Cyclohexane		0.5961	4.69		
Dibromochloromethane		0.3012	13.2		
Dichlorodifluoromethane		0.4914	7.24		
Isopropylbenzene		1.639	17.5		1.00
Methyl Tert Butyl Ether		0.6091	3.55		
Methyl acetate		0.1281	4.38		
Methylcyclohexane		0.3806	6.86		
Methylene Chloride		0.3950	54.7		1.00
Styrene		1.018	15.9	1.00	
Tetrachloroethene		0.2559	16.3		1.00
Trichloroethene		0.2327	13.2		
Trichlorofluoromethane		0.5591	24.6		1.00
cis-1,2-Dichloroethene		0.2615	12.4		
cis-1,3-Dichloropropene		0.3993	11.2		

KEMRON FORMS - Modified 01/18/2007
Version 1.5 PDF File ID: 919904
Report generated 11/01/2007 15:46

KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG251532

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F

00072473

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
m-,p-Xylene		0.6669	10.4		
o-Xylene		0.6374	11.6		
trans-1,2-Dichloroethene		0.2601	10.0		
trans-1,3-Dichloropropene		0.5556	11.1		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

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KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG253721

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072474

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
1,1-Dichloroethene	CCC	0.4414	4.69		
1,2-Dichloropropane	CCC	0.2081	7.27		
Chloroform	CCC	0.6148	4.69		
Ethylbenzene	CCC	0.5202	7.11		
Toluene	CCC	1.278	5.63		
Vinyl Chloride	CCC	0.4097	15.5		1.00
1,1,2,2-Tetrachloroethane	SPCC	0.3554	12.1		
1,1-Dichloroethane	SPCC	0.4770	3.59		
Bromoform	SPCC	0.2214	7.78		
Chlorobenzene	SPCC	0.9904	5.83		
Chloromethane	SPCC	0.3771	15.9		1.00
1,1,1-Trichloroethane		0.6125	4.31		
1,1,2-Trichloro-1,2,2-Trifluoroethane		0.3205	8.90		
1,1,2-Trichloroethane		0.2168	7.99		
1,2,4-Trichlorobenzene		0.9584	7.95		
1,2-Dibromo-3-Chloropropane		0.07902	4.23		
1,2-Dibromoethane		0.2213	6.80		
1,2-Dichlorobenzene		1.359	8.52		
1,2-Dichloroethane		0.4711	8.07		
1,3-Dichlorobenzene		1.522	7.21		
1,4-Dichlorobenzene		1.634	12.2		
2-Butanone		0.05205	5.47		
2-Hexanone		0.09497	9.65		
4-Methyl-2-Pentanone		0.04188	12.1		
Acetone		0.04300	10.3		
Benzene		0.9974	3.80		
Bromodichloromethane		0.4400	3.85		
Bromomethane		0.1782	10.0		
Carbon Disulfide		0.6930	16.0		1.00
Carbon Tetrachloride		0.5732	6.53		
Chloroethane		0.1694	4.86		
Cyclohexane		0.3908	8.73		
Dibromochloromethane		0.3485	6.23		
Dichlorodifluoromethane		0.5079	12.9		
Isopropylbenzene		1.587	11.3		
Methyl Tert Butyl Ether		0.5327	11.9		
Methyl acetate		0.1011	5.65		
Methylcyclohexane		0.4126	8.32		
Methylene Chloride		0.4165	68.1	1.00	
Styrene		0.9952	12.8		
Tetrachloroethene		0.4104	3.25		
Trichloroethene		0.2969	4.34		
Trichlorofluoromethane		0.7740	9.47		
cis-1,2-Dichloroethene		0.2714	9.15		
cis-1,3-Dichloropropene		0.3813	13.7		

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KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG253721

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072475

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
m-,p-Xylene		0.6512	4.97		
o-Xylene		0.5862	12.7		
trans-1,2-Dichloroethene		0.2574	4.90		
trans-1,3-Dichloropropene		0.4494	11.4		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

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KEMRON Environmental Services

INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG253480

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F

00072476

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
1,1-Dichloroethene	CCC	0.3365	10.1		
1,2-Dichloropropane	CCC	0.1995	7.19		
Chloroform	CCC	0.3965	7.33		
Ethylbenzene	CCC	0.3970	11.6		
Toluene	CCC	1.088	8.47		
Vinyl Chloride	CCC	0.1241	8.75		
1,1,2,2-Tetrachloroethane	SPCC	0.3049	5.16		
1,1-Dichloroethane	SPCC	0.4057	4.41		
Bromoform	SPCC	0.1306	14.2		
Chlorobenzene	SPCC	0.7965	14.4		
Chloromethane	SPCC	0.2233	12.0		
1,1,1-Trichloroethane		0.3525	7.90		
1,1,2-Trichloro-1,2,2-Trifluoroethane		0.2244	7.06		
1,1,2-Trichloroethane		0.1688	5.88		
1,2,4-Trichlorobenzene		0.7808	11.7		
1,2-Dibromo-3-Chloropropane		0.05440	14.0		
1,2-Dibromoethane		0.1732	6.09		
1,2-Dichlorobenzene		1.134	12.3		
1,2-Dichloroethane		0.2735	5.44		
1,3-Dichlorobenzene		1.244	11.2		
1,4-Dichlorobenzene		1.285	13.5		
2-Butanone		0.05067	5.18		
2-Hexanone		0.04843	6.72		
4-Methyl-2-Pentanone		0.04135	6.11		
Acetone		0.03688	7.91		
Benzene		0.8675	9.69		
Bromodichloromethane		0.2600	6.64		
Bromomethane		0.1561	11.0		
Carbon Disulfide		0.6216	6.39		
Carbon Tetrachloride		0.3216	8.50		
Chloroethane		0.1618	5.82		
Cyclohexane		0.3705	8.59		
Dibromochloromethane		0.2367	6.13		
Dichlorodifluoromethane		0.2818	7.46		
Isopropylbenzene		1.180	9.36		
Methyl Tert Butyl Ether		0.3786	4.66		
Methyl acetate		0.1003	0.770		
Methylcyclohexane		0.3092	9.01		
Methylene Chloride		0.3171	56.0		1.00
Styrene		0.7425	10.3		
Tetrachloroethene		0.2394	8.01		
Trichloroethene		0.2328	8.28		
Trichlorofluoromethane		0.4141	3.18		
cis-1,2-Dichloroethene		0.2255	7.17		
cis-1,3-Dichloropropene		0.2973	7.43		

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INITIAL CALIBRATION SUMMARY

Login Number: L0710597
Analytical Method: 8260B
ICAL Workgroup: WG253480

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F

00072477

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD(R^2)
m-,p-Xylene		0.4830	12.6		
o-Xylene		0.4739	9.58		
trans-1,2-Dichloroethene		0.3325	6.08		
trans-1,3-Dichloropropene		0.3277	6.52		

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

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KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 18-OCT-07 16:51
Column ID: F 00072478

Analyte	WG253187-02			WG253187-03			WG253187-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA	0.400	1885.00000	0.1667	1.00	7305.00000	0.2607
1,2-Dichloropropane	NA	NA	NA	0.400	2756.00000	0.2438	1.00	8147.00000	0.2907
Chloroform	0.300	6277.00000	0.6701	0.400	7102.00000	0.6282	1.00	18487.0000	0.6597
Ethylbenzene	NA	NA	NA	0.400	4131.00000	0.4594	1.00	12304.0000	0.5551
Toluene	NA	NA	NA	0.400	10642.0000	1.183	1.00	31152.0000	1.405
Vinyl Chloride	NA	NA	NA	0.400	2511.00000	0.2221	1.00	8865.00000	0.3163
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	1555.00000	0.3143	1.00	4829.00000	0.3879
1,1-Dichloroethane	NA	NA	NA	0.400	6860.00000	0.6068	1.00	16737.0000	0.5972
Bromoform	NA	NA	NA	NA	NA	NA	1.00	3644.00000	0.1644
Chlorobenzene	NA	NA	NA	0.400	10238.0000	1.139	1.00	24273.0000	1.095
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	11127.0000	0.3971
1,1,1-Trichloroethane	NA	NA	NA	0.400	6190.00000	0.5475	1.00	18148.0000	0.6476
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA	NA	NA	NA	NA	NA	1.00	11449.0000	0.4086
1,1,2-Trichloroethane	NA	NA	NA	0.400	2302.00000	0.2560	1.00	5477.00000	0.2471
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	4890.00000	0.9882	1.00	9046.00000	0.7267
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	0.400	1667.00000	0.1854	1.00	5085.00000	0.2294
1,2-Dichlorobenzene	0.300	4812.00000	1.230	0.400	6405.00000	1.294	1.00	15369.0000	1.235
1,2-Dichloroethane	NA	NA	NA	0.400	5429.00000	0.4802	1.00	13527.0000	0.4827
1,3-Dichlorobenzene	NA	NA	NA	0.400	7661.00000	1.548	1.00	18239.0000	1.465
1,4-Dichlorobenzene	0.300	6633.00000	1.695	0.400	8734.00000	1.765	1.00	21411.0000	1.720
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	0.400	12905.0000	1.142	1.00	31706.0000	1.131
Bromodichloromethane	NA	NA	NA	0.400	4864.00000	0.4302	1.00	11718.0000	0.4181
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	5818.00000	0.2076
Carbon Disulfide	NA	NA	NA	0.400	8792.00000	0.7777	1.00	27106.0000	0.9673
Carbon Tetrachloride	NA	NA	NA	0.400	5024.00000	0.4444	1.00	16646.0000	0.5940
Chloroethane	NA	NA	NA	NA	NA	NA	1.00	6624.00000	0.2364
Cyclohexane	NA	NA	NA	NA	NA	NA	1.00	10681.0000	0.3811
Dibromochloromethane	NA	NA	NA	0.400	2474.00000	0.2751	1.00	7187.00000	0.3242
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	1.00	15250.0000	0.5442
Isopropylbenzene	NA	NA	NA	0.400	8559.00000	0.9518	1.00	27917.0000	1.260
Methyl Tert Butyl Ether	NA	NA	NA	NA	NA	NA	1.00	15287.0000	0.5455
Methyl acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	NA	NA	NA	NA	NA	NA	1.00	11442.0000	0.4083
Methylene Chloride	NA	NA	NA	0.400	14063.0000	1.244	1.00	20344.0000	0.7260
Styrene	NA	NA	NA	0.400	5375.00000	0.5977	1.00	13384.0000	0.6038
Tetrachloroethene	NA	NA	NA	0.400	2821.00000	0.3137	1.00	8350.00000	0.3767
Trichloroethene	NA	NA	NA	0.400	2997.00000	0.2651	1.00	9091.00000	0.3244

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 18-OCT-07 16:51
Column ID: F

00072479

Analyte	WG253187-05			WG253187-06			WG253187-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	15287.0000	0.2715	5.00	42558.0000	0.3022	20.0	180665.000	0.3069
1,2-Dichloropropane	2.00	15196.0000	0.2699	5.00	41344.0000	0.2936	20.0	174588.000	0.2966
Chloroform	2.00	37694.0000	0.6694	5.00	102622.000	0.7287	20.0	419725.000	0.7130
Ethylbenzene	2.00	24162.0000	0.5439	5.00	65558.0000	0.5717	20.0	284174.000	0.5971
Toluene	2.00	65823.0000	1.482	5.00	182916.000	1.595	20.0	776711.000	1.632
Vinyl Chloride	2.00	17139.0000	0.3044	5.00	41513.0000	0.2948	20.0	152646.000	0.2593
1,1,2,2-Tetrachloroethane	2.00	12038.0000	0.4829	5.00	28928.0000	0.4454	20.0	112932.000	0.4174
1,1-Dichloroethane	2.00	35723.0000	0.6344	5.00	94651.0000	0.6721	20.0	388959.000	0.6607
Bromoform	2.00	9401.00000	0.2116	5.00	24005.0000	0.2093	20.0	104250.000	0.2190
Chlorobenzene	2.00	50576.0000	1.139	5.00	131659.000	1.148	20.0	528062.000	1.110
Chloromethane	2.00	23206.0000	0.4121	5.00	51889.0000	0.3684	20.0	202508.000	0.3440
1,1,1-Trichloroethane	2.00	37393.0000	0.6640	5.00	103358.000	0.7339	20.0	427717.000	0.7266
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	22033.0000	0.3913	5.00	55893.0000	0.3969	20.0	236212.000	0.4012
1,1,2-Trichloroethane	2.00	12183.0000	0.2743	5.00	30420.0000	0.2653	20.0	119382.000	0.2508
1,2,4-Trichlorobenzene	2.00	20290.0000	0.8140	5.00	55085.0000	0.8481	20.0	242118.000	0.8949
1,2-Dibromo-3-Chloropropane	2.00	1595.00000	0.06400	5.00	4769.00000	0.07340	20.0	19160.0000	0.07080
1,2-Dibromoethane	2.00	11008.0000	0.2478	5.00	28597.0000	0.2494	20.0	124466.000	0.2615
1,2-Dichlorobenzene	2.00	37062.0000	1.487	5.00	95260.0000	1.467	20.0	392539.000	1.451
1,2-Dichloroethane	2.00	29116.0000	0.5170	5.00	78320.0000	0.5561	20.0	315717.000	0.5363
1,3-Dichlorobenzene	2.00	43128.0000	1.730	5.00	110836.000	1.707	20.0	456925.000	1.689
1,4-Dichlorobenzene	2.00	45641.0000	1.831	5.00	116311.000	1.791	20.0	465766.000	1.722
2-Butanone	NA	NA	NA	5.00	10391.0000	0.07380	20.0	38950.0000	0.06620
2-Hexanone	NA	NA	NA	5.00	11580.0000	0.1010	20.0	50374.0000	0.1058
4-Methyl-2-Pentanone	NA	NA	NA	5.00	5894.00000	0.04190	20.0	28737.0000	0.04880
Acetone	NA	NA	NA	5.00	9425.00000	0.06690	20.0	34128.0000	0.05800
Benzene	2.00	72788.0000	1.293	5.00	195190.000	1.386	20.0	791095.000	1.344
Bromodichloromethane	2.00	25970.0000	0.4612	5.00	70082.0000	0.4976	20.0	295680.000	0.5023
Bromomethane	2.00	12425.0000	0.2206	5.00	33063.0000	0.2348	20.0	138556.000	0.2354
Carbon Disulfide	2.00	53362.0000	0.9476	5.00	143650.000	1.020	20.0	589489.000	1.001
Carbon Tetrachloride	2.00	36557.0000	0.6492	5.00	95481.0000	0.6780	20.0	404158.000	0.6865
Chloroethane	2.00	12862.0000	0.2284	5.00	34147.0000	0.2425	20.0	140133.000	0.2380
Cyclohexane	2.00	25145.0000	0.4465	5.00	73667.0000	0.5231	20.0	333963.000	0.5673
Dibromochloromethane	2.00	16000.0000	0.3602	5.00	42545.0000	0.3710	20.0	176475.000	0.3708
Dichlorodifluoromethane	2.00	33123.0000	0.5882	5.00	85934.0000	0.6102	20.0	350987.000	0.5962
Isopropylbenzene	2.00	64554.0000	1.453	5.00	186995.000	1.631	20.0	868228.000	1.824
Methyl Tert Butyl Ether	2.00	31379.0000	0.5572	5.00	85244.0000	0.6053	20.0	370990.000	0.6302
Methyl acetate	2.00	8322.00000	0.1478	5.00	19185.0000	0.1362	20.0	75160.0000	0.1277
Methylcyclohexane	2.00	23891.0000	0.4243	5.00	67543.0000	0.4796	20.0	308513.000	0.5241
Methylene Chloride	2.00	30324.0000	0.5385	5.00	57224.0000	0.4063	20.0	195986.000	0.3329
Styrene	2.00	37636.0000	0.8472	5.00	111666.000	0.9737	20.0	532640.000	1.119
Tetrachloroethene	2.00	17301.0000	0.3895	5.00	44134.0000	0.3848	20.0	185017.000	0.3887
Trichloroethene	2.00	19229.0000	0.3415	5.00	49536.0000	0.3517	20.0	213441.000	0.3626

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KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 18-OCT-07 16:51
Column ID: F 00072480

Analyte	WG253187-08			WG253187-09			WG253187-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	475779.000	0.3158	100	1003530.00	0.3152	200	1935564.00	0.3013
1,2-Dichloropropane	50.0	453632.000	0.3011	100	925271.000	0.2906	200	1784915.00	0.2779
Chloroform	50.0	1059062.00	0.7029	100	2158957.00	0.6780	200	4108683.00	0.6396
Ethylbenzene	50.0	749151.000	0.5951	100	1522153.00	0.5722	200	2832832.00	0.5357
Toluene	50.0	2026967.00	1.610	100	4162783.00	1.565	200	7913474.00	1.496
Vinyl Chloride	50.0	370547.000	0.2459	100	711287.000	0.2234	NA	NA	NA
1,1,2,2-Tetrachloroethane	50.0	291547.000	0.4102	100	594295.000	0.4006	200	1178290.00	0.3965
1,1-Dichloroethane	50.0	989348.000	0.6566	100	2039676.00	0.6405	200	3886735.00	0.6051
Bromoform	50.0	277168.000	0.2202	100	557539.000	0.2096	200	1095949.00	0.2072
Chlorobenzene	50.0	1347846.00	1.071	100	2704431.00	1.017	200	5030440.00	0.9512
Chloromethane	50.0	488540.000	0.3242	100	975213.000	0.3063	200	1761549.00	0.2742
1,1,1-Trichloroethane	50.0	1084473.00	0.7197	100	2151763.00	0.6757	200	4029238.00	0.6273
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.0	597836.000	0.3968	100	1229619.00	0.3862	200	2347796.00	0.3655
1,1,2-Trichloroethane	50.0	308262.000	0.2449	100	619384.000	0.2328	200	1202179.00	0.2273
1,2,4-Trichlorobenzene	50.0	665354.000	0.9361	100	1404460.00	0.9467	200	2723271.00	0.9165
1,2-Dibromo-3-Chloropropane	50.0	54813.0000	0.07710	100	121349.000	0.08180	200	261127.000	0.08790
1,2-Dibromoethane	50.0	317907.000	0.2526	100	654907.000	0.2462	200	1257275.00	0.2377
1,2-Dichlorobenzene	50.0	1009013.00	1.420	100	2058619.00	1.388	200	3929616.00	1.323
1,2-Dichloroethane	50.0	778177.000	0.5164	100	1543687.00	0.4848	200	2907627.00	0.4527
1,3-Dichlorobenzene	50.0	1189583.00	1.674	100	2421127.00	1.632	200	4604178.00	1.550
1,4-Dichlorobenzene	50.0	1190942.00	1.676	100	2433385.00	1.640	200	4604639.00	1.550
2-Butanone	50.0	100214.000	0.06650	100	206535.000	0.06490	200	433307.000	0.06750
2-Hexanone	50.0	137209.000	0.1090	100	281710.000	0.1059	200	588886.000	0.1114
4-Methyl-2-Pentanone	50.0	78046.0000	0.05180	100	162869.000	0.05110	200	333244.000	0.05190
Acetone	50.0	86089.0000	0.05710	100	178522.000	0.05610	200	344201.000	0.05360
Benzene	50.0	1986629.00	1.318	100	4052802.00	1.273	200	7833302.00	1.220
Bromodichloromethane	50.0	752284.000	0.4993	100	1507757.00	0.4735	200	2847056.00	0.4432
Bromomethane	50.0	358758.000	0.2381	100	784455.000	0.2464	200	1592103.00	0.2479
Carbon Disulfide	50.0	1514838.00	1.005	100	3111933.00	0.9773	200	6059794.00	0.9434
Carbon Tetrachloride	50.0	1015653.00	0.6740	100	2017377.00	0.6335	200	3693004.00	0.5749
Chloroethane	50.0	355448.000	0.2359	100	738239.000	0.2318	200	1423490.00	0.2216
Cyclohexane	50.0	861588.000	0.5718	100	1796218.00	0.5641	200	3437904.00	0.5352
Dibromochloromethane	50.0	471939.000	0.3749	100	950867.000	0.3574	200	1816062.00	0.3434
Dichlorodifluoromethane	50.0	868912.000	0.5767	100	1742871.00	0.5473	200	3132081.00	0.4876
Isopropylbenzene	50.0	2306871.00	1.833	100	4702832.00	1.768	200	8880968.00	1.679
Methyl Tert Butyl Ether	50.0	1000841.00	0.6642	100	2125328.00	0.6674	200	4309140.00	0.6708
Methyl acetate	50.0	190839.000	0.1267	100	406224.000	0.1276	200	828426.000	0.1290
Methylcyclohexane	50.0	819734.000	0.5440	100	1708235.00	0.5365	200	3288453.00	0.5119
Methylene Chloride	50.0	477284.000	0.3168	100	967262.000	0.3038	200	1864238.00	0.2902
Styrene	50.0	1428212.00	1.135	100	2974118.00	1.118	200	5735911.00	1.085
Tetrachloroethene	50.0	479876.000	0.3812	100	974917.000	0.3665	200	1843044.00	0.3485
Trichloroethene	50.0	559436.000	0.3713	100	1137581.00	0.3572	200	2183560.00	0.3399

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Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 18-OCT-07 16:51
Column ID: F

00072481

Analyte	WG253187-11		
	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA
Chloroform	NA	NA	NA
Ethylbenzene	NA	NA	NA
Toluene	NA	NA	NA
Vinyl Chloride	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA
2-Butanone	300	663381.000	0.06880
2-Hexanone	300	886864.000	0.1149
4-Methyl-2-Pentanone	300	523327.000	0.05430
Acetone	300	457084.000	0.04740
Benzene	NA	NA	NA
Bromodichloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Carbon Disulfide	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA
Chloroethane	NA	NA	NA
Cyclohexane	NA	NA	NA
Dibromochloromethane	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA
Isopropylbenzene	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	NA
Methyl acetate	NA	NA	NA
Methylcyclohexane	NA	NA	NA
Methylene Chloride	NA	NA	NA
Styrene	NA	NA	NA
Tetrachloroethene	NA	NA	NA
Trichloroethene	NA	NA	NA

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Analytical Method: 8260B

Instrument ID: HPMS10
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Analyte	WG253187-02			WG253187-03			WG253187-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	NA	NA	NA	0.400	4902.00000	0.4336	1.00	22532.0000	0.8040
cis-1,2-Dichloroethene	NA	NA	NA	0.400	3261.00000	0.2884	1.00	8145.00000	0.2906
cis-1,3-Dichloropropene	NA	NA	NA	0.400	3962.00000	0.3504	1.00	9845.00000	0.3513
m-,p-Xylene	NA	NA	NA	0.800	9552.00000	0.5311	2.00	25634.0000	0.5782
o-Xylene	NA	NA	NA	NA	NA	NA	1.00	10610.0000	0.4787
trans-1,2-Dichloroethene	NA	NA	NA	0.400	2815.00000	0.2490	1.00	8887.00000	0.3171
trans-1,3-Dichloropropene	NA	NA	NA	0.400	3805.00000	0.4231	1.00	9940.00000	0.4484

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Analytical Method: 8260B

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Analyte	WG253187-05			WG253187-06			WG253187-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	2.00	49072.0000	0.8714	5.00	125093.000	0.8882	20.0	518777.000	0.8812
cis-1,2-Dichloroethene	2.00	18147.0000	0.3223	5.00	48051.0000	0.3412	20.0	212252.000	0.3605
cis-1,3-Dichloropropene	2.00	21974.0000	0.3902	5.00	62793.0000	0.4459	20.0	287579.000	0.4885
m-,p-Xylene	4.00	59006.0000	0.6641	10.0	162481.000	0.7084	40.0	699373.000	0.7347
o-Xylene	2.00	23047.0000	0.5188	5.00	69801.0000	0.6087	20.0	320013.000	0.6724
trans-1,2-Dichloroethene	2.00	17095.0000	0.3036	5.00	47628.0000	0.3382	20.0	204636.000	0.3476
trans-1,3-Dichloropropene	2.00	21539.0000	0.4849	5.00	61213.0000	0.5338	20.0	266332.000	0.5596

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Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS10
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Analyte	WG253187-08			WG253187-09			WG253187-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	50.0	1276651.00	0.8473	100	2556058.00	0.8027	200	4705785.00	0.7326
cis-1,2-Dichloroethene	50.0	551863.000	0.3662	100	1146237.00	0.3600	200	2243726.00	0.3493
cis-1,3-Dichloropropene	50.0	759522.000	0.5041	100	1553167.00	0.4878	200	2959906.00	0.4608
m-,p-Xylene	100	1811635.00	0.7196	200	3722563.00	0.6997	400	7035503.00	0.6652
o-Xylene	50.0	858507.000	0.6820	100	1764641.00	0.6633	200	3404334.00	0.6437
trans-1,2-Dichloroethene	50.0	529464.000	0.3514	100	1113115.00	0.3496	200	2168851.00	0.3376
trans-1,3-Dichloropropene	50.0	695994.000	0.5529	100	1398472.00	0.5257	200	2658193.00	0.5026

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Analytical Method: 8260B

Instrument ID: HPMS10
Initial Calibration Date: 18-OCT-07 16:51
Column ID: F

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Analyte	WG253187-11		
	CONC	RESP	RF
Trichlorofluoromethane	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA
m-,p-Xylene	NA	NA	NA
o-Xylene	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F 00072486

Analyte	WG251532-02			WG251532-03			WG251532-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA	0.400	5459.00000	0.3406	1.00	22956.0000	0.5767
1,2-Dichloropropane	NA	NA	NA	0.400	3683.00000	0.2298	1.00	11307.0000	0.2841
Chloroform	0.300	6893.00000	0.5373	0.400	6707.00000	0.4185	1.00	22279.0000	0.5597
Ethylbenzene	NA	NA	NA	0.400	3644.00000	0.3495	1.00	13022.0000	0.5067
Toluene	NA	NA	NA	0.400	11758.0000	1.128	1.00	39735.0000	1.546
Vinyl Chloride	NA	NA	NA	0.400	4333.00000	0.2703	1.00	17176.0000	0.4315
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	2458.00000	0.4556	1.00	5562.00000	0.4178
1,1-Dichloroethane	NA	NA	NA	0.400	7965.00000	0.4969	1.00	24401.0000	0.6131
Bromoform	NA	NA	NA	NA	NA	NA	1.00	3393.00000	0.1320
Chlorobenzene	NA	NA	NA	0.400	8476.00000	0.8130	1.00	25625.0000	0.9972
Chloromethane	NA	NA	NA	0.400	7022.00000	0.4381	1.00	17646.0000	0.4433
1,1,1-Trichloroethane	NA	NA	NA	0.400	5415.00000	0.3378	1.00	20488.0000	0.5147
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA	NA	NA	NA	NA	NA	1.00	9564.00000	0.2403
1,1,2-Trichloroethane	NA	NA	NA	0.400	1851.00000	0.1775	1.00	5710.00000	0.2222
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	3539.00000	0.6560	1.00	10704.0000	0.8041
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	1.00	1140.00000	0.08560
1,2-Dibromoethane	NA	NA	NA	0.400	2030.00000	0.1947	1.00	5190.00000	0.2020
1,2-Dichlorobenzene	0.300	4763.00000	1.183	0.400	5312.00000	0.9846	1.00	16208.0000	1.218
1,2-Dichloroethane	NA	NA	NA	0.400	7081.00000	0.4418	1.00	20110.0000	0.5052
1,3-Dichlorobenzene	NA	NA	NA	0.400	5186.00000	0.9613	1.00	17647.0000	1.326
1,4-Dichlorobenzene	0.300	5161.00000	1.282	0.400	5753.00000	1.066	1.00	18398.0000	1.382
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	0.400	13570.0000	0.8466	1.00	38743.0000	0.9734
Bromodichloromethane	NA	NA	NA	0.400	4690.00000	0.2926	1.00	14758.0000	0.3708
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	5941.00000	0.1493
Carbon Disulfide	NA	NA	NA	NA	NA	NA	1.00	29560.0000	0.7427
Carbon Tetrachloride	NA	NA	NA	0.400	3443.00000	0.2148	1.00	15952.0000	0.4008
Chloroethane	NA	NA	NA	NA	NA	NA	1.00	9542.00000	0.2397
Cyclohexane	NA	NA	NA	NA	NA	NA	1.00	22543.0000	0.5664
Dibromochloromethane	NA	NA	NA	0.400	2533.00000	0.2430	1.00	6241.00000	0.2429
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	1.00	18761.0000	0.4714
Isopropylbenzene	NA	NA	NA	0.400	9883.00000	0.9479	1.00	40841.0000	1.589
Methyl Tert Butyl Ether	NA	NA	NA	NA	NA	NA	1.00	23664.0000	0.5945
Methyl acetate	NA	NA	NA	NA	NA	NA	1.00	4790.00000	0.1203
Methylcyclohexane	NA	NA	NA	NA	NA	NA	1.00	13313.0000	0.3345
Methylene Chloride	NA	NA	NA	0.400	13939.0000	0.8697	1.00	21650.0000	0.5439
Styrene	NA	NA	NA	0.400	7224.00000	0.6929	1.00	22881.0000	0.8904
Tetrachloroethene	NA	NA	NA	0.400	1692.00000	0.1623	1.00	5980.00000	0.2327
Trichloroethene	NA	NA	NA	0.400	2552.00000	0.1592	1.00	9457.00000	0.2376

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Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F

00072487

Analyte	WG251532-05			WG251532-06			WG251532-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	48476.0000	0.6182	5.00	125622.000	0.6336	20.0	535695.000	0.6421
1,2-Dichloropropane	2.00	24026.0000	0.3064	5.00	60721.0000	0.3063	20.0	255504.000	0.3063
Chloroform	2.00	44355.0000	0.5657	5.00	112252.000	0.5662	20.0	484435.000	0.5807
Ethylbenzene	2.00	27498.0000	0.5335	5.00	73404.0000	0.5622	20.0	307082.000	0.5615
Toluene	2.00	79868.0000	1.550	5.00	198698.000	1.522	20.0	872465.000	1.595
Vinyl Chloride	2.00	33432.0000	0.4264	5.00	75335.0000	0.3800	20.0	315490.000	0.3782
1,1,2,2-Tetrachloroethane	2.00	12732.0000	0.4763	5.00	33959.0000	0.5071	20.0	126680.000	0.4520
1,1-Dichloroethane	2.00	52354.0000	0.6677	5.00	132096.000	0.6663	20.0	573339.000	0.6872
Bromoform	2.00	7526.00000	0.1460	5.00	19891.0000	0.1523	20.0	89511.0000	0.1637
Chlorobenzene	2.00	55132.0000	1.070	5.00	128985.000	0.9879	20.0	549650.000	1.005
Chloromethane	2.00	39610.0000	0.5052	5.00	89663.0000	0.4523	20.0	388504.000	0.4657
1,1,1-Trichloroethane	2.00	44026.0000	0.5615	5.00	111298.000	0.5614	20.0	479025.000	0.5742
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	19426.0000	0.2478	5.00	55122.0000	0.2780	20.0	218986.000	0.2625
1,1,2-Trichloroethane	2.00	11873.0000	0.2303	5.00	31952.0000	0.2447	20.0	128006.000	0.2341
1,2,4-Trichlorobenzene	2.00	23534.0000	0.8804	5.00	58779.0000	0.8777	20.0	242679.000	0.8658
1,2-Dibromo-3-Chloropropane	2.00	2948.00000	0.1103	5.00	6744.00000	0.1007	20.0	26187.0000	0.09340
1,2-Dibromoethane	2.00	12526.0000	0.2430	5.00	30764.0000	0.2356	20.0	129058.000	0.2360
1,2-Dichlorobenzene	2.00	34537.0000	1.292	5.00	84559.0000	1.263	20.0	346990.000	1.238
1,2-Dichloroethane	2.00	41756.0000	0.5325	5.00	104639.000	0.5278	20.0	437462.000	0.5244
1,3-Dichlorobenzene	2.00	39948.0000	1.495	5.00	97419.0000	1.455	20.0	407476.000	1.454
1,4-Dichlorobenzene	2.00	40610.0000	1.519	5.00	99812.0000	1.490	20.0	415174.000	1.481
2-Butanone	NA	NA	NA	5.00	14161.0000	0.07140	20.0	53500.0000	0.06410
2-Hexanone	NA	NA	NA	5.00	21234.0000	0.1626	20.0	82590.0000	0.1510
4-Methyl-2-Pentanone	NA	NA	NA	5.00	13461.0000	0.06790	20.0	50386.0000	0.06040
Acetone	NA	NA	NA	5.00	11470.0000	0.05790	20.0	42030.0000	0.05040
Benzene	2.00	80625.0000	1.028	5.00	202501.000	1.021	20.0	855276.000	1.025
Bromodichloromethane	2.00	30555.0000	0.3897	5.00	78106.0000	0.3940	20.0	336034.000	0.4028
Bromomethane	2.00	12430.0000	0.1585	5.00	29313.0000	0.1479	20.0	147898.000	0.1773
Carbon Disulfide	2.00	58739.0000	0.7491	5.00	152424.000	0.7688	20.0	661644.000	0.7931
Carbon Tetrachloride	2.00	32747.0000	0.4176	5.00	89399.0000	0.4509	20.0	372854.000	0.4469
Chloroethane	2.00	19584.0000	0.2498	5.00	48803.0000	0.2462	20.0	213904.000	0.2564
Cyclohexane	2.00	44380.0000	0.5660	5.00	126424.000	0.6377	20.0	513595.000	0.6156
Dibromochloromethane	2.00	14878.0000	0.2886	5.00	40156.0000	0.3075	20.0	178082.000	0.3256
Dichlorodifluoromethane	2.00	38939.0000	0.4966	5.00	107316.000	0.5413	20.0	440739.000	0.5283
Isopropylbenzene	2.00	88988.0000	1.726	5.00	225803.000	1.729	20.0	965695.000	1.766
Methyl Tert Butyl Ether	2.00	48149.0000	0.6141	5.00	123625.000	0.6236	20.0	518361.000	0.6213
Methyl acetate	2.00	10311.0000	0.1315	5.00	25413.0000	0.1282	20.0	110460.000	0.1324
Methylcyclohexane	2.00	28563.0000	0.3643	5.00	83180.0000	0.4196	20.0	320406.000	0.3841
Methylene Chloride	2.00	30890.0000	0.3940	5.00	60073.0000	0.3030	20.0	228546.000	0.2740
Styrene	2.00	50686.0000	0.9833	5.00	133672.000	1.024	20.0	599855.000	1.097
Tetrachloroethene	2.00	13373.0000	0.2594	5.00	36376.0000	0.2786	20.0	154520.000	0.2825
Trichloroethene	2.00	20157.0000	0.2571	5.00	45951.0000	0.2318	20.0	205345.000	0.2461

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Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F 00072488

Analyte	WG251532-08			WG251532-09			WG251532-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	1358330.00	0.6364	100	2768992.00	0.6282	200	5351788.00	0.6087
1,2-Dichloropropane	50.0	666385.000	0.3122	100	1378462.00	0.3127	200	2646333.00	0.3010
Chloroform	50.0	1219971.00	0.5715	100	2470299.00	0.5604	200	4693723.00	0.5339
Ethylbenzene	50.0	811958.000	0.5700	100	1688680.00	0.5795	200	3271888.00	0.5543
Toluene	50.0	2287163.00	1.606	100	4789895.00	1.644	200	9297898.00	1.575
Vinyl Chloride	50.0	746728.000	0.3498	100	1474420.00	0.3345	200	2526768.00	0.2874
1,1,2,2-Tetrachloroethane	50.0	342935.000	0.4708	100	732844.000	0.4789	200	1407385.00	0.4472
1,1-Dichloroethane	50.0	1439098.00	0.6742	100	2975247.00	0.6750	200	5716785.00	0.6502
Bromoform	50.0	245089.000	0.1721	100	520920.000	0.1788	200	1001987.00	0.1698
Chlorobenzene	50.0	1424429.00	1.000	100	2995035.00	1.028	200	5893335.00	0.9984
Chloromethane	50.0	922415.000	0.4321	100	1824763.00	0.4140	200	3716884.00	0.4227
1,1,1-Trichloroethane	50.0	1204813.00	0.5644	100	2398980.00	0.5442	200	4428050.00	0.5036
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.0	535729.000	0.2510	100	1092963.00	0.2480	200	2058927.00	0.2342
1,1,2-Trichloroethane	50.0	345205.000	0.2423	100	716499.000	0.2459	200	1374339.00	0.2328
1,2,4-Trichlorobenzene	50.0	633338.000	0.8695	100	1299497.00	0.8492	200	2466328.00	0.7837
1,2-Dibromo-3-Chloropropane	50.0	73182.0000	0.1005	100	156360.000	0.1022	200	287283.000	0.09130
1,2-Dibromoethane	50.0	338403.000	0.2376	100	704616.000	0.2418	200	1336701.00	0.2265
1,2-Dichlorobenzene	50.0	922841.000	1.267	100	1943041.00	1.270	200	3765189.00	1.196
1,2-Dichloroethane	50.0	1097447.00	0.5141	100	2211026.00	0.5016	200	4013581.00	0.4565
1,3-Dichlorobenzene	50.0	1071140.00	1.471	100	2217552.00	1.449	200	4425935.00	1.406
1,4-Dichlorobenzene	50.0	1077757.00	1.480	100	2240937.00	1.465	200	4410249.00	1.401
2-Butanone	50.0	139442.000	0.06530	100	294843.000	0.06690	200	540964.000	0.06150
2-Hexanone	50.0	219714.000	0.1542	100	473751.000	0.1626	200	868705.000	0.1472
4-Methyl-2-Pentanone	50.0	139434.000	0.06530	100	298847.000	0.06780	200	564567.000	0.06420
Acetone	50.0	103145.000	0.04830	100	224035.000	0.05080	200	374421.000	0.04260
Benzene	50.0	2236743.00	1.048	100	4623566.00	1.049	200	8913761.00	1.014
Bromodichloromethane	50.0	880197.000	0.4124	100	1801325.00	0.4087	200	3398229.00	0.3865
Bromomethane	50.0	405016.000	0.1897	100	887551.000	0.2014	200	1763726.00	0.2006
Carbon Disulfide	50.0	1700768.00	0.7968	100	3574373.00	0.8109	200	6992893.00	0.7954
Carbon Tetrachloride	50.0	956758.000	0.4482	100	1933183.00	0.4386	200	3582234.00	0.4074
Chloroethane	50.0	537813.000	0.2520	100	1094406.00	0.2483	200	2100042.00	0.2389
Cyclohexane	50.0	1295094.00	0.6067	100	2679162.00	0.6078	200	5035624.00	0.5727
Dibromochloromethane	50.0	476639.000	0.3346	100	1001787.00	0.3438	200	1911288.00	0.3238
Dichlorodifluoromethane	50.0	1048920.00	0.4914	100	2093046.00	0.4748	200	3836174.00	0.4363
Isopropylbenzene	50.0	2539791.00	1.783	100	5283210.00	1.813	200	10385710.0	1.760
Methyl Tert Butyl Ether	50.0	1333866.00	0.6249	100	2730573.00	0.6195	200	4976901.00	0.5661
Methyl acetate	50.0	282808.000	0.1325	100	581867.000	0.1320	200	1055829.00	0.1201
Methylcyclohexane	50.0	817556.000	0.3830	100	1727764.00	0.3920	200	3399088.00	0.3866
Methylene Chloride	50.0	561775.000	0.2632	100	1150287.00	0.2610	200	2208724.00	0.2512
Styrene	50.0	1609485.00	1.130	100	3420981.00	1.174	200	6804235.00	1.153
Tetrachloroethene	50.0	404909.000	0.2843	100	821236.000	0.2818	200	1568099.00	0.2657
Trichloroethene	50.0	527492.000	0.2471	100	1085515.00	0.2463	200	2074840.00	0.2360

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F

00072489

Analyte	WG251532-02			WG251532-03			WG251532-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	NA	NA	NA	0.400	3610.00000	0.2252	1.00	23603.0000	0.5930
cis-1,2-Dichloroethene	NA	NA	NA	0.400	3018.00000	0.1883	1.00	9585.00000	0.2408
cis-1,3-Dichloropropene	NA	NA	NA	0.400	5024.00000	0.3134	1.00	14105.0000	0.3544
m-,p-Xylene	NA	NA	NA	0.800	10564.0000	0.5066	2.00	32904.0000	0.6402
o-Xylene	NA	NA	NA	0.400	4810.00000	0.4614	1.00	15978.0000	0.6218
trans-1,2-Dichloroethene	NA	NA	NA	0.400	3162.00000	0.1973	1.00	10260.0000	0.2578
trans-1,3-Dichloropropene	NA	NA	NA	0.400	4463.00000	0.4281	1.00	12893.0000	0.5017

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Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F

00072490

Analyte	WG251532-05			WG251532-06			WG251532-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	2.00	47095.0000	0.6006	5.00	130638.000	0.6589	20.0	525028.000	0.6293
cis-1,2-Dichloroethene	2.00	21372.0000	0.2726	5.00	54650.0000	0.2757	20.0	233209.000	0.2795
cis-1,3-Dichloropropene	2.00	30331.0000	0.3868	5.00	82462.0000	0.4159	20.0	355044.000	0.4256
m-,p-Xylene	4.00	70508.0000	0.6839	10.0	177033.000	0.6779	40.0	766250.000	0.7005
o-Xylene	2.00	34116.0000	0.6619	5.00	85256.0000	0.6529	20.0	363364.000	0.6644
trans-1,2-Dichloroethene	2.00	20908.0000	0.2667	5.00	53357.0000	0.2691	20.0	230105.000	0.2758
trans-1,3-Dichloropropene	2.00	28922.0000	0.5611	5.00	76148.0000	0.5832	20.0	322114.000	0.5890

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Analytical Method: 8260B

Instrument ID: HPMS11
Initial Calibration Date: 01-OCT-07 15:48
Column ID: F

00072491

Analyte	WG251532-08			WG251532-09			WG251532-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	50.0	1288293.00	0.6036	100	2623720.00	0.5952	200	4987810.00	0.5673
cis-1,2-Dichloroethene	50.0	598151.000	0.2802	100	1235747.00	0.2803	200	2413546.00	0.2745
cis-1,3-Dichloropropene	50.0	929595.000	0.4355	100	1935212.00	0.4390	200	3726097.00	0.4238
m-,p-Xylene	100	2029456.00	0.7124	200	4227699.00	0.7254	400	8126794.00	0.6884
o-Xylene	50.0	962946.000	0.6760	100	2001020.00	0.6867	200	3979858.00	0.6742
trans-1,2-Dichloroethene	50.0	585527.000	0.2743	100	1203115.00	0.2729	200	2348922.00	0.2672
trans-1,3-Dichloropropene	50.0	861380.000	0.6047	100	1775450.00	0.6093	200	3349096.00	0.5674

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F 00072492

Analyte	WG253721-02			WG253721-03			WG253721-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA	0.400	6357.00000	0.4465	1.00	14901.0000	0.4450
1,2-Dichloropropane	NA	NA	NA	0.400	2873.00000	0.2018	1.00	6680.00000	0.1995
Chloroform	0.300	6765.00000	0.6649	0.400	8727.00000	0.6130	1.00	21357.0000	0.6378
Ethylbenzene	NA	NA	NA	0.400	5698.00000	0.5017	1.00	13385.0000	0.4933
Toluene	NA	NA	NA	0.400	13626.0000	1.200	1.00	33122.0000	1.221
Vinyl Chloride	NA	NA	NA	0.400	6997.00000	0.4915	1.00	15874.0000	0.4740
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	2227.00000	0.3271	1.00	7866.00000	0.4560
1,1-Dichloroethane	NA	NA	NA	0.400	6399.00000	0.4495	1.00	16030.0000	0.4787
Bromoform	NA	NA	NA	NA	NA	NA	1.00	6650.00000	0.2451
Chlorobenzene	NA	NA	NA	0.400	12376.0000	1.090	1.00	29058.0000	1.071
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	15821.0000	0.4725
1,1,1-Trichloroethane	NA	NA	NA	0.400	8594.00000	0.6036	1.00	19910.0000	0.5946
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA	NA	NA	NA	NA	NA	1.00	11559.0000	0.3452
1,1,2-Trichloroethane	NA	NA	NA	0.400	2181.00000	0.1920	1.00	6868.00000	0.2531
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	6669.00000	0.9794	1.00	18772.0000	1.088
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	0.400	2240.00000	0.1972	1.00	5999.00000	0.2211
1,2-Dichlorobenzene	0.300	7116.00000	1.412	0.400	9692.00000	1.423	1.00	28035.0000	1.625
1,2-Dichloroethane	NA	NA	NA	0.400	6768.00000	0.4754	1.00	17430.0000	0.5205
1,3-Dichlorobenzene	NA	NA	NA	0.400	11102.0000	1.630	1.00	29957.0000	1.737
1,4-Dichlorobenzene	0.300	8729.00000	1.732	0.400	12655.0000	1.859	1.00	35174.0000	2.039
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	0.400	13173.0000	0.9253	1.00	33356.0000	0.9961
Bromodichloromethane	NA	NA	NA	0.400	6357.00000	0.4465	1.00	14466.0000	0.4320
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	5033.00000	0.1503
Carbon Disulfide	NA	NA	NA	NA	NA	NA	1.00	20080.0000	0.5996
Carbon Tetrachloride	NA	NA	NA	0.400	7598.00000	0.5337	1.00	19702.0000	0.5884
Chloroethane	NA	NA	NA	0.400	2378.00000	0.1670	1.00	5653.00000	0.1688
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	0.400	3750.00000	0.3302	1.00	9997.00000	0.3685
Dichlorodifluoromethane	NA	NA	NA	0.400	8653.00000	0.6078	1.00	18364.0000	0.5484
Isopropylbenzene	NA	NA	NA	0.400	15235.0000	1.341	1.00	40131.0000	1.479
Methyl Tert Butyl Ether	NA	NA	NA	NA	NA	NA	1.00	14458.0000	0.4318
Methyl acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	NA	NA	NA	0.400	15189.0000	1.067	1.00	18544.0000	0.5538
Styrene	NA	NA	NA	0.400	8592.00000	0.7565	1.00	25369.0000	0.9350
Tetrachloroethene	NA	NA	NA	0.400	4720.00000	0.4156	1.00	11039.0000	0.4069
Trichloroethene	NA	NA	NA	0.400	4235.00000	0.2975	1.00	9588.00000	0.2863

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F 00072493

Analyte	WG253721-05			WG253721-06			WG253721-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	29353.0000	0.4165	5.00	76116.0000	0.4255	20.0	355176.000	0.4560
1,2-Dichloropropane	2.00	13152.0000	0.1866	5.00	35343.0000	0.1976	20.0	160052.000	0.2055
Chloroform	2.00	41255.0000	0.5854	5.00	111412.000	0.6228	20.0	486395.000	0.6245
Ethylbenzene	2.00	26700.0000	0.4678	5.00	73028.0000	0.4950	20.0	338950.000	0.5198
Toluene	2.00	68900.0000	1.207	5.00	186917.000	1.267	20.0	868348.000	1.332
Vinyl Chloride	2.00	29989.0000	0.4255	5.00	75648.0000	0.4229	20.0	300374.000	0.3857
1,1,2,2-Tetrachloroethane	2.00	13326.0000	0.3655	5.00	31913.0000	0.3322	20.0	140830.000	0.3243
1,1-Dichloroethane	2.00	33542.0000	0.4759	5.00	85163.0000	0.4760	20.0	380809.000	0.4890
Bromoform	2.00	10864.0000	0.1903	5.00	31038.0000	0.2104	20.0	144047.000	0.2209
Chlorobenzene	2.00	53466.0000	0.9367	5.00	140296.000	0.9510	20.0	619886.000	0.9506
Chloromethane	2.00	28501.0000	0.4044	5.00	70166.0000	0.3922	20.0	278451.000	0.3575
1,1,1-Trichloroethane	2.00	42060.0000	0.5968	5.00	111826.000	0.6251	20.0	502390.000	0.6451
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	23236.0000	0.3297	5.00	61922.0000	0.3461	20.0	255500.000	0.3281
1,1,2-Trichloroethane	2.00	11719.0000	0.2053	5.00	31276.0000	0.2120	20.0	142036.000	0.2178
1,2,4-Trichlorobenzene	2.00	31524.0000	0.8646	5.00	82439.0000	0.8582	20.0	410367.000	0.9449
1,2-Dibromo-3-Chloropropane	2.00	2831.00000	0.07760	5.00	7258.00000	0.07560	20.0	33718.0000	0.07760
1,2-Dibromoethane	2.00	11490.0000	0.2013	5.00	32248.0000	0.2186	20.0	151223.000	0.2319
1,2-Dichlorobenzene	2.00	46623.0000	1.279	5.00	123029.000	1.281	20.0	554980.000	1.278
1,2-Dichloroethane	2.00	34014.0000	0.4826	5.00	89290.0000	0.4991	20.0	380645.000	0.4887
1,3-Dichlorobenzene	2.00	51437.0000	1.411	5.00	137353.000	1.430	20.0	639356.000	1.472
1,4-Dichlorobenzene	2.00	55372.0000	1.519	5.00	146791.000	1.528	20.0	642346.000	1.479
2-Butanone	NA	NA	NA	5.00	8711.00000	0.04870	20.0	40241.0000	0.05170
2-Hexanone	NA	NA	NA	5.00	11532.0000	0.07820	20.0	60088.0000	0.09210
4-Methyl-2-Pentanone	NA	NA	NA	5.00	5957.00000	0.03330	20.0	31770.0000	0.04080
Acetone	NA	NA	NA	5.00	8128.00000	0.04540	20.0	35901.0000	0.04610
Benzene	2.00	67774.0000	0.9616	5.00	183021.000	1.023	20.0	786803.000	1.010
Bromodichloromethane	2.00	28535.0000	0.4049	5.00	78348.0000	0.4379	20.0	353729.000	0.4542
Bromomethane	2.00	11410.0000	0.1619	5.00	31671.0000	0.1770	20.0	135473.000	0.1739
Carbon Disulfide	2.00	34977.0000	0.4963	5.00	121368.000	0.6784	20.0	572076.000	0.7345
Carbon Tetrachloride	2.00	39324.0000	0.5580	5.00	107807.000	0.6026	20.0	479193.000	0.6153
Chloroethane	2.00	10928.0000	0.1551	5.00	29048.0000	0.1624	20.0	131445.000	0.1688
Cyclohexane	NA	NA	NA	5.00	60177.0000	0.3364	20.0	297259.000	0.3817
Dibromochloromethane	2.00	17834.0000	0.3124	5.00	48476.0000	0.3286	20.0	233280.000	0.3577
Dichlorodifluoromethane	2.00	37626.0000	0.5339	5.00	95400.0000	0.5333	20.0	399239.000	0.5126
Isopropylbenzene	2.00	77762.0000	1.362	5.00	236471.000	1.603	20.0	1135739.00	1.742
Methyl Tert Butyl Ether	2.00	33815.0000	0.4798	5.00	94459.0000	0.5280	20.0	452737.000	0.5813
Methyl acetate	2.00	6722.00000	0.09540	5.00	16793.0000	0.09390	20.0	79502.0000	0.1021
Methylcyclohexane	NA	NA	NA	5.00	63702.0000	0.3561	20.0	320047.000	0.4109
Methylene Chloride	2.00	28165.0000	0.3996	5.00	53752.0000	0.3005	20.0	198304.000	0.2546
Styrene	2.00	51390.0000	0.9003	5.00	145435.000	0.9858	20.0	687536.000	1.054
Tetrachloroethene	2.00	22353.0000	0.3916	5.00	59227.0000	0.4015	20.0	266905.000	0.4093
Trichloroethene	2.00	19746.0000	0.2802	5.00	50839.0000	0.2842	20.0	230156.000	0.2955

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072494

Analyte	WG253721-08			WG253721-09			WG253721-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	1015045.00	0.4731	100	2164591.00	0.4536	200	4305133.00	0.4146
1,2-Dichloropropane	50.0	470815.000	0.2194	100	1057424.00	0.2216	200	2414834.00	0.2325
Chloroform	50.0	1336434.00	0.6229	100	2822301.00	0.5915	200	5922776.00	0.5703
Ethylbenzene	50.0	988352.000	0.5555	100	2213567.00	0.5623	200	5180871.00	0.5663
Toluene	50.0	2465771.00	1.386	100	5353194.00	1.360	200	11486870.0	1.256
Vinyl Chloride	50.0	760619.000	0.3545	100	1497321.00	0.3138	NA	NA	NA
1,1,2,2-Tetrachloroethane	50.0	406150.000	0.3436	100	925975.000	0.3531	200	2007284.00	0.3410
1,1-Dichloroethane	50.0	1078356.00	0.5026	100	2324429.00	0.4871	200	4748900.00	0.4573
Bromoform	50.0	408861.000	0.2298	100	898185.000	0.2281	200	2060250.00	0.2252
Chlorobenzene	50.0	1754686.00	0.9861	100	3826785.00	0.9720	200	8837034.00	0.9660
Chloromethane	50.0	717987.000	0.3346	100	1437255.00	0.3012	NA	NA	NA
1,1,1-Trichloroethane	50.0	1397185.00	0.6512	100	2910764.00	0.6100	200	5956250.00	0.5736
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.0	691312.000	0.3222	100	1478080.00	0.3098	200	2726319.00	0.2625
1,1,2-Trichloroethane	50.0	391111.000	0.2198	100	853977.000	0.2169	200	1988701.00	0.2174
1,2,4-Trichlorobenzene	50.0	1183853.00	1.002	100	2620069.00	0.9992	200	5479162.00	0.9307
1,2-Dibromo-3-Chloropropane	50.0	97943.0000	0.08290	100	219127.000	0.08360	200	452340.000	0.07680
1,2-Dibromoethane	50.0	421967.000	0.2371	100	922971.000	0.2344	200	2095761.00	0.2291
1,2-Dichlorobenzene	50.0	1587380.00	1.343	100	3484251.00	1.329	200	7432995.00	1.263
1,2-Dichloroethane	50.0	1007199.00	0.4694	100	2061090.00	0.4320	200	4165855.00	0.4012
1,3-Dichlorobenzene	50.0	1799312.00	1.522	100	3952492.00	1.507	200	8640399.00	1.468
1,4-Dichlorobenzene	50.0	1830512.00	1.549	100	4016983.00	1.532	200	8642482.00	1.468
2-Butanone	50.0	115407.000	0.05380	100	257530.000	0.05400	200	575469.000	0.05540
2-Hexanone	50.0	177045.000	0.09950	100	412124.000	0.1047	200	898150.000	0.09820
4-Methyl-2-Pentanone	50.0	92056.0000	0.04290	100	214723.000	0.04500	200	502004.000	0.04830
Acetone	50.0	99115.0000	0.04620	100	213617.000	0.04480	200	419440.000	0.04040
Benzene	50.0	2227038.00	1.038	100	4917731.00	1.031	200	10326068.0	0.9944
Bromodichloromethane	50.0	987824.000	0.4604	100	2088477.00	0.4377	200	4635014.00	0.4463
Bromomethane	50.0	409671.000	0.1909	100	943363.000	0.1977	200	2031632.00	0.1956
Carbon Disulfide	50.0	1716717.00	0.8002	100	3783255.00	0.7929	200	7781090.00	0.7493
Carbon Tetrachloride	50.0	1312962.00	0.6120	100	2677288.00	0.5611	200	5338411.00	0.5141
Chloroethane	50.0	376823.000	0.1756	100	846833.000	0.1775	200	1867402.00	0.1798
Cyclohexane	50.0	905620.000	0.4221	100	1977365.00	0.4144	200	4149263.00	0.3996
Dibromochloromethane	50.0	660197.000	0.3710	100	1426039.00	0.3622	200	3272405.00	0.3577
Dichlorodifluoromethane	50.0	1046858.00	0.4879	100	2121832.00	0.4447	200	4100442.00	0.3949
Isopropylbenzene	50.0	3240288.00	1.821	100	6873412.00	1.746	200	14681353.0	1.605
Methyl Tert Butyl Ether	50.0	1293387.00	0.6028	100	2825027.00	0.5921	200	5331037.00	0.5134
Methyl acetate	50.0	229771.000	0.1071	100	513026.000	0.1075	200	1046991.00	0.1008
Methylcyclohexane	50.0	949371.000	0.4425	100	2086031.00	0.4372	200	4325267.00	0.4165
Methylene Chloride	50.0	550446.000	0.2566	100	1206771.00	0.2529	200	2562873.00	0.2468
Styrene	50.0	1982557.00	1.114	100	4401234.00	1.118	200	10038658.0	1.097
Tetrachloroethene	50.0	769363.000	0.4324	100	1671663.00	0.4246	200	3668562.00	0.4010
Trichloroethene	50.0	663581.000	0.3093	100	1462352.00	0.3065	200	3280563.00	0.3159

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KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072495

Analyte	WG253721-11		
	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA
Chloroform	NA	NA	NA
Ethylbenzene	NA	NA	NA
Toluene	NA	NA	NA
Vinyl Chloride	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA
2-Butanone	300	815737.000	0.04870
2-Hexanone	300	1264088.00	0.09710
4-Methyl-2-Pentanone	300	685955.000	0.04100
Acetone	300	587815.000	0.03510
Benzene	NA	NA	NA
Bromodichloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Carbon Disulfide	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA
Chloroethane	NA	NA	NA
Cyclohexane	NA	NA	NA
Dibromochloromethane	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA
Isopropylbenzene	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	NA
Methyl acetate	NA	NA	NA
Methylcyclohexane	NA	NA	NA
Methylene Chloride	NA	NA	NA
Styrene	NA	NA	NA
Tetrachloroethene	NA	NA	NA
Trichloroethene	NA	NA	NA

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072496

Analyte	WG253721-02			WG253721-03			WG253721-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	NA	NA	NA	0.400	12590.0000	0.8843	1.00	27801.0000	0.8302
cis-1,2-Dichloroethene	NA	NA	NA	0.400	3242.00000	0.2277	1.00	9095.00000	0.2716
cis-1,3-Dichloropropene	NA	NA	NA	0.400	4449.00000	0.3125	1.00	11126.0000	0.3323
m-,p-Xylene	NA	NA	NA	0.800	14304.0000	0.6297	2.00	34860.0000	0.6424
o-Xylene	NA	NA	NA	0.400	5728.00000	0.5043	1.00	14039.0000	0.5174
trans-1,2-Dichloroethene	NA	NA	NA	0.400	3489.00000	0.2451	1.00	8643.00000	0.2581
trans-1,3-Dichloropropene	NA	NA	NA	0.400	4003.00000	0.3524	1.00	11794.0000	0.4347

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Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072497

Analyte	WG253721-05			WG253721-06			WG253721-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	2.00	55247.0000	0.7839	5.00	144113.000	0.8056	20.0	615028.000	0.7897
cis-1,2-Dichloroethene	2.00	17165.0000	0.2436	5.00	47499.0000	0.2655	20.0	220235.000	0.2828
cis-1,3-Dichloropropene	2.00	22939.0000	0.3255	5.00	66762.0000	0.3732	20.0	318850.000	0.4094
m-,p-Xylene	4.00	68950.0000	0.6040	10.0	186074.000	0.6306	40.0	855653.000	0.6560
o-Xylene	2.00	28487.0000	0.4991	5.00	82502.0000	0.5592	20.0	403329.000	0.6185
trans-1,2-Dichloroethene	2.00	16911.0000	0.2400	5.00	44749.0000	0.2501	20.0	204103.000	0.2621
trans-1,3-Dichloropropene	2.00	23020.0000	0.4033	5.00	66641.0000	0.4517	20.0	316566.000	0.4854

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Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072498

Analyte	WG253721-08			WG253721-09			WG253721-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	50.0	1602011.00	0.7467	100	3320489.00	0.6959	200	6806626.00	0.6555
cis-1,2-Dichloroethene	50.0	634700.000	0.2958	100	1398585.00	0.2931	200	3026121.00	0.2914
cis-1,3-Dichloropropene	50.0	919695.000	0.4287	100	2032285.00	0.4259	200	4598491.00	0.4428
m-,p-Xylene	100	2491391.00	0.7001	200	5453768.00	0.6926	400	11973884.0	0.6544
o-Xylene	50.0	1179818.00	0.6631	100	2605974.00	0.6619	200	6096912.00	0.6664
trans-1,2-Dichloroethene	50.0	589973.000	0.2750	100	1305874.00	0.2737	200	2644766.00	0.2547
trans-1,3-Dichloropropene	50.0	895631.000	0.5034	100	1938571.00	0.4924	200	4319384.00	0.4721

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS6
Initial Calibration Date: 24-OCT-07 17:33
Column ID: F

00072499

Analyte	WG253721-11		
	CONC	RESP	RF
Trichlorofluoromethane	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA
m-,p-Xylene	NA	NA	NA
o-Xylene	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F 00072500

Analyte	WG253480-02			WG253480-03			WG253480-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA	0.400	2767.00000	0.3003	1.00	6427.00000	0.2774
1,2-Dichloropropane	NA	NA	NA	0.400	1558.00000	0.1691	1.00	4492.00000	0.1939
Chloroform	0.300	3175.00000	0.4372	0.400	4012.00000	0.4354	1.00	8840.00000	0.3815
Ethylbenzene	NA	NA	NA	0.400	3035.00000	0.4178	1.00	7172.00000	0.3929
Toluene	NA	NA	NA	0.400	8306.00000	1.144	1.00	19181.0000	1.051
Vinyl Chloride	NA	NA	NA	NA	NA	NA	1.00	3085.00000	0.1331
1,1,2,2-Tetrachloroethane	NA	NA	NA	0.400	1110.00000	0.2740	1.00	3069.00000	0.2998
1,1-Dichloroethane	NA	NA	NA	0.400	3685.00000	0.3999	1.00	8953.00000	0.3864
Bromoform	NA	NA	NA	NA	NA	NA	1.00	1765.00000	0.09670
Chlorobenzene	NA	NA	NA	0.400	7162.00000	0.9860	1.00	15277.0000	0.8370
Chloromethane	NA	NA	NA	NA	NA	NA	1.00	6447.00000	0.2782
1,1,1-Trichloroethane	NA	NA	NA	0.400	3118.00000	0.3384	1.00	7179.00000	0.3098
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA	NA	NA	NA	NA	NA	1.00	4665.00000	0.2013
1,1,2-Trichloroethane	NA	NA	NA	0.400	1139.00000	0.1568	1.00	2900.00000	0.1589
1,2,4-Trichlorobenzene	NA	NA	NA	0.400	3393.00000	0.8377	1.00	8612.00000	0.8414
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	0.400	1154.00000	0.1589	1.00	2863.00000	0.1569
1,2-Dichlorobenzene	0.300	3738.00000	1.208	0.400	5659.00000	1.397	1.00	12001.0000	1.173
1,2-Dichloroethane	NA	NA	NA	0.400	2371.00000	0.2573	1.00	6532.00000	0.2819
1,3-Dichlorobenzene	NA	NA	NA	0.400	5940.00000	1.467	1.00	12876.0000	1.258
1,4-Dichlorobenzene	0.300	4679.00000	1.512	0.400	6182.00000	1.526	1.00	13020.0000	1.272
2-Butanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	0.400	8281.00000	0.8987	1.00	20960.0000	0.9046
Bromodichloromethane	NA	NA	NA	0.400	2191.00000	0.2378	1.00	5437.00000	0.2346
Bromomethane	NA	NA	NA	NA	NA	NA	1.00	2915.00000	0.1258
Carbon Disulfide	NA	NA	NA	NA	NA	NA	1.00	13504.0000	0.5828
Carbon Tetrachloride	NA	NA	NA	0.400	2990.00000	0.3245	1.00	6617.00000	0.2856
Chloroethane	NA	NA	NA	NA	NA	NA	1.00	3405.00000	0.1470
Cyclohexane	NA	NA	NA	NA	NA	NA	1.00	7156.00000	0.3088
Dibromochloromethane	NA	NA	NA	0.400	1670.00000	0.2299	1.00	3953.00000	0.2166
Dichlorodifluoromethane	NA	NA	NA	NA	NA	NA	1.00	6010.00000	0.2594
Isopropylbenzene	NA	NA	NA	0.400	9143.00000	1.259	1.00	19117.0000	1.047
Methyl Tert Butyl Ether	NA	NA	NA	NA	NA	NA	1.00	8053.00000	0.3475
Methyl acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	NA	NA	NA	NA	NA	NA	1.00	5947.00000	0.2567
Methylene Chloride	NA	NA	NA	0.400	6548.00000	0.7106	1.00	9682.00000	0.4179
Styrene	NA	NA	NA	0.400	4877.00000	0.6714	1.00	12039.0000	0.6596
Tetrachloroethene	NA	NA	NA	0.400	1821.00000	0.2507	1.00	3963.00000	0.2171
Trichloroethene	NA	NA	NA	0.400	2158.00000	0.2342	1.00	4609.00000	0.1989

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F 00072501

Analyte	WG253480-05			WG253480-06			WG253480-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	2.00	15199.0000	0.3187	5.00	44874.0000	0.3655	20.0	178454.000	0.3663
1,2-Dichloropropane	2.00	9753.00000	0.2045	5.00	26098.0000	0.2126	20.0	102753.000	0.2109
Chloroform	2.00	18853.0000	0.3953	5.00	49767.0000	0.4054	20.0	196312.000	0.4029
Ethylbenzene	2.00	16151.0000	0.4254	5.00	42940.0000	0.4431	20.0	164781.000	0.4311
Toluene	2.00	41654.0000	1.097	5.00	116765.000	1.205	20.0	445250.000	1.165
Vinyl Chloride	2.00	6297.00000	0.1320	5.00	15745.0000	0.1283	20.0	64342.0000	0.1321
1,1,2,2-Tetrachloroethane	2.00	6250.00000	0.2923	5.00	16873.0000	0.3156	20.0	68113.0000	0.3187
1,1-Dichloroethane	2.00	19326.0000	0.4053	5.00	52282.0000	0.4259	20.0	208256.000	0.4274
Bromoform	2.00	4352.00000	0.1146	5.00	12844.0000	0.1325	20.0	53713.0000	0.1405
Chlorobenzene	2.00	31583.0000	0.8319	5.00	81557.0000	0.8417	20.0	312804.000	0.8183
Chloromethane	2.00	10953.0000	0.2297	5.00	24963.0000	0.2033	20.0	104448.000	0.2144
1,1,1-Trichloroethane	2.00	16415.0000	0.3442	5.00	46833.0000	0.3815	20.0	185555.000	0.3808
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	10713.0000	0.2246	5.00	27969.0000	0.2278	20.0	119789.000	0.2458
1,1,2-Trichloroethane	2.00	6390.00000	0.1683	5.00	17840.0000	0.1841	20.0	68828.0000	0.1801
1,2,4-Trichlorobenzene	2.00	17817.0000	0.8333	5.00	46461.0000	0.8691	20.0	172321.000	0.8064
1,2-Dibromo-3-Chloropropane	2.00	935.000000	0.04370	5.00	2464.00000	0.04610	20.0	11960.0000	0.05600
1,2-Dibromoethane	2.00	6563.00000	0.1729	5.00	17675.0000	0.1824	20.0	70374.0000	0.1841
1,2-Dichlorobenzene	2.00	24617.0000	1.151	5.00	62907.0000	1.177	20.0	238774.000	1.117
1,2-Dichloroethane	2.00	13457.0000	0.2822	5.00	35476.0000	0.2890	20.0	137367.000	0.2819
1,3-Dichlorobenzene	2.00	27035.0000	1.264	5.00	71011.0000	1.328	20.0	273026.000	1.278
1,4-Dichlorobenzene	2.00	28260.0000	1.322	5.00	71911.0000	1.345	20.0	271448.000	1.270
2-Butanone	NA	NA	NA	5.00	5639.00000	0.04590	20.0	24264.0000	0.04980
2-Hexanone	NA	NA	NA	5.00	4278.00000	0.04410	20.0	17200.0000	0.04500
4-Methyl-2-Pentanone	NA	NA	NA	5.00	4516.00000	0.03680	20.0	19568.0000	0.04020
Acetone	NA	NA	NA	5.00	5147.00000	0.04190	20.0	17988.0000	0.03690
Benzene	2.00	44667.0000	0.9366	5.00	118103.000	0.9621	20.0	434400.000	0.8915
Bromodichloromethane	2.00	12404.0000	0.2601	5.00	32514.0000	0.2649	20.0	135372.000	0.2778
Bromomethane	2.00	6802.00000	0.1426	5.00	18584.0000	0.1514	20.0	83168.0000	0.1707
Carbon Disulfide	2.00	31869.0000	0.6683	5.00	76436.0000	0.6226	20.0	320240.000	0.6572
Carbon Tetrachloride	2.00	14780.0000	0.3099	5.00	42905.0000	0.3495	20.0	170961.000	0.3509
Chloroethane	2.00	7379.00000	0.1547	5.00	20419.0000	0.1663	20.0	85007.0000	0.1745
Cyclohexane	2.00	18286.0000	0.3834	5.00	44911.0000	0.3658	20.0	194487.000	0.3992
Dibromochloromethane	2.00	8267.00000	0.2178	5.00	23177.0000	0.2392	20.0	95485.0000	0.2498
Dichlorodifluoromethane	2.00	14420.0000	0.3024	5.00	34810.0000	0.2836	20.0	149149.000	0.3061
Isopropylbenzene	2.00	43758.0000	1.153	5.00	124709.000	1.287	20.0	491862.000	1.287
Methyl Tert Butyl Ether	2.00	17802.0000	0.3733	5.00	45928.0000	0.3741	20.0	190428.000	0.3908
Methyl acetate	NA	NA	NA	5.00	12360.0000	0.1007	20.0	48887.0000	0.1003
Methylcyclohexane	2.00	14950.0000	0.3135	5.00	37086.0000	0.3021	20.0	163967.000	0.3365
Methylene Chloride	2.00	15583.0000	0.3268	5.00	32893.0000	0.2679	20.0	109984.000	0.2257
Styrene	2.00	27368.0000	0.7209	5.00	79229.0000	0.8176	20.0	321795.000	0.8418
Tetrachloroethene	2.00	8975.00000	0.2364	5.00	25119.0000	0.2592	20.0	99655.0000	0.2607
Trichloroethene	2.00	11407.0000	0.2392	5.00	31202.0000	0.2542	20.0	122016.000	0.2504

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INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F 00072502

Analyte	WG253480-08			WG253480-09			WG253480-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1-Dichloroethene	50.0	436729.000	0.3660	100	853773.000	0.3552	200	1674980.00	0.3424
1,2-Dichloropropane	50.0	250262.000	0.2097	100	486196.000	0.2023	200	943768.000	0.1929
Chloroform	50.0	469044.000	0.3931	100	898125.000	0.3736	200	1685157.00	0.3445
Ethylbenzene	50.0	381802.000	0.4008	100	688187.000	0.3642	200	1165925.00	0.3007
Toluene	50.0	1048650.00	1.101	100	1956235.00	1.035	200	3519709.00	0.9079
Vinyl Chloride	50.0	149433.000	0.1252	100	270409.000	0.1125	200	516016.000	0.1055
1,1,2,2-Tetrachloroethane	50.0	171929.000	0.3197	100	339548.000	0.3135	200	667645.000	0.3057
1,1-Dichloroethane	50.0	499619.000	0.4187	100	971119.000	0.4040	200	1847730.00	0.3777
Bromoform	50.0	140503.000	0.1475	100	275098.000	0.1456	200	531265.000	0.1370
Chlorobenzene	50.0	723684.000	0.7598	100	1325220.00	0.7012	200	2311553.00	0.5962
Chloromethane	50.0	238679.000	0.2000	100	500938.000	0.2084	200	1119864.00	0.2289
1,1,1-Trichloroethane	50.0	454822.000	0.3812	100	864997.000	0.3598	200	1584617.00	0.3239
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.0	283351.000	0.2375	100	545994.000	0.2271	200	1009673.00	0.2064
1,1,2-Trichloroethane	50.0	164296.000	0.1725	100	320047.000	0.1694	200	621274.000	0.1603
1,2,4-Trichlorobenzene	50.0	409029.000	0.7605	100	757365.000	0.6993	200	1307932.00	0.5990
1,2-Dibromo-3-Chloropropane	50.0	31678.0000	0.05890	100	65416.0000	0.06040	200	133756.000	0.06130
1,2-Dibromoethane	50.0	172233.000	0.1808	100	338662.000	0.1792	200	659603.000	0.1701
1,2-Dichlorobenzene	50.0	583980.000	1.086	100	1093129.00	1.009	200	1945225.00	0.8908
1,2-Dichloroethane	50.0	335148.000	0.2809	100	644984.000	0.2683	200	1204165.00	0.2462
1,3-Dichlorobenzene	50.0	661983.000	1.231	100	1226057.00	1.132	200	2164702.00	0.9913
1,4-Dichlorobenzene	50.0	652428.000	1.213	100	1221440.00	1.128	200	2133750.00	0.9771
2-Butanone	50.0	61189.0000	0.05130	100	126631.000	0.05270	200	260510.000	0.05330
2-Hexanone	50.0	45759.0000	0.04800	100	97265.0000	0.05150	200	199037.000	0.05130
4-Methyl-2-Pentanone	50.0	50722.0000	0.04250	100	103689.000	0.04310	200	212990.000	0.04350
Acetone	50.0	44512.0000	0.03730	100	88752.0000	0.03690	200	171815.000	0.03510
Benzene	50.0	1012299.00	0.8483	100	1915161.00	0.7967	200	3433282.00	0.7018
Bromodichloromethane	50.0	334930.000	0.2807	100	652740.000	0.2715	200	1237301.00	0.2529
Bromomethane	50.0	204348.000	0.1713	100	405603.000	0.1687	200	794211.000	0.1624
Carbon Disulfide	50.0	763523.000	0.6399	100	1498177.00	0.6233	200	2724389.00	0.5569
Carbon Tetrachloride	50.0	415004.000	0.3478	100	771823.000	0.3211	200	1385697.00	0.2833
Chloroethane	50.0	201380.000	0.1688	100	395622.000	0.1646	200	767049.000	0.1568
Cyclohexane	50.0	470592.000	0.3944	100	936857.000	0.3897	200	1724529.00	0.3525
Dibromochloromethane	50.0	241897.000	0.2540	100	473314.000	0.2505	200	914909.000	0.2360
Dichlorodifluoromethane	50.0	350499.000	0.2937	100	664174.000	0.2763	200	1227000.00	0.2508
Isopropylbenzene	50.0	1187956.00	1.247	100	2202107.00	1.165	200	3866804.00	0.9974
Methyl Tert Butyl Ether	50.0	473957.000	0.3972	100	952444.000	0.3962	200	1816401.00	0.3713
Methyl acetate	50.0	120528.000	0.1010	100	242083.000	0.1007	200	484486.000	0.09900
Methylcyclohexane	50.0	400516.000	0.3356	100	777884.000	0.3236	200	1448570.00	0.2961
Methylene Chloride	50.0	250158.000	0.2096	100	474558.000	0.1974	200	883623.000	0.1806
Styrene	50.0	776327.000	0.8150	100	1436108.00	0.7599	200	2535619.00	0.6540
Tetrachloroethene	50.0	236806.000	0.2486	100	443529.000	0.2347	200	806249.000	0.2080
Trichloroethene	50.0	292312.000	0.2450	100	552863.000	0.2300	200	1030736.00	0.2107

KEMRON FORMS - Modified 10/13/2006
Version 1.6 PDF File ID: 919904
Report generated 11/01/2007 15:46

KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F

00072503

Analyte	WG253480-11		
	CONC	RESP	RF
1,1-Dichloroethene	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA
Chloroform	NA	NA	NA
Ethylbenzene	NA	NA	NA
Toluene	NA	NA	NA
Vinyl Chloride	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA
Bromoform	NA	NA	NA
Chlorobenzene	NA	NA	NA
Chloromethane	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA
1,1,2-Trichloro-1,2,2-Trifluoroethane	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA
2-Butanone	300	376659.000	0.05100
2-Hexanone	300	294556.000	0.05070
4-Methyl-2-Pentanone	300	309872.000	0.04200
Acetone	300	244884.000	0.03320
Benzene	NA	NA	NA
Bromodichloromethane	NA	NA	NA
Bromomethane	NA	NA	NA
Carbon Disulfide	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA
Chloroethane	NA	NA	NA
Cyclohexane	NA	NA	NA
Dibromochloromethane	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA
Isopropylbenzene	NA	NA	NA
Methyl Tert Butyl Ether	NA	NA	NA
Methyl acetate	NA	NA	NA
Methylcyclohexane	NA	NA	NA
Methylene Chloride	NA	NA	NA
Styrene	NA	NA	NA
Tetrachloroethene	NA	NA	NA
Trichloroethene	NA	NA	NA

KEMRON FORMS - Modified 10/13/2006
Version 1.6 PDF File ID: 919904
Report generated 11/01/2007 15:46

KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F

00072504

Analyte	WG253480-02			WG253480-03			WG253480-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	NA	NA	NA	0.400	3727.00000	0.4045	1.00	9439.00000	0.4074
cis-1,2-Dichloroethene	NA	NA	NA	0.400	1822.00000	0.1977	1.00	5174.00000	0.2233
cis-1,3-Dichloropropene	NA	NA	NA	0.400	2437.00000	0.2645	1.00	6299.00000	0.2719
m-,p-Xylene	NA	NA	NA	0.800	7701.00000	0.5301	2.00	17408.0000	0.4769
o-Xylene	NA	NA	NA	0.400	3512.00000	0.4835	1.00	7512.00000	0.4116
trans-1,2-Dichloroethene	NA	NA	NA	0.400	3134.00000	0.3401	1.00	7021.00000	0.3030
trans-1,3-Dichloropropene	NA	NA	NA	0.400	2202.00000	0.3031	1.00	5458.00000	0.2990

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KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F 00072505

Analyte	WG253480-05			WG253480-06			WG253480-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	2.00	20030.0000	0.4200	5.00	50562.0000	0.4119	20.0	213587.000	0.4384
cis-1,2-Dichloroethene	2.00	10789.0000	0.2262	5.00	29274.0000	0.2385	20.0	120493.000	0.2473
cis-1,3-Dichloropropene	2.00	13698.0000	0.2872	5.00	38603.0000	0.3145	20.0	155275.000	0.3187
m-,p-Xylene	4.00	39165.0000	0.5158	10.0	105077.000	0.5422	40.0	395913.000	0.5179
o-Xylene	2.00	18384.0000	0.4842	5.00	50501.0000	0.5212	20.0	200008.000	0.5232
trans-1,2-Dichloroethene	2.00	15269.0000	0.3202	5.00	43529.0000	0.3546	20.0	172166.000	0.3533
trans-1,3-Dichloropropene	2.00	11873.0000	0.3127	5.00	33316.0000	0.3438	20.0	134173.000	0.3510

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KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F 00072506

Analyte	WG253480-08			WG253480-09			WG253480-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Trichlorofluoromethane	50.0	504892.000	0.4231	100	991144.000	0.4123	200	1932059.00	0.3950
cis-1,2-Dichloroethene	50.0	282932.000	0.2371	100	541649.000	0.2253	200	1022003.00	0.2089
cis-1,3-Dichloropropene	50.0	384343.000	0.3221	100	745106.000	0.3100	200	1415220.00	0.2893
m-,p-Xylene	100	924531.000	0.4853	200	1655723.00	0.4381	400	2772456.00	0.3576
o-Xylene	50.0	473948.000	0.4976	100	883339.000	0.4674	200	1560958.00	0.4026
trans-1,2-Dichloroethene	50.0	414623.000	0.3475	100	802775.000	0.3340	200	1503248.00	0.3073
trans-1,3-Dichloropropene	50.0	332032.000	0.3486	100	649006.000	0.3434	200	1239578.00	0.3197

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Version 1.6 PDF File ID: 919904
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KEMRON Environmental Services

INITIAL CALIBRATION DATA

Login Number: L0710597
Analytical Method: 8260B

Instrument ID: HPMS8
Initial Calibration Date: 22-OCT-07 15:58
Column ID: F 00072507

Analyte	WG253480-11		
	CONC	RESP	RF
Trichlorofluoromethane	NA	NA	NA
cis-1,2-Dichloroethene	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA
m-,p-Xylene	NA	NA	NA
o-Xylene	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA

KEMRON FORMS - Modified 10/13/2006
Version 1.6 PDF File ID: 919904
Report generated 11/01/2007 15:46

KEMRON Environmental Services

ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/18/2007 Sample ID: WG253187-12
Instrument ID: HPMS10 Run Time: 18:23 Method: 8260B 00072508
File ID: 10M59732 Analyst: MES QC Key: STD
ICal Workgroup: WG253187 Cal ID: HPMS10 - 18-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	20.0	20.4	ug/L	0.324	1.90	30	
1,2-Dichloropropane	CCC	20.0	21.3	ug/L	0.301	6.30	30	
Chloroform	CCC	20.0	21.0	ug/L	0.711	5.10	30	
Ethylbenzene	CCC	20.0	21.7	ug/L	0.601	8.60	30	
Toluene	CCC	20.0	22.3	ug/L	1.67	11.6	30	
Vinyl Chloride	CCC	20.0	21.2	ug/L	0.282	5.80	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	19.9	ug/L	0.404	0.600	30	
1,1-Dichloroethane	SPCC	20.0	20.6	ug/L	0.654	3.10	30	
Bromoform	SPCC	20.0	19.4	ug/L	0.199	3.10	30	
Chlorobenzene	SPCC	20.0	20.2	ug/L	1.10	1.20	30	
Chloromethane	SPCC	20.0	21.3	ug/L	0.369	6.30	30	
1,1,1-Trichloroethane		20.0	21.6	ug/L	0.720	7.90	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane		20.0	20.4	ug/L	0.401	2.10	30	
1,1,2-Trichloroethane		20.0	20.0	ug/L	0.250	0.100	30	
1,2,4-Trichlorobenzene		20.0	20.9	ug/L	0.925	4.60	30	
1,2-Dibromo-3-Chloropropane		20.0	18.4	ug/L	0.0698	8.00	30	
1,2-Dibromoethane		20.0	20.6	ug/L	0.246	3.00	30	
1,2-Dichlorobenzene		20.0	21.0	ug/L	1.43	4.80	30	
1,2-Dichloroethane		20.0	19.9	ug/L	0.502	0.300	30	
cis-1,2-Dichloroethene		20.0	22.2	ug/L	0.371	10.9	30	
trans-1,2-Dichloroethene		20.0	22.0	ug/L	0.356	9.80	30	
1,3-Dichlorobenzene		20.0	20.9	ug/L	1.70	4.50	30	
1,4-Dichlorobenzene		20.0	19.7	ug/L	1.68	1.70	30	
2-Butanone		20.0	16.7	ug/L	0.0566	16.7	30	
2-Hexanone		20.0	17.1	ug/L	0.0926	14.3	30	
4-Methyl-2-Pentanone		20.0	17.8	ug/L	0.0445	10.8	30	
Acetone		20.0	19.4	ug/L	0.0547	3.20	30	
Benzene		20.0	20.2	ug/L	1.28	1.10	30	
Bromodichloromethane		20.0	20.9	ug/L	0.486	4.40	30	
Bromomethane		20.0	24.8	ug/L	0.289	23.9	30	
Carbon Disulfide		20.0	19.2	ug/L	0.918	3.90	30	
Carbon Tetrachloride		20.0	21.5	ug/L	0.662	7.30	30	
Chloroethane		20.0	22.2	ug/L	0.260	11.2	30	
cis-1,3-Dichloropropene		20.0	22.3	ug/L	0.484	11.3	30	
Cyclohexane		20.0	21.3	ug/L	0.547	6.60	30	
Dibromochloromethane		20.0	20.9	ug/L	0.362	4.40	30	
Dichlorodifluoromethane		20.0	25.0	ug/L	0.706	25.2	30	
Isopropylbenzene		20.0	18.4	ug/L	1.68	7.90	30	
Methyl acetate		20.0	19.2	ug/L	0.127	4.10	30	
Methyl Tert Butyl Ether		20.0	23.6	ug/L	0.732	18.0	30	
Methylcyclohexane		20.0	21.1	ug/L	0.517	5.60	30	
Methylene Chloride		20.0	20.6	ug/L	0.341	3.00	30	

KEMRON FORMS - Modified 09/06/2007 - (ALT)
Version 1.5 PDF File ID: 919905
Report generated 11/01/2007 15:46

KEMRON Environmental Services

ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/18/2007 Sample ID: WG253187-12
Instrument ID: HPMS10 Run Time: 18:23 Method: 8260B 00072509
File ID: 10M59732 Analyst: MES QC Key: STD
ICal Workgroup: WG253187 Cal ID: HPMS10 - 18-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Styrene		20.0	19.9	ug/L	1.12	0.300	30	
Tetrachloroethene		20.0	21.2	ug/L	0.390	5.90	30	
trans-1,3-Dichloropropene		20.0	20.2	ug/L	0.508	0.900	30	
Trichloroethene		20.0	22.1	ug/L	0.375	10.4	30	
Trichlorofluoromethane		20.0	17.1	ug/L	0.742	14.5	30	
Xylenes		60.0	66.7	ug/L	0.709	11.2	30	
m-,p-Xylene		40.0	44.2	ug/L	0.733	10.6	30	
o-Xylene		20.0	22.4	ug/L	0.684	12.2	30	
1,2-Dichloroethene		40.0	44.1	ug/L	0.364	10.3	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

KEMRON FORMS - Modified 09/06/2007 - (ALT)
Version 1.5 PDF File ID: 919905
Report generated 11/01/2007 15:46

KEMRON Environmental Services

ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/01/2007 Sample ID: WG251532-11
Instrument ID: HPMS11 Run Time: 20:02 Method: 8260B 00072510
File ID: 11M46067 Analyst: MES QC Key: STD
ICal Workgroup: WG251532 Cal ID: HPMS11 - 01-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	20.0	19.5	ug/L	0.624	2.60	30	
1,2-Dichloropropane	CCC	20.0	21.3	ug/L	0.314	6.60	30	
Chloroform	CCC	20.0	20.9	ug/L	0.567	4.30	30	
Ethylbenzene	CCC	20.0	22.1	ug/L	0.582	10.4	30	
Toluene	CCC	20.0	21.7	ug/L	1.65	8.50	30	
Vinyl Chloride	CCC	20.0	19.9	ug/L	0.369	0.500	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	20.8	ug/L	0.481	3.90	30	
1,1-Dichloroethane	SPCC	20.0	20.9	ug/L	0.672	4.70	30	
Bromoform	SPCC	20.0	19.5	ug/L	0.155	2.60	30	
Chlorobenzene	SPCC	20.0	20.9	ug/L	1.03	4.30	30	
Chloromethane	SPCC	20.0	20.1	ug/L	0.450	0.700	30	
1,1,1-Trichloroethane		20.0	20.7	ug/L	0.539	3.50	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane		20.0	19.8	ug/L	0.249	1.00	30	
1,1,2-Trichloroethane		20.0	22.1	ug/L	0.253	10.6	30	
1,2,4-Trichlorobenzene		20.0	21.1	ug/L	0.869	5.60	30	
1,2-Dibromo-3-Chloropropane		20.0	19.0	ug/L	0.0928	5.00	30	
1,2-Dibromoethane		20.0	20.7	ug/L	0.235	3.70	30	
1,2-Dichlorobenzene		20.0	20.8	ug/L	1.26	4.00	30	
1,2-Dichloroethane		20.0	19.7	ug/L	0.492	1.60	30	
cis-1,2-Dichloroethene		20.0	21.9	ug/L	0.286	9.50	30	
trans-1,2-Dichloroethene		20.0	20.7	ug/L	0.269	3.50	30	
1,3-Dichlorobenzene		20.0	21.5	ug/L	1.48	7.70	30	
1,4-Dichlorobenzene		20.0	21.1	ug/L	1.48	5.70	30	
2-Butanone		20.0	19.4	ug/L	0.0639	3.00	30	
2-Hexanone		20.0	18.8	ug/L	0.146	6.20	30	
4-Methyl-2-Pentanone		20.0	19.4	ug/L	0.0631	3.00	30	
Acetone		20.0	20.2	ug/L	0.0504	0.800	30	
Benzene		20.0	21.2	ug/L	1.06	6.20	30	
Bromodichloromethane		20.0	21.2	ug/L	0.405	5.90	30	
Bromomethane		20.0	24.7	ug/L	0.216	23.4	30	
Carbon Disulfide		20.0	19.2	ug/L	0.748	4.00	30	
Carbon Tetrachloride		20.0	18.5	ug/L	0.422	7.50	30	
Chloroethane		20.0	22.3	ug/L	0.275	11.3	30	
cis-1,3-Dichloropropene		20.0	21.4	ug/L	0.428	7.20	30	
Cyclohexane		20.0	19.8	ug/L	0.590	1.10	30	
Dibromochloromethane		20.0	21.3	ug/L	0.321	6.70	30	
Dichlorodifluoromethane		20.0	21.5	ug/L	0.527	7.30	30	
Isopropylbenzene		20.0	18.2	ug/L	1.64	8.90	30	
Methyl acetate		20.0	26.2	ug/L	0.168	31.2	30	*
Methyl Tert Butyl Ether		20.0	21.2	ug/L	0.647	6.20	30	
Methylcyclohexane		20.0	20.0	ug/L	0.381	0	30	
Methylene Chloride		20.0	20.3	ug/L	0.279	1.50	30	

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KEMRON Environmental Services

ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/01/2007 Sample ID: WG251532-11

Instrument ID: HPMS11 Run Time: 20:02 Method: 8260B 00072511

File ID: 11M46067 Analyst: MES QC Key: STD

ICal Workgroup: WG251532 Cal ID: HPMS11 - 01-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Styrene		20.0	20.3	ug/L	1.15	1.50	30	
Tetrachloroethene		20.0	19.9	ug/L	0.288	0.300	30	
trans-1,3-Dichloropropene		20.0	19.8	ug/L	0.551	0.900	30	
Trichloroethene		20.0	21.5	ug/L	0.250	7.60	30	
Trichlorofluoromethane		20.0	15.8	ug/L	0.488	21.1	30	
Xylenes		60.0	64.5	ug/L	0.699	7.40	30	
o-Xylene		20.0	21.2	ug/L	0.677	6.20	30	
m-,p-Xylene		40.0	43.2	ug/L	0.720	8.00	30	
1,2-Dichloroethene		40.0	42.6	ug/L	0.278	6.50	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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KEMRON Environmental Services

ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/25/2007 Sample ID: WG253721-12
Instrument ID: HPMS6 Run Time: 11:12 Method: 8260B 00072512
File ID: 6M70256 Analyst: MES QC Key: STD
ICal Workgroup: WG253721 Cal ID: HPMS6 - 24-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	20.0	22.0	ug/L	0.484	9.80	30	
1,2-Dichloropropane	CCC	20.0	21.5	ug/L	0.224	7.50	30	
Chloroform	CCC	20.0	19.9	ug/L	0.612	0.400	30	
Ethylbenzene	CCC	20.0	21.5	ug/L	0.559	7.40	30	
Toluene	CCC	20.0	22.7	ug/L	1.45	13.6	30	
Vinyl Chloride	CCC	20.0	19.0	ug/L	0.365	4.90	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	19.1	ug/L	0.340	4.40	30	
1,1-Dichloroethane	SPCC	20.0	21.2	ug/L	0.505	5.80	30	
Bromoform	SPCC	20.0	17.5	ug/L	0.194	12.3	30	
Chlorobenzene	SPCC	20.0	20.1	ug/L	0.994	0.300	30	
Chloromethane	SPCC	20.0	20.1	ug/L	0.359	0.300	30	
1,1,1-Trichloroethane		20.0	20.9	ug/L	0.639	4.40	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane		20.0	19.2	ug/L	0.307	4.20	30	
1,1,2-Trichloroethane		20.0	20.0	ug/L	0.217	0.100	30	
1,2,4-Trichlorobenzene		20.0	20.7	ug/L	0.992	3.50	30	
1,2-Dibromo-3-Chloropropane		20.0	19.0	ug/L	0.0753	4.80	30	
1,2-Dibromoethane		20.0	20.6	ug/L	0.228	3.10	30	
1,2-Dichlorobenzene		20.0	19.6	ug/L	1.33	1.90	30	
1,2-Dichloroethane		20.0	18.6	ug/L	0.439	6.80	30	
cis-1,2-Dichloroethene		20.0	22.4	ug/L	0.304	12.0	30	
trans-1,2-Dichloroethene		20.0	21.8	ug/L	0.281	9.20	30	
1,3-Dichlorobenzene		20.0	20.2	ug/L	1.54	1.10	30	
1,4-Dichlorobenzene		20.0	18.8	ug/L	1.53	6.20	30	
2-Butanone		20.0	19.4	ug/L	0.0506	2.80	30	
2-Hexanone		20.0	17.8	ug/L	0.0845	11.1	30	
4-Methyl-2-Pentanone		20.0	17.5	ug/L	0.0365	12.7	30	
Acetone		20.0	20.8	ug/L	0.0448	4.20	30	
Benzene		20.0	21.1	ug/L	1.05	5.30	30	
Bromodichloromethane		20.0	20.3	ug/L	0.448	1.70	30	
Bromomethane		20.0	24.6	ug/L	0.219	22.9	30	
Carbon Disulfide		20.0	17.6	ug/L	0.689	12.2	30	
Carbon Tetrachloride		20.0	20.8	ug/L	0.595	3.80	30	
Chloroethane		20.0	22.3	ug/L	0.189	11.4	30	
cis-1,3-Dichloropropene		20.0	21.9	ug/L	0.418	9.50	30	
Cyclohexane		20.0	20.7	ug/L	0.405	3.60	30	
Dibromochloromethane		20.0	19.6	ug/L	0.342	1.80	30	
Dichlorodifluoromethane		20.0	23.3	ug/L	0.592	16.6	30	
Isopropylbenzene		20.0	21.0	ug/L	1.67	5.20	30	
Methyl acetate		20.0	22.3	ug/L	0.113	11.7	30	
Methyl Tert Butyl Ether		20.0	23.7	ug/L	0.632	18.6	30	
Methylcyclohexane		20.0	21.0	ug/L	0.434	5.10	30	
Methylene Chloride		20.0	21.0	ug/L	0.276	5.20	30	

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KEMRON Environmental Services

ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/25/2007 Sample ID: WG253721-12
Instrument ID: HPMS6 Run Time: 11:12 Method: 8260B 00072513
File ID: 6M70256 Analyst: MES QC Key: STD
ICal Workgroup: WG253721 Cal ID: HPMS6 - 24-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Styrene		20.0	22.2	ug/L	1.11	11.2	30	
Tetrachloroethene		20.0	21.7	ug/L	0.445	8.40	30	
trans-1,3-Dichloropropene		20.0	20.0	ug/L	0.449	0.100	30	
Trichloroethene		20.0	21.5	ug/L	0.319	7.30	30	
Trichlorofluoromethane		20.0	15.8	ug/L	0.612	21.0	30	
Xylenes		60.0	64.8	ug/L	0.673	8.10	30	
m-,p-Xylene		40.0	42.6	ug/L	0.694	6.60	30	
1,2-Dichloroethene		40.0	44.3	ug/L	0.293	10.6	30	
o-Xylene		20.0	22.2	ug/L	0.651	11.1	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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KEMRON Environmental Services

ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/23/2007 Sample ID: WG253480-12
Instrument ID: HPMS8 Run Time: 11:07 Method: 8260B 00072514
File ID: 8M340882 Analyst: CMS QC Key: STD
ICal Workgroup: WG253480 Cal ID: HPMS8 - 22-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	20.0	21.6	ug/L	0.363	7.90	30	
1,2-Dichloropropane	CCC	20.0	21.7	ug/L	0.217	8.70	30	
Chloroform	CCC	20.0	20.5	ug/L	0.407	2.70	30	
Ethylbenzene	CCC	20.0	22.1	ug/L	0.439	10.6	30	
Toluene	CCC	20.0	21.5	ug/L	1.17	7.60	30	
Vinyl Chloride	CCC	20.0	22.2	ug/L	0.138	11.1	30	
1,1,2,2-Tetrachloroethane	SPCC	20.0	21.4	ug/L	0.326	6.90	30	
1,1-Dichloroethane	SPCC	20.0	21.0	ug/L	0.425	4.90	30	
Bromoform	SPCC	20.0	21.9	ug/L	0.143	9.30	30	
Chlorobenzene	SPCC	20.0	20.7	ug/L	0.823	3.30	30	
Chloromethane	SPCC	20.0	20.8	ug/L	0.232	3.80	30	
1,1,1-Trichloroethane		20.0	21.8	ug/L	0.385	9.20	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane		20.0	19.8	ug/L	0.222	1.00	30	
1,1,2-Trichloroethane		20.0	22.1	ug/L	0.187	10.6	30	
1,2,4-Trichlorobenzene		20.0	20.9	ug/L	0.817	4.60	30	
1,2-Dibromo-3-Chloropropane		20.0	21.9	ug/L	0.0594	9.30	30	
1,2-Dibromoethane		20.0	21.7	ug/L	0.188	8.70	30	
1,2-Dichlorobenzene		20.0	20.2	ug/L	1.15	1.00	30	
1,2-Dichloroethane		20.0	21.3	ug/L	0.292	6.60	30	
cis-1,2-Dichloroethene		20.0	21.8	ug/L	0.246	8.90	30	
trans-1,2-Dichloroethene		20.0	21.0	ug/L	0.349	4.90	30	
1,3-Dichlorobenzene		20.0	20.5	ug/L	1.27	2.50	30	
1,4-Dichlorobenzene		20.0	19.9	ug/L	1.28	0.300	30	
2-Butanone		20.0	21.3	ug/L	0.0538	6.30	30	
2-Hexanone		20.0	19.7	ug/L	0.0477	1.50	30	
4-Methyl-2-Pentanone		20.0	20.0	ug/L	0.0413	0.100	30	
Acetone		20.0	22.3	ug/L	0.0412	11.5	30	
Benzene		20.0	19.4	ug/L	0.840	3.20	30	
Bromodichloromethane		20.0	22.6	ug/L	0.294	13.0	30	
Bromomethane		20.0	23.1	ug/L	0.180	15.6	30	
Carbon Disulfide		20.0	18.7	ug/L	0.580	6.70	30	
Carbon Tetrachloride		20.0	21.6	ug/L	0.348	8.20	30	
Chloroethane		20.0	22.3	ug/L	0.181	11.7	30	
cis-1,3-Dichloropropene		20.0	22.2	ug/L	0.330	11.0	30	
Cyclohexane		20.0	21.0	ug/L	0.388	4.80	30	
Dibromochloromethane		20.0	21.5	ug/L	0.255	7.60	30	
Dichlorodifluoromethane		20.0	24.5	ug/L	0.346	22.6	30	
Isopropylbenzene		20.0	20.7	ug/L	1.22	3.70	30	
Methyl acetate		20.0	23.4	ug/L	0.118	17.2	30	
Methyl Tert Butyl Ether		20.0	25.3	ug/L	0.478	26.3	30	
Methylcyclohexane		20.0	21.7	ug/L	0.336	8.50	30	
Methylene Chloride		20.0	20.8	ug/L	0.229	4.00	30	

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ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L0710597 Run Date: 10/23/2007 Sample ID: WG253480-12
Instrument ID: HPMS8 Run Time: 11:07 Method: 8260B 00072515
File ID: 8M340882 Analyst: CMS QC Key: STD
ICal Workgroup: WG253480 Cal ID: HPMS8 - 22-OCT-07

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Styrene		20.0	23.5	ug/L	0.872	17.4	30	
Tetrachloroethene		20.0	21.3	ug/L	0.255	6.50	30	
trans-1,3-Dichloropropene		20.0	20.7	ug/L	0.339	3.30	30	
Trichloroethene		20.0	21.9	ug/L	0.255	9.40	30	
Trichlorofluoromethane		20.0	17.3	ug/L	0.359	13.3	30	
Xylenes		60.0	66.3	ug/L	0.531	10.6	30	
m-,p-Xylene		40.0	43.9	ug/L	0.530	9.60	30	
1,2-Dichloroethene		40.0	42.8	ug/L	0.297	6.90	30	
o-Xylene		20.0	22.5	ug/L	0.533	12.5	30	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/25/2007 Sample ID: WG253793-02
Instrument ID: HPMS10 Run Time: 08:27 Method: 8260B
File ID: 10M59851 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253794 Cal ID: HPMS10 - 18-OCT-07

00072516

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	52.1	ug/L	0.332	4.24	20	
1,2-Dichloropropane	CCC	50.0	53.0	ug/L	0.300	5.92	20	
Chloroform	CCC	50.0	52.4	ug/L	0.709	4.84	20	
Ethylbenzene	CCC	50.0	51.6	ug/L	0.572	3.26	20	
Toluene	CCC	50.0	53.3	ug/L	1.60	6.62	20	
Vinyl Chloride	CCC	50.0	47.1	ug/L	0.251	5.76	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.8	ug/L	0.397	2.48	40	
1,1-Dichloroethane	SPCC	50.0	51.9	ug/L	0.658	3.79	40	
Bromoform	SPCC	50.0	51.3	ug/L	0.211	2.54	40	
Chlorobenzene	SPCC	50.0	48.4	ug/L	1.05	3.11	40	
Chloromethane	SPCC	50.0	45.2	ug/L	0.314	9.54	40	
1,1,1-Trichloroethane		50.0	52.9	ug/L	0.707	5.87	40	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	51.9	ug/L	0.407	3.78	40	
1,1,2-Trichloroethane		50.0	49.1	ug/L	0.245	1.88	40	
1,2,4-Trichlorobenzene		50.0	50.5	ug/L	0.892	0.955	40	
1,2-Dibromo-3-Chloropropane		50.0	46.8	ug/L	0.0709	6.45	40	
1,2-Dibromoethane		50.0	52.6	ug/L	0.251	5.11	40	
1,2-Dichlorobenzene		50.0	50.1	ug/L	1.37	0.176	40	
1,2-Dichloroethane		50.0	49.7	ug/L	0.501	0.543	40	
cis-1,2-Dichloroethene		50.0	55.8	ug/L	0.374	11.6	40	
trans-1,2-Dichloroethene		50.0	55.9	ug/L	0.363	11.8	40	
1,3-Dichlorobenzene		50.0	49.5	ug/L	1.61	0.962	40	
1,4-Dichlorobenzene		50.0	47.5	ug/L	1.62	4.99	40	
2-Butanone		50.0	45.1	ug/L	0.0612	9.87	40	
2-Hexanone		50.0	47.1	ug/L	0.102	5.82	40	
4-Methyl-2-Pentanone		50.0	49.9	ug/L	0.0499	0.121	40	
Acetone		50.0	44.5	ug/L	0.0503	10.9	40	
Benzene		50.0	53.1	ug/L	1.34	6.12	40	
Bromodichloromethane		50.0	52.4	ug/L	0.488	4.77	40	
Bromomethane		50.0	54.8	ug/L	0.256	9.68	40	
Carbon Disulfide		50.0	52.4	ug/L	1.00	4.81	40	
Carbon Tetrachloride		50.0	53.2	ug/L	0.656	6.30	40	
Chloroethane		50.0	52.9	ug/L	0.247	5.90	40	
cis-1,3-Dichloropropene		50.0	57.6	ug/L	0.501	15.2	40	
Cyclohexane		50.0	55.9	ug/L	0.574	11.9	40	
Dibromochloromethane		50.0	52.8	ug/L	0.366	5.51	40	
Dichlorodifluoromethane		50.0	50.3	ug/L	0.568	0.629	40	
Isopropylbenzene		50.0	48.8	ug/L	1.77	2.37	40	
Methyl acetate		50.0	58.5	ug/L	0.155	17.0	40	
Methyl Tert Butyl Ether		50.0	55.7	ug/L	0.690	11.3	40	
Methylcyclohexane		50.0	54.9	ug/L	0.538	9.88	40	
Methylene Chloride		50.0	51.4	ug/L	0.323	2.73	40	

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/25/2007 Sample ID: WG253793-02
Instrument ID: HPMS10 Run Time: 08:27 Method: 8260B 00072517
File ID: 10M59851 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253794 Cal ID: HPMS10 - 18-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Styrene		50.0	49.1	ug/L	1.11	1.72	40	
Tetrachloroethene		50.0	51.3	ug/L	0.378	2.61	40	
trans-1,3-Dichloropropene		50.0	53.8	ug/L	0.542	7.53	40	
Trichloroethene		50.0	55.5	ug/L	0.377	11.0	40	
Trichlorofluoromethane		50.0	50.4	ug/L	0.848	0.734	40	
Xylenes		150	163	ug/L	0.695	8.80	40	
1,2-Dichloroethene		100	112	ug/L	0.368	11.7	40	
m-,p-Xylene		100	108	ug/L	0.713	7.64	40	
o-Xylene		50.0	55.6	ug/L	0.678	11.1	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/26/2007 Sample ID: WG253909-02
Instrument ID: HPMS10 Run Time: 11:25 Method: 8260B 00072518
File ID: 10M59884 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253910 Cal ID: HPMS10 - 18-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	50.8	ug/L	0.324	1.70	20	
1,2-Dichloropropane	CCC	50.0	52.3	ug/L	0.296	4.57	20	
Chloroform	CCC	50.0	52.0	ug/L	0.704	4.07	20	
Ethylbenzene	CCC	50.0	51.1	ug/L	0.566	2.18	20	
Toluene	CCC	50.0	51.6	ug/L	1.54	3.25	20	
Vinyl Chloride	CCC	50.0	44.7	ug/L	0.239	10.5	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.6	ug/L	0.395	2.88	40	
1,1-Dichloroethane	SPCC	50.0	51.7	ug/L	0.656	3.43	40	
Bromoform	SPCC	50.0	50.6	ug/L	0.208	1.22	40	
Chlorobenzene	SPCC	50.0	47.7	ug/L	1.03	4.70	40	
Chloromethane	SPCC	50.0	45.9	ug/L	0.318	8.21	40	
1,1,1-Trichloroethane		50.0	52.9	ug/L	0.707	5.79	40	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	52.1	ug/L	0.409	4.26	40	
1,1,2-Trichloroethane		50.0	47.2	ug/L	0.236	5.53	40	
1,2,4-Trichlorobenzene		50.0	52.0	ug/L	0.919	3.97	40	
1,2-Dibromo-3-Chloropropane		50.0	47.6	ug/L	0.0721	4.88	40	
1,2-Dibromoethane		50.0	50.9	ug/L	0.243	1.84	40	
1,2-Dichlorobenzene		50.0	49.7	ug/L	1.36	0.680	40	
1,2-Dichloroethane		50.0	49.2	ug/L	0.496	1.51	40	
cis-1,2-Dichloroethene		50.0	56.0	ug/L	0.375	12.0	40	
trans-1,2-Dichloroethene		50.0	55.7	ug/L	0.361	11.4	40	
1,3-Dichlorobenzene		50.0	49.5	ug/L	1.61	0.935	40	
1,4-Dichlorobenzene		50.0	47.1	ug/L	1.61	5.73	40	
2-Butanone		50.0	49.4	ug/L	0.0671	1.17	40	
2-Hexanone		50.0	47.9	ug/L	0.103	4.24	40	
4-Methyl-2-Pentanone		50.0	54.6	ug/L	0.0546	9.23	40	
Acetone		50.0	47.8	ug/L	0.0540	4.47	40	
Benzene		50.0	50.0	ug/L	1.26	0.0406	40	
Bromodichloromethane		50.0	52.4	ug/L	0.488	4.71	40	
Bromomethane		50.0	53.1	ug/L	0.247	6.11	40	
Carbon Disulfide		50.0	50.3	ug/L	0.961	0.582	40	
Carbon Tetrachloride		50.0	53.1	ug/L	0.655	6.23	40	
Chloroethane		50.0	52.9	ug/L	0.247	5.85	40	
cis-1,3-Dichloropropene		50.0	57.6	ug/L	0.501	15.2	40	
Cyclohexane		50.0	54.8	ug/L	0.562	9.56	40	
Dibromochloromethane		50.0	51.2	ug/L	0.356	2.47	40	
Dichlorodifluoromethane		50.0	50.0	ug/L	0.565	0.0346	40	
Isopropylbenzene		50.0	48.0	ug/L	1.74	4.01	40	
Methyl acetate		50.0	54.7	ug/L	0.145	9.37	40	
Methyl Tert Butyl Ether		50.0	54.5	ug/L	0.676	9.05	40	
Methylcyclohexane		50.0	54.7	ug/L	0.536	9.32	40	
Methylene Chloride		50.0	50.7	ug/L	0.319	1.39	40	

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/26/2007 Sample ID: WG253909-02
Instrument ID: HPMS10 Run Time: 11:25 Method: 8260B 00072519
File ID: 10M59884 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253910 Cal ID: HPMS10 - 18-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Styrene		50.0	47.7	ug/L	1.08	4.55	40	
Tetrachloroethene		50.0	50.2	ug/L	0.370	0.466	40	
trans-1,3-Dichloropropene		50.0	52.0	ug/L	0.524	3.91	40	
Trichloroethene		50.0	55.1	ug/L	0.374	10.2	40	
Trichlorofluoromethane		50.0	50.7	ug/L	0.854	1.43	40	
Xylenes		150	158	ug/L	0.674	5.58	40	
1,2-Dichloroethene		100	112	ug/L	0.368	11.7	40	
m-,p-Xylene		100	105	ug/L	0.693	4.58	40	
o-Xylene		50.0	53.8	ug/L	0.656	7.57	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/27/2007 Sample ID: WG254005-02
Instrument ID: HPMS10 Run Time: 09:47 Method: 8260B
File ID: 10M59911 Analyst: MES QC Key: STD
Workgroup (AAB#): WG254006 Cal ID: HPMS10 - 18-OCT-07

00072520

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	49.1	ug/L	0.312	1.87	20	
1,2-Dichloropropane	CCC	50.0	52.0	ug/L	0.294	3.91	20	
Chloroform	CCC	50.0	51.6	ug/L	0.698	3.17	20	
Ethylbenzene	CCC	50.0	49.0	ug/L	0.543	1.91	20	
Toluene	CCC	50.0	50.7	ug/L	1.52	1.32	20	
Vinyl Chloride	CCC	50.0	49.8	ug/L	0.266	0.411	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	48.7	ug/L	0.397	2.50	40	
1,1-Dichloroethane	SPCC	50.0	50.7	ug/L	0.643	1.35	40	
Bromoform	SPCC	50.0	53.6	ug/L	0.221	7.12	40	
Chlorobenzene	SPCC	50.0	46.2	ug/L	1.00	7.63	40	
Chloromethane	SPCC	50.0	46.4	ug/L	0.321	7.29	40	
1,1,1-Trichloroethane		50.0	51.9	ug/L	0.693	3.74	40	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	50.8	ug/L	0.399	1.67	40	
1,1,2-Trichloroethane		50.0	48.9	ug/L	0.244	2.16	40	
1,2,4-Trichlorobenzene		50.0	49.3	ug/L	0.872	1.31	40	
1,2-Dibromo-3-Chloropropane		50.0	44.6	ug/L	0.0677	10.8	40	
1,2-Dibromoethane		50.0	52.6	ug/L	0.251	5.21	40	
1,2-Dichlorobenzene		50.0	48.3	ug/L	1.32	3.32	40	
1,2-Dichloroethane		50.0	52.0	ug/L	0.523	3.90	40	
cis-1,2-Dichloroethene		50.0	54.6	ug/L	0.366	9.21	40	
trans-1,2-Dichloroethene		50.0	53.5	ug/L	0.347	6.95	40	
1,3-Dichlorobenzene		50.0	46.7	ug/L	1.52	6.62	40	
1,4-Dichlorobenzene		50.0	45.3	ug/L	1.55	9.34	40	
2-Butanone		50.0	43.0	ug/L	0.0585	13.9	40	
2-Hexanone		50.0	46.9	ug/L	0.101	6.20	40	
4-Methyl-2-Pentanone		50.0	50.6	ug/L	0.0506	1.21	40	
Acetone		50.0	41.2	ug/L	0.0466	17.6	40	
Benzene		50.0	50.6	ug/L	1.28	1.10	40	
Bromodichloromethane		50.0	53.2	ug/L	0.495	6.33	40	
Bromomethane		50.0	53.4	ug/L	0.249	6.88	40	
Carbon Disulfide		50.0	48.2	ug/L	0.920	3.67	40	
Carbon Tetrachloride		50.0	51.8	ug/L	0.639	3.63	40	
Chloroethane		50.0	52.6	ug/L	0.246	5.25	40	
cis-1,3-Dichloropropene		50.0	57.7	ug/L	0.502	15.4	40	
Cyclohexane		50.0	52.1	ug/L	0.535	4.28	40	
Dibromochloromethane		50.0	53.3	ug/L	0.370	6.66	40	
Dichlorodifluoromethane		50.0	52.1	ug/L	0.588	4.13	40	
Isopropylbenzene		50.0	46.5	ug/L	1.69	6.99	40	
Methyl acetate		50.0	61.1	ug/L	0.162	22.2	40	
Methyl Tert Butyl Ether		50.0	58.0	ug/L	0.719	16.0	40	
Methylcyclohexane		50.0	51.3	ug/L	0.502	2.54	40	
Methylene Chloride		50.0	51.5	ug/L	0.324	2.98	40	

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Login Number: L0710597 Run Date: 10/27/2007 Sample ID: WG254005-02
Instrument ID: HPMS10 Run Time: 09:47 Method: 8260B 00072521
File ID: 10M59911 Analyst: MES QC Key: STD
Workgroup (AAB#): WG254006 Cal ID: HPMS10 - 18-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Styrene		50.0	47.8	ug/L	1.08	4.42	40	
Tetrachloroethene		50.0	48.2	ug/L	0.356	3.58	40	
trans-1,3-Dichloropropene		50.0	53.9	ug/L	0.543	7.85	40	
Trichloroethene		50.0	52.1	ug/L	0.354	4.25	40	
Trichlorofluoromethane		50.0	50.8	ug/L	0.856	1.69	40	
Xylenes		150	155	ug/L	0.663	3.26	40	
1,2-Dichloroethene		100	108	ug/L	0.356	8.08	40	
m-,p-Xylene		100	101	ug/L	0.670	1.15	40	
o-Xylene		50.0	53.7	ug/L	0.655	7.47	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/24/2007 Sample ID: WG253676-02
Instrument ID: HPMS11 Run Time: 09:42 Method: 8260B 00072522
File ID: 11M46851 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253678 Cal ID: HPMS11 - 01-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	51.0	ug/L	0.650	2.01	20	
1,2-Dichloropropane	CCC	50.0	50.7	ug/L	0.299	1.43	20	
Chloroform	CCC	50.0	52.5	ug/L	0.571	5.02	20	
Ethylbenzene	CCC	50.0	50.5	ug/L	0.532	0.980	20	
Toluene	CCC	50.0	50.1	ug/L	1.52	0.222	20	
Vinyl Chloride	CCC	50.0	54.2	ug/L	0.384	8.46	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.2	ug/L	0.437	5.63	40	
1,1-Dichloroethane	SPCC	50.0	52.8	ug/L	0.677	5.55	40	
Bromoform	SPCC	50.0	50.2	ug/L	0.160	0.456	40	
Chlorobenzene	SPCC	50.0	47.4	ug/L	0.937	5.11	40	
Chloromethane	SPCC	50.0	52.5	ug/L	0.469	5.04	40	
1,1,1-Trichloroethane		50.0	53.4	ug/L	0.556	6.87	40	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	58.4	ug/L	0.294	16.9	40	
1,1,2-Trichloroethane		50.0	49.8	ug/L	0.228	0.323	40	
1,2,4-Trichlorobenzene		50.0	50.7	ug/L	0.834	1.33	40	
1,2-Dibromo-3-Chloropropane		50.0	47.5	ug/L	0.0928	5.00	40	
1,2-Dibromoethane		50.0	49.3	ug/L	0.224	1.32	40	
1,2-Dichlorobenzene		50.0	48.8	ug/L	1.18	2.38	40	
1,2-Dichloroethane		50.0	49.3	ug/L	0.494	1.32	40	
cis-1,2-Dichloroethene		50.0	52.8	ug/L	0.276	5.65	40	
trans-1,2-Dichloroethene		50.0	52.9	ug/L	0.275	5.85	40	
1,3-Dichlorobenzene		50.0	49.8	ug/L	1.37	0.352	40	
1,4-Dichlorobenzene		50.0	49.3	ug/L	1.38	1.48	40	
2-Butanone		50.0	47.6	ug/L	0.0627	4.73	40	
2-Hexanone		50.0	47.3	ug/L	0.147	5.33	40	
4-Methyl-2-Pentanone		50.0	47.1	ug/L	0.0614	5.73	40	
Acetone		50.0	48.3	ug/L	0.0483	3.36	40	
Benzene		50.0	51.0	ug/L	1.02	1.98	40	
Bromodichloromethane		50.0	52.0	ug/L	0.397	3.99	40	
Bromomethane		50.0	59.1	ug/L	0.207	18.1	40	
Carbon Disulfide		50.0	53.5	ug/L	0.834	7.02	40	
Carbon Tetrachloride		50.0	49.4	ug/L	0.446	1.13	40	
Chloroethane		50.0	56.4	ug/L	0.279	12.9	40	
cis-1,3-Dichloropropene		50.0	51.3	ug/L	0.410	2.70	40	
Cyclohexane		50.0	54.3	ug/L	0.647	8.57	40	
Dibromochloromethane		50.0	51.9	ug/L	0.313	3.76	40	
Dichlorodifluoromethane		50.0	51.0	ug/L	0.501	1.98	40	
Isopropylbenzene		50.0	46.5	ug/L	1.69	6.99	40	
Methyl acetate		50.0	59.4	ug/L	0.152	18.8	40	
Methyl Tert Butyl Ether		50.0	50.6	ug/L	0.617	1.24	40	
Methylcyclohexane		50.0	54.1	ug/L	0.412	8.28	40	
Methylene Chloride		50.0	49.1	ug/L	0.261	1.86	40	

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Login Number: L0710597 Run Date: 10/24/2007 Sample ID: WG253676-02
Instrument ID: HPMS11 Run Time: 09:42 Method: 8260B 00072523
File ID: 11M46851 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253678 Cal ID: HPMS11 - 01-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Styrene		50.0	46.3	ug/L	1.06	7.38	40	
Tetrachloroethene		50.0	46.8	ug/L	0.269	6.45	40	
trans-1,3-Dichloropropene		50.0	50.7	ug/L	0.563	1.31	40	
Trichloroethene		50.0	51.7	ug/L	0.241	3.38	40	
Trichlorofluoromethane		50.0	54.5	ug/L	0.661	8.91	40	
Xylenes		150	150	ug/L	0.651	0.0155	40	
1,2-Dichloroethene		100	106	ug/L	0.276	5.75	40	
m-,p-Xylene		100	100	ug/L	0.669	0.265	40	
o-Xylene		50.0	49.7	ug/L	0.634	0.577	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/25/2007 Sample ID: WG253818-02
Instrument ID: HPMS6 Run Time: 10:08 Method: 8260B 00072524
File ID: 6M70254 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253819 Cal ID: HPMS6 - 24-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	51.6	ug/L	0.456	3.23	20	
1,2-Dichloropropane	CCC	50.0	50.8	ug/L	0.212	1.66	20	
Chloroform	CCC	50.0	46.9	ug/L	0.576	6.26	20	
Ethylbenzene	CCC	50.0	53.5	ug/L	0.556	6.92	20	
Toluene	CCC	50.0	54.6	ug/L	1.40	9.13	20	
Vinyl Chloride	CCC	50.0	45.2	ug/L	0.316	9.63	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	44.1	ug/L	0.314	11.8	40	
1,1-Dichloroethane	SPCC	50.0	50.5	ug/L	0.482	0.933	40	
Bromoform	SPCC	50.0	44.3	ug/L	0.196	11.5	40	
Chlorobenzene	SPCC	50.0	48.6	ug/L	0.963	2.76	40	
Chloromethane	SPCC	50.0	50.0	ug/L	0.311	0.0362	40	
1,1,1-Trichloroethane		50.0	50.1	ug/L	0.614	0.196	40	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	49.0	ug/L	0.314	2.01	40	
1,1,2-Trichloroethane		50.0	45.5	ug/L	0.197	9.04	40	
1,2,4-Trichlorobenzene		50.0	50.5	ug/L	0.967	0.905	40	
1,2-Dibromo-3-Chloropropane		50.0	45.9	ug/L	0.0726	8.12	40	
1,2-Dibromoethane		50.0	47.6	ug/L	0.211	4.79	40	
1,2-Dichlorobenzene		50.0	47.5	ug/L	1.29	5.08	40	
1,2-Dichloroethane		50.0	42.7	ug/L	0.403	14.5	40	
cis-1,2-Dichloroethene		50.0	52.5	ug/L	0.285	5.04	40	
trans-1,2-Dichloroethene		50.0	53.4	ug/L	0.275	6.84	40	
1,3-Dichlorobenzene		50.0	49.8	ug/L	1.52	0.377	40	
1,4-Dichlorobenzene		50.0	46.3	ug/L	1.51	7.35	40	
2-Butanone		50.0	42.6	ug/L	0.0443	14.8	40	
2-Hexanone		50.0	44.2	ug/L	0.0840	11.5	40	
4-Methyl-2-Pentanone		50.0	43.7	ug/L	0.0366	12.5	40	
Acetone		50.0	46.7	ug/L	0.0402	6.54	40	
Benzene		50.0	51.4	ug/L	1.03	2.88	40	
Bromodichloromethane		50.0	46.6	ug/L	0.410	6.78	40	
Bromomethane		50.0	51.6	ug/L	0.184	3.28	40	
Carbon Disulfide		50.0	53.6	ug/L	0.819	7.23	40	
Carbon Tetrachloride		50.0	49.5	ug/L	0.567	1.01	40	
Chloroethane		50.0	51.8	ug/L	0.176	3.67	40	
cis-1,3-Dichloropropene		50.0	52.1	ug/L	0.398	4.30	40	
Cyclohexane		50.0	54.8	ug/L	0.429	9.63	40	
Dibromochloromethane		50.0	47.4	ug/L	0.331	5.11	40	
Dichlorodifluoromethane		50.0	46.5	ug/L	0.473	6.97	40	
Isopropylbenzene		50.0	56.1	ug/L	1.78	12.2	40	
Methyl acetate		50.0	46.3	ug/L	0.0937	7.38	40	
Methyl Tert Butyl Ether		50.0	48.8	ug/L	0.520	2.32	40	
Methylcyclohexane		50.0	54.6	ug/L	0.450	9.13	40	
Methylene Chloride		50.0	48.5	ug/L	0.246	2.94	40	

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Login Number: L0710597 Run Date: 10/25/2007 Sample ID: WG253818-02
Instrument ID: HPMS6 Run Time: 10:08 Method: 8260B 00072525
File ID: 6M70254 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253819 Cal ID: HPMS6 - 24-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Styrene		50.0	54.0	ug/L	1.08	8.10	40	
Tetrachloroethene		50.0	53.4	ug/L	0.438	6.77	40	
trans-1,3-Dichloropropene		50.0	51.1	ug/L	0.459	2.19	40	
Trichloroethene		50.0	51.5	ug/L	0.306	2.94	40	
Trichlorofluoromethane		50.0	44.5	ug/L	0.689	11.0	40	
Xylenes		150	162	ug/L	0.671	7.90	40	
1,2-Dichloroethene		100	106	ug/L	0.280	5.94	40	
m-,p-Xylene		100	107	ug/L	0.695	6.73	40	
o-Xylene		50.0	55.1	ug/L	0.646	10.2	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/26/2007 Sample ID: WG253918-02
Instrument ID: HPMS6 Run Time: 10:25 Method: 8260B 00072526
File ID: 6M70287 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253919 Cal ID: HPMS6 - 24-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	50.4	ug/L	0.445	0.761	20	
1,2-Dichloropropane	CCC	50.0	51.4	ug/L	0.214	2.82	20	
Chloroform	CCC	50.0	47.6	ug/L	0.586	4.76	20	
Ethylbenzene	CCC	50.0	51.0	ug/L	0.531	2.01	20	
Toluene	CCC	50.0	52.5	ug/L	1.34	5.06	20	
Vinyl Chloride	CCC	50.0	44.9	ug/L	0.323	10.1	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.3	ug/L	0.336	5.33	40	
1,1-Dichloroethane	SPCC	50.0	50.4	ug/L	0.481	0.851	40	
Bromoform	SPCC	50.0	49.2	ug/L	0.218	1.67	40	
Chlorobenzene	SPCC	50.0	47.6	ug/L	0.943	4.78	40	
Chloromethane	SPCC	50.0	44.8	ug/L	0.303	10.3	40	
1,1,1-Trichloroethane		50.0	49.9	ug/L	0.611	0.174	40	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	48.4	ug/L	0.310	3.24	40	
1,1,2-Trichloroethane		50.0	48.5	ug/L	0.210	2.96	40	
1,2,4-Trichlorobenzene		50.0	51.4	ug/L	0.986	2.87	40	
1,2-Dibromo-3-Chloropropane		50.0	52.1	ug/L	0.0823	4.13	40	
1,2-Dibromoethane		50.0	51.1	ug/L	0.226	2.21	40	
1,2-Dichlorobenzene		50.0	47.4	ug/L	1.29	5.11	40	
1,2-Dichloroethane		50.0	46.2	ug/L	0.435	7.57	40	
cis-1,2-Dichloroethene		50.0	53.0	ug/L	0.288	6.10	40	
trans-1,2-Dichloroethene		50.0	52.5	ug/L	0.270	4.96	40	
1,3-Dichlorobenzene		50.0	48.1	ug/L	1.46	3.78	40	
1,4-Dichlorobenzene		50.0	45.3	ug/L	1.48	9.35	40	
2-Butanone		50.0	51.0	ug/L	0.0531	2.01	40	
2-Hexanone		50.0	51.8	ug/L	0.0984	3.64	40	
4-Methyl-2-Pentanone		50.0	52.5	ug/L	0.0440	5.02	40	
Acetone		50.0	53.5	ug/L	0.0460	7.06	40	
Benzene		50.0	51.1	ug/L	1.02	2.15	40	
Bromodichloromethane		50.0	49.0	ug/L	0.431	1.97	40	
Bromomethane		50.0	52.8	ug/L	0.188	5.52	40	
Carbon Disulfide		50.0	50.4	ug/L	0.807	0.717	40	
Carbon Tetrachloride		50.0	49.8	ug/L	0.571	0.341	40	
Chloroethane		50.0	49.8	ug/L	0.169	0.435	40	
cis-1,3-Dichloropropene		50.0	54.8	ug/L	0.418	9.66	40	
Cyclohexane		50.0	54.1	ug/L	0.423	8.12	40	
Dibromochloromethane		50.0	50.5	ug/L	0.352	0.934	40	
Dichlorodifluoromethane		50.0	42.8	ug/L	0.435	14.3	40	
Isopropylbenzene		50.0	54.0	ug/L	1.71	7.96	40	
Methyl acetate		50.0	54.5	ug/L	0.110	8.92	40	
Methyl Tert Butyl Ether		50.0	57.0	ug/L	0.607	13.9	40	
Methylcyclohexane		50.0	55.2	ug/L	0.456	10.5	40	
Methylene Chloride		50.0	49.5	ug/L	0.250	1.10	40	

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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/26/2007 Sample ID: WG253918-02
Instrument ID: HPMS6 Run Time: 10:25 Method: 8260B 00072527
File ID: 6M70287 Analyst: MES QC Key: STD
Workgroup (AAB#): WG253919 Cal ID: HPMS6 - 24-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Styrene		50.0	53.4	ug/L	1.06	6.78	40	
Tetrachloroethene		50.0	51.0	ug/L	0.418	1.91	40	
trans-1,3-Dichloropropene		50.0	53.3	ug/L	0.479	6.55	40	
Trichloroethene		50.0	51.5	ug/L	0.306	2.92	40	
Trichlorofluoromethane		50.0	44.4	ug/L	0.687	11.2	40	
Xylenes		150	156	ug/L	0.650	4.24	40	
1,2-Dichloroethene		100	106	ug/L	0.279	5.53	40	
m-,p-Xylene		100	102	ug/L	0.667	2.40	40	
o-Xylene		50.0	54.0	ug/L	0.633	7.93	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

KEMRON FORMS - Modified 09/06/2007 - (CCV)
Version 1.5 PDF File ID: 919907
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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/29/2007 Sample ID: WG254047-02
Instrument ID: HPMS8 Run Time: 08:31 Method: 8260B 00072528
File ID: 8M341021 Analyst: CMS QC Key: STD
Workgroup (AAB#): WG254048 Cal ID: HPMS8 - 22-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	56.9	ug/L	0.383	13.8	20	
1,2-Dichloropropane	CCC	50.0	51.9	ug/L	0.207	3.86	20	
Chloroform	CCC	50.0	50.2	ug/L	0.398	0.330	20	
Ethylbenzene	CCC	50.0	50.5	ug/L	0.401	0.934	20	
Toluene	CCC	50.0	51.9	ug/L	1.13	3.85	20	
Vinyl Chloride	CCC	50.0	54.9	ug/L	0.136	9.75	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.8	ug/L	0.304	0.335	40	
1,1-Dichloroethane	SPCC	50.0	53.5	ug/L	0.434	6.93	40	
Bromoform	SPCC	50.0	54.5	ug/L	0.142	8.90	40	
Chlorobenzene	SPCC	50.0	47.9	ug/L	0.762	4.28	40	
Chloromethane	SPCC	50.0	48.0	ug/L	0.214	4.07	40	
1,1,1-Trichloroethane		50.0	54.7	ug/L	0.386	9.37	40	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	52.0	ug/L	0.233	3.95	40	
1,1,2-Trichloroethane		50.0	50.2	ug/L	0.169	0.360	40	
1,2,4-Trichlorobenzene		50.0	47.5	ug/L	0.742	4.99	40	
1,2-Dibromo-3-Chloropropane		50.0	47.9	ug/L	0.0521	4.14	40	
1,2-Dibromoethane		50.0	50.6	ug/L	0.175	1.26	40	
1,2-Dichlorobenzene		50.0	47.5	ug/L	1.08	5.08	40	
1,2-Dichloroethane		50.0	49.6	ug/L	0.272	0.718	40	
cis-1,2-Dichloroethene		50.0	55.4	ug/L	0.250	10.8	40	
trans-1,2-Dichloroethene		50.0	54.5	ug/L	0.362	8.96	40	
1,3-Dichlorobenzene		50.0	49.8	ug/L	1.24	0.366	40	
1,4-Dichlorobenzene		50.0	47.8	ug/L	1.23	4.46	40	
2-Butanone		50.0	48.2	ug/L	0.0489	3.51	40	
2-Hexanone		50.0	44.4	ug/L	0.0430	11.3	40	
4-Methyl-2-Pentanone		50.0	45.7	ug/L	0.0378	8.66	40	
Acetone		50.0	52.9	ug/L	0.0390	5.73	40	
Benzene		50.0	48.9	ug/L	0.849	2.15	40	
Bromodichloromethane		50.0	52.4	ug/L	0.273	4.85	40	
Bromomethane		50.0	47.3	ug/L	0.148	5.33	40	
Carbon Disulfide		50.0	55.3	ug/L	0.688	10.7	40	
Carbon Tetrachloride		50.0	55.0	ug/L	0.354	9.93	40	
Chloroethane		50.0	52.2	ug/L	0.169	4.50	40	
cis-1,3-Dichloropropene		50.0	52.6	ug/L	0.313	5.23	40	
Cyclohexane		50.0	54.3	ug/L	0.402	8.55	40	
Dibromochloromethane		50.0	52.5	ug/L	0.249	5.09	40	
Dichlorodifluoromethane		50.0	53.5	ug/L	0.302	7.01	40	
Isopropylbenzene		50.0	52.7	ug/L	1.24	5.35	40	
Methyl acetate		50.0	54.4	ug/L	0.109	8.76	40	
Methyl Tert Butyl Ether		50.0	51.2	ug/L	0.387	2.32	40	
Methylcyclohexane		50.0	54.1	ug/L	0.335	8.20	40	
Methylene Chloride		50.0	52.3	ug/L	0.218	4.64	40	

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KEMRON Environmental Services

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L0710597 Run Date: 10/29/2007 Sample ID: WG254047-02
Instrument ID: HPMS8 Run Time: 08:31 Method: 8260B 00072529
File ID: 8M341021 Analyst: CMS QC Key: STD
Workgroup (AAB#): WG254048 Cal ID: HPMS8 - 22-OCT-07

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Styrene		50.0	54.7	ug/L	0.812	9.41	40	
Tetrachloroethene		50.0	53.2	ug/L	0.255	6.33	40	
trans-1,3-Dichloropropene		50.0	52.0	ug/L	0.341	3.96	40	
Trichloroethene		50.0	54.6	ug/L	0.254	9.13	40	
Trichlorofluoromethane		50.0	48.9	ug/L	0.405	2.13	40	
Xylenes		150	152	ug/L	0.490	1.62	40	
1,2-Dichloroethene		100	110	ug/L	0.306	9.87	40	
m-,p-Xylene		100	99.8	ug/L	0.482	0.167	40	
o-Xylene		50.0	52.6	ug/L	0.499	5.19	40	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

KEMRON FORMS - Modified 09/06/2007 - (CCV)
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

00072530

Login Number: L0710597
Instrument ID: HPMS11
Workgroup (AAB#): WG253678

CCV Number: WG253676-02
CAL ID: HPMS11-01-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253676-02	NA	NA	367509	701985	1053473
Upper Limit	NA	NA	735018	1403970	2106946
Lower Limit	NA	NA	183755	350993	526737
L0710597-09	1.00	01	295377	578896	868996
L0710597-14	1.00	01	319109	629460	941752
WG253678-01	1.00	01	341476	665863	982937
WG253678-02	1.00	01	357133	677099	998823
WG253678-03	1.00	01	355489	672208	996951
WG253678-04	1.00	01	271454	532147	787697

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

00072531

Login Number: L0710597
Instrument ID: HPMS10
Workgroup (AAB#): WG253794

CCV Number: WG253793-02
CAL ID: HPMS10-18-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253793-02	NA	NA	413338	728620	873658
Upper Limit	NA	NA	826676	1457240	1747316
Lower Limit	NA	NA	206669	364310	436829
L0710597-05	1.00	01	233388	434887	520337
L0710597-06	1.00	01	240872	441354	516462
L0710597-08	1.00	01	244389	455475	528912
WG253794-01	1.00	01	327196	585923	726288
WG253794-02	1.00	01	385292	646316	769398
WG253794-03	1.00	01	393152	679167	813970

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

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Version 1.3 PDF File ID: 919908
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

00072532

Login Number: L0710597
Instrument ID: HPMS6
Workgroup (AAB#): WG253819

CCV Number: WG253818-02
CAL ID: HPMS6-24-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253818-02	NA	NA	636419	1002505	1263315
Upper Limit	NA	NA	1272838	2005010	2526630
Lower Limit	NA	NA	318210	501253	631658
L0710597-11	1.00	01	555335	973862	1134457
WG253819-01	1.00	01	567585	969230	1221346
WG253819-02	1.00	01	612883	980932	1212336
WG253819-03	1.00	01	632208	1016891	1256022

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

00072533

Login Number: L0710597
Instrument ID: HPMS10
Workgroup (AAB#): WG253910

CCV Number: WG253909-02
CAL ID: HPMS10-18-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253909-02	NA	NA	397038	709486	830125
Upper Limit	NA	NA	794076	1418972	1660250
Lower Limit	NA	NA	198519	354743	415063
L0710597-08	25.0	DL01	347104	636357	763652
L0710597-10	1.00	01	243348	442775	525803
L0710597-12	2.00	DL01	242435	437604	523063
L0710597-13	1.00	01	238476	428573	512510
WG253910-01	1.00	01	343656	613467	751048
WG253910-02	1.00	01	375224	652059	768829
WG253910-03	1.00	01	387862	662120	774582

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

00072534

Login Number: L0710597
Instrument ID: HPMS6
Workgroup (AAB#): WG253919

CCV Number: WG253918-02
CAL ID: HPMS6-24-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253918-02	NA	NA	608482	933029	1116006
Upper Limit	NA	NA	1216964	1866058	2232012
Lower Limit	NA	NA	304241	466515	558003
L0710597-11	100	DL01	528747	892814	1098922
WG253919-01	1.00	01	508438	854790	1056611
WG253919-02	1.00	01	572925	889589	1047848
WG253919-03	1.00	01	593272	925214	1108449
WG253919-04	1.00	01	434493	728121	885031

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

00072535

Login Number: L0710597
Instrument ID: HPMS10
Workgroup (AAB#): WG254006

CCV Number: WG254005-02
CAL ID: HPMS10-18-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG254005-02	NA	NA	413238	705438	829307
Upper Limit	NA	NA	826476	1410876	1658614
Lower Limit	NA	NA	206619	352719	414654
L0710597-07	1.00	02	276469	500289	594367
L0710597-09	5.00	DL01	238751	429308	508320
WG254006-01	1.00	01	342368	607071	730405
WG254006-02	1.00	01	377408	623479	725085
WG254006-03	1.00	01	367276	622980	739807

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

00072536

Login Number: L0710597
Instrument ID: HPMS8
Workgroup (AAB#): WG254048

CCV Number: WG254047-02
CAL ID: HPMS8-22-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG254047-02	NA	NA	283286	522699	670084
Upper Limit	NA	NA	566572	1045398	1340168
Lower Limit	NA	NA	141643	261350	335042
L0710597-11	500	DL02	251513	449418	574269
WG254048-01	1.00	01	263637	462695	584133
WG254048-02	1.00	01	270957	474037	583178
WG254048-03	1.00	01	266851	471037	590197
WG254048-04	1.00	01	235423	422502	538607
WG254048-05	1.00	01	247668	439871	551853
WG254048-06	1.00	01	255687	451961	562616

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

00072537

Login Number:L0710597
Instrument ID:HPMS11
Workgroup (AAB#):WG253678

CCV Number:WG253676-02
CAL ID: HPMS11-01-OCT-07
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253676-02	NA	NA	16.81	14.01	10.38
Upper Limit	NA	NA	17.31	14.51	10.88
Lower Limit	NA	NA	16.31	13.51	9.88
L0710597-09	1.00	01	16.812	14.01	10.381
L0710597-14	1.00	01	16.812	14.01	10.381
WG253678-01	1.00	01	16.812	14.01	10.381
WG253678-02	1.00	01	16.812	14.01	10.381
WG253678-03	1.00	01	16.812	14.01	10.381
WG253678-04	1.00	01	16.812	14.01	10.381

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

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Version 1.3 PDF File ID: 919910
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

00072538

Login Number:L0710597
Instrument ID:HPMS10
Workgroup (AAB#):WG253794

CCV Number:WG253793-02
CAL ID: HPMS10-18-OCT-07
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253793-02	NA	NA	17.74	14.73	10.85
Upper Limit	NA	NA	18.24	15.23	11.35
Lower Limit	NA	NA	17.24	14.23	10.35
L0710597-05	1.00	01	17.74	14.73	10.85
L0710597-06	1.00	01	17.74	14.73	10.85
L0710597-08	1.00	01	17.74	14.73	10.85
WG253794-01	1.00	01	17.74	14.73	10.85
WG253794-02	1.00	01	17.74	14.73	10.85
WG253794-03	1.00	01	17.74	14.73	10.85

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
Version 1.3 PDF File ID: 919910
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

00072539

Login Number: L0710597
Instrument ID: HPMS6
Workgroup (AAB#): WG253819

CCV Number: WG253818-02
CAL ID: HPMS6-24-OCT-07
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253818-02	NA	NA	19.06	15.5	11.01
Upper Limit	NA	NA	19.56	16	11.51
Lower Limit	NA	NA	18.56	15	10.51
L0710597-11	1.00	01	19.05	15.5	11.01
WG253819-01	1.00	01	19.05	15.5	11.02
WG253819-02	1.00	01	19.05	15.49	11.01
WG253819-03	1.00	01	19.05	15.49	11.02

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
Version 1.3 PDF File ID: 919910
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

00072540

Login Number:L0710597
Instrument ID:HPMS10
Workgroup (AAB#):WG253910

CCV Number:WG253909-02
CAL ID: HPMS10-18-OCT-07
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253909-02	NA	NA	17.74	14.73	10.85
Upper Limit	NA	NA	18.24	15.23	11.35
Lower Limit	NA	NA	17.24	14.23	10.35
L0710597-08	25.0	DL01	17.73	14.73	10.85
L0710597-10	1.00	01	17.74	14.72	10.86
L0710597-12	2.00	DL01	17.75	14.73	10.85
L0710597-13	1.00	01	17.75	14.73	10.85
WG253910-01	1.00	01	17.74	14.73	10.85
WG253910-02	1.00	01	17.74	14.73	10.85
WG253910-03	1.00	01	17.74	14.72	10.86

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
Version 1.3 PDF File ID: 919910
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KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

00072541

Login Number:L0710597
Instrument ID:HPMS6
Workgroup (AAB#):WG253919

CCV Number:WG253918-02
CAL ID: HPMS6-24-OCT-07
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG253918-02	NA	NA	19.05	15.5	11.02
Upper Limit	NA	NA	19.55	16	11.52
Lower Limit	NA	NA	18.55	15	10.52
L0710597-11	100	DL01	19.05	15.5	11.02
WG253919-01	1.00	01	19.05	15.49	11.02
WG253919-02	1.00	01	19.05	15.5	11.01
WG253919-03	1.00	01	19.05	15.5	11.01
WG253919-04	1.00	01	19.05	15.5	11.01

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
Version 1.3 PDF File ID: 919910
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

00072542

Login Number:L0710597
Instrument ID:HPMS10
Workgroup (AAB#):WG254006

CCV Number:WG254005-02
CAL ID: HPMS10-18-OCT-07
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG254005-02	NA	NA	17.74	14.73	10.85
Upper Limit	NA	NA	18.24	15.23	11.35
Lower Limit	NA	NA	17.24	14.23	10.35
L0710597-07	1.00	02	17.74	14.73	10.85
L0710597-09	5.00	DL01	17.74	14.73	10.85
WG254006-01	1.00	01	17.73	14.73	10.85
WG254006-02	1.00	01	17.74	14.73	10.85
WG254006-03	1.00	01	17.73	14.73	10.85

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
Version 1.3 PDF File ID: 919910
Report generated 11/01/2007 15:46

KEMRON ENVIRONMENTAL SERVICES
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

00072543

Login Number:L0710597
Instrument ID:HPMS8
Workgroup (AAB#):WG254048

CCV Number:WG254047-02
CAL ID: HPMS8-22-OCT-07
Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG254047-02	NA	NA	17.6	14.59	10.71
Upper Limit	NA	NA	18.1	15.09	11.21
Lower Limit	NA	NA	17.1	14.09	10.21
L0710597-11	500	DL02	17.6	14.58	10.71
WG254048-01	1.00	01	17.6	14.58	10.71
WG254048-02	1.00	01	17.6	14.58	10.71
WG254048-03	1.00	01	17.6	14.58	10.71
WG254048-04	1.00	01	17.6	14.58	10.71
WG254048-05	1.00	01	17.6	14.59	10.71
WG254048-06	1.00	01	17.6	14.59	10.71

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

KEMRON FORMS - Modified 02/20/2007
Version 1.3 PDF File ID: 919910
Report generated 11/01/2007 15:46

2.2 General Chemistry Data

2.2.1 Percent Solids Data

2.2.1.1 Raw Data

1.0 Calculating the percent solids of a sample.

$$\%Solids = \frac{WT3 - WT1}{WT2 - WT1} \times F$$

Where:	
WT1 = Weight, in grams, of the empty container	1.30 g
WT2 = Weight, in grams, of the container and wet sample	21.274 g
WT3 = Weight, in grams, of the container and dried sample	5.21 g
F = Factor to get units as percent weight	100
%Solids = Percent solids present in sample.	19.58%

2.0 Calculating the percent moisture of a sample.

% Moisture = 100 - % Solids from 1.0 calculation

253661

00072548

PERCENT SOLIDS

SOP K0003 Rev: 9

Balance: OHAUS EP2102/Other

Sample	Empty Pan WT 1	WET WT2	DRY WT 3A	WET WT 3B	DRY WT 3C
10-423-03	1.27	21.90	20.985		
04	1.27	20.83	19.99		
10-597-02	1.28	23.77	21.12		
03	1.25	26.31	23.42		
04	1.26	33.38	28.68		
10-487-01	1.23	17.77	~~16~~ 16.02		
02	1.25	21.47	19.03		
03	1.25	21.13	18.12		
04	1.26	23.16	19.71		
07	1.28	24.96	20.74		
08	1.27	15.50	13.59		
09	1.24	21.01	17.20		
10	1.23	18.13	15.39		
11	1.22	26.08	24.11		
12	1.24	19.90	18.16		
13	1.22	21.38	19.11		
14	1.26	24.13	19.48		
15	1.25	16.06	14.52		
16	1.25	15.46	14.16		
17	1.28	24.30	20.98		
Duplicate: 10-423-03	1.28	21.86	20.98		

Analyst: Justin Hesson

ADT (on): 10/23/07 @1720

ADT (off): dm 10/24/0958

ADT (off): _____

DCN#71531

Donna Hesson

Approved: October 26, 2007

KEMRON ENVIRONMENTAL SERVICES
PERCENT SOLID REPORT

00072549

Workgroup (AAB#): WG253661 Run Date: 10/23/2007
Method: D2216-90 Run Time: 17:20
Analyst: DIH

SAMPLE NUMBER	Pan WT.	Int WT.	Fnl WT.	% Solid	% Moist	UNITS
L0710423-03	1.270	21.90	20.95	95.40		%
L0710423-04	1.270	20.83	19.99	95.71		%
L0710487-01	1.230	17.77	16.02	89.42		%
L0710487-02	1.250	21.47	19.03	87.93		%
L0710487-03	1.250	21.13	18.12	84.86		%
L0710487-04	1.260	23.16	19.71	84.25		%
L0710487-07	1.280	24.96	20.74	82.18		%
L0710487-08	1.270	15.50	13.59	86.58		%
L0710487-09	1.240	21.01	17.20	80.73		%
L0710487-10	1.230	18.13	15.39	83.79		%
L0710487-11	1.220	26.08	24.11	92.08		%
L0710487-12	1.240	19.90	18.16	90.68		%
L0710487-13	1.220	21.38	19.11	88.74		%
L0710487-14	1.260	24.13	19.48	79.67		%
L0710487-15	1.250	16.06	14.52	89.60		%
L0710487-16	1.250	15.46	14.16	90.85		%
L0710487-17	1.280	24.30	20.98	85.58		%
L0710597-02	1.280	23.77	21.12	88.22		%
L0710597-03	1.250	26.31	23.42	88.47		%
L0710597-04	1.260	33.38	28.68	85.37		%
WG253661-01	1.270	21.90	20.95	95.40	4.605	%
WG253661-02	1.280	21.86	20.98	95.72	4.276	%

KEMRON FORMS - Modified 02/25/2007
Version 1.2
Report generated 10/24/2007 10:42

Approved: October 26, 2007

2.2.2 Perchlorate Data

2.2.2.1 Summary Data

LABORATORY REPORT

L0710597

11/02/07 15:18

00072552

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Biulding
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Account Number: 2773
Work ID: LHAAP

P.O. Number: 322255 OP

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHSMW01-102207	L0710597-01	314.0	1	23-OCT-07
04SB08 (0-0.5)	L0710597-02	314.0	2	23-OCT-07
04SB08 (4-5)	L0710597-03	314.0	10	23-OCT-07
04SB08 (9-10)	L0710597-04	314.0	50	23-OCT-07

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072553

Sample Number: **L0710597-01**
Client ID: **LHSMW01-102207**
Matrix: **Water**
Workgroup Number: **WG254202**
Collect Date: **10/22/2007 10:20**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **DSF**
Dilution: **1**
Units: **ug/L**

Instrument: **IC1**
Prep Date: **10/29/2007 13:18**
Cal Date: **10/23/2007 12:32**
Run Date: **10/29/2007 13:18**
File ID: **I11029071318.14**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	**14797-73-0**		**U**	**1.00**	**0.500**

U Not detected at or above adjusted sample detection limit

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072554

Sample Number: **L0710597-02**
Client ID: **04SB08 (0-0.5)**
Matrix: **Soil**
Workgroup Number: **WG254325**
Collect Date: **10/22/2007 11:00**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **DSF**
Dilution: **2**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **10/30/2007 08:00**
Cal Date: **10/31/2007 10:03**
Run Date: **10/31/2007 13:07**
File ID: **I11031071307.15**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	**14797-73-0**	**1680**		**20.0**	**10.0**

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072555

Sample Number: **L0710597-03**
Client ID: **04SB08 (4-5)**
Matrix: **Soil**
Workgroup Number: **WG254325**
Collect Date: **10/22/2007 11:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **DSF**
Dilution: **10**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **10/30/2007 08:00**
Cal Date: **10/31/2007 10:03**
Run Date: **10/31/2007 13:27**
File ID: **I11031071327.16**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	**14797-73-0**	**4750**		**100**	**50.0**

Report Number: **L0710597**
Report Date : **November 2, 2007**

00072556

Sample Number: **L0710597-04**
Client ID: **04SB08 (9-10)**
Matrix: **Soil**
Workgroup Number: **WG254325**
Collect Date: **10/22/2007 12:45**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **DSF**
Dilution: **50**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **10/30/2007 08:00**
Cal Date: **10/31/2007 10:03**
Run Date: **10/31/2007 14:55**
File ID: **I11031071455.19**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	**14797-73-0**	**25600**		**500**	**250**

2.2.2.2 QC Summary Data

The concentrations (ppm) of the calibration standards and the resulting area counts are used to determine the equation of a linear or quadratic plot.
The slope and y-intercept of that line are used to calculate the quantity of the analyzed unkown samples.
Amount(ppm) = [(slope)(area count of unknown) + y-intercept](dilution)
(The slope is the amt/area also identified as the CF or calibration factor)

KEMRON ENVIRONMENTAL SERVICES

Semivolatile Sample Extract Log Sheet

Parameter: 314 Matrix: 7
SOP# IC02 Rev. # 4
Analyst: DSF Date/Time Extracted: 10/30/07 08:00
Spike/Surrogate analyst: DSF Witness: JWR
Surrogate #:
Spike # A: STD 20008 Spike # B:
Ext Solvent: Lot#:
Ext Solvent: Lot#:
Ext Disk: Lot#:

Extraction Work Group: WG254325
Analytical Work Group: WG254325
Run I.D.: 1302715

Reagent: Lot #
Reagent: Lot #
Other: Lot#:

Color Code
T = Transparent
C = Colored
O = Opaque

	Sample ID	Test Code	pH	Initial Wt / Vol	Amount Surrogate	Amount Spike	Final Volume	Extract Color	Comments
1	L0710597-02			20.01			200ml		
2	-03			20.00					
3	-04			20.01					
4	Blank			20.00					
5	LCS			20.00					
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

DSF 10/30/07

Reviewed by: [illegible] 11/1/07

KEMRON Environmental Services

Instrument Run Log

00072560

Instrument: IC1 Dataset: 102907 CLO4 IC1.SEQ
Analyst1: DSF Analyst2: NA
Method: CLO4 SOP: IC2 Rev: 4

Maintenance Log ID: 21488

Column 1 ID: AS16-4MM Column 2 ID: NA

Workgroups: WG254202

Internal STD: NA Surrogate STD: NA Calibration STD STD20008

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I11029070853.01	CLO4 @ 100 ppb	1	1		10/29/07 08:53
2	I11029070913.02	CLO4 @ 50 ppb	1	1		10/29/07 09:13
3	I11029070934.03	CLO4 @ 25 ppb	1	1		10/29/07 09:34
4	I11029070954.04	CLO4 @ 10 ppb	1	1		10/29/07 09:54
5	I11029071015.05	CLO4 @ 4 ppb	1	1		10/29/07 10:15
6	I11029071035.06	CLO4 @ 1 ppb	1	1		10/29/07 10:35
7	I11029071055.07	CLO4 ALT @ 25 ppb	1	1		10/29/07 10:55
8	I11029071116.08	ELUENT	1	1		10/29/07 11:16
9	I11029071136.09	MCT \#4 (@25 ppb)	1	1		10/29/07 11:36
10	I11029071157.10	MCT \#5 (@25 ppb)	1	1		10/29/07 11:57
11	I11029071217.11	CCV (1 ppb) CLO4	1	1		10/29/07 12:17
12	I11029071237.12	WG254202-01 BLANK	1	1		10/29/07 12:37
13	I11029071258.13	WG254202-02 LCS (25 ppb)	1	1		10/29/07 12:58
14	I11029071318.14	L0710597-01 1/10	1	10		10/29/07 13:18
15	I11029071339.15	L0710596-03 1/2 RS	1	2		10/29/07 13:39
16	I11029071359.16	L0710596-04 1/2 DS	1	2		10/29/07 13:59
17	I11029071419.17	L0710596-06	1	1		10/29/07 14:19
18	I11029071440.18	L0710596-13	1	1		10/29/07 14:40
19	I11029071500.19	L0710643-01 1/3	1	3		10/29/07 15:00
20	I11029071521.20	L0710643-02 1/3 REF	1	3		10/29/07 15:21
21	I11029071541.21	WG254202-04 DUP 643-02 1/3	1	3		10/29/07 15:41
22	I11029071602.22	CCV (25 ppb) CLO4	1	1		10/29/07 16:02
23	I11029071622.23	WG254202-05 MS 1/3 643-02	1	3		10/29/07 16:22
24	I11029071642.24	WG254202-06 MSD 1/3 643-02	1	3		10/29/07 16:42
25	I11029071703.25	L0710596-06 RR 1/15	1	15		10/29/07 17:03
26	I11029071723.26	CCV (100 ppb) CLO4	1	1		10/29/07 17:23

Comments

Seq.	Rerun	Dil.	Reason	Analytes
14		10		
	Sample analyzed at a dilution only due to high conductivity reading.			
15		2		
	Sample analyzed at a dilution only due to high conductivity reading.			
16		2		
	Sample analyzed at a dilution only due to high conductivity reading.			

Page: 1 Approved: 30-OCT-07

KEMRON Environmental Services

Instrument Run Log

00072561

Instrument: IC1 Dataset: 102907 CLO4 IC1.SEQ

Analyst1: DSF Analyst2: NA

Method: CLO4 SOP: IC2 Rev: 4

Maintenance Log ID: 21488

Column 1 ID: AS16-4MM Column 2 ID: NA

Workgroups: WG254202

Internal STD: NA Surrogate STD: NA STD20008

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17	X	15	Over Calibration Range	Perchlorate
19		3		
	Sample analyzed at a dilution only due to high conductivity reading.			
20		3		
	Sample analyzed at a dilution only due to high conductivity reading.			

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KEMRON Environmental Services

Instrument Run Log

00072562

Instrument: IC1 Dataset: 103107 CLO4 IC1.SEQ

Analyst1: DSF Analyst2: NA

Method: CLO4 SOP: IC2 Rev: 4

Maintenance Log ID: 21510

Column 1 ID: AS16-4MM Column 2 ID: NA

Workgroups: WG254325

Internal STD: NA Surrogate STD: NA Calibration STD STD20008

Comments: L0710597 samples were soil extractions.
LCS/LCS DUP was used instead of MS/MSD due to difficulty in filtering enough volume for the MS/MSD.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I11031070821.01	CLO4 @ 100 ppb	1	1		10/31/07 08:21
2	I11031070841.02	CLO4 @ 50 ppb	1	1		10/31/07 08:41
3	I11031070902.03	CLO4 @ 25 ppb	1	1		10/31/07 09:02
4	I11031070922.04	CLO4 @ 10 ppb	1	1		10/31/07 09:22
5	I11031070942.05	CLO4 @ 4 ppb	1	1		10/31/07 09:42
6	I11031071003.06	CLO4 @ 1 ppb	1	1		10/31/07 10:03
7	I11031071023.07	CLO4 ALT @ 25 ppb	1	1		10/31/07 10:23
8	I11031071044.08	ELUENT	1	1		10/31/07 10:44
9	I11031071104.09	MCT \#1 (@25 ppb)	1	1		10/31/07 11:04
10	I11031071125.10	MCT \#2 (@25 ppb)	1	1		10/31/07 11:25
11	I11031071145.11	CCV (1 ppb) CLO4	1	1		10/31/07 11:45
12	I11031071205.12	WG254325-01 BLANK	7	1		10/31/07 12:05
13	I11031071226.13	WG254325-02 LCS (25 ppb)	7	1		10/31/07 12:26
14	I11031071246.14	WG254325-03 LCS DUP	7	1		10/31/07 12:46
15	I11031071307.15	L0710597-02 1/2	7	2		10/31/07 13:07
16	I11031071327.16	L0710597-03 1/10 REF	7	10		10/31/07 13:27
17	I11031071347.17	WG254325-05 DUP 597-03 1/10	7	10		10/31/07 13:47
18	I11031071408.18	L0710597-04 1/25 (NR)	7	25		10/31/07 14:08
19	I11031071455.19	L0710597-04 1/50	7	50		10/31/07 14:55
20	I11031071515.20	CCV (25 ppb) CLO4	1	1		10/31/07 15:15

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved: 01-NOV-07

KEMRON Environmental Services
Data Checklist

00072563

Date: 29-OCT-2007
Analyst: DSF
Analyst: NA
Method: CLO4
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 19015
Analytical Workgroups: L0710597-01, L0710596, L0710643

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	DSF
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
30-OCT-2007
Debra S. Frederick

Secondary Reviewer:
30-OCT-2007
Michael Cochran

Generated: OCT-30-2007 12:31:54

KEMRON Environmental Services
Data Checklist

00072564

Date: 31-OCT-2007
Analyst: DSF
Analyst: NA
Method: CLO4
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 19045
Analytical Workgroups: L0710597

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	DSF
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer: 31-OCT-2007 — Debra S. Frederick

Secondary Reviewer: 01-NOV-2007 — Michael Cochran

Generated: NOV-01-2007 09:08:29

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 314.0
Login Number: L0710597

AAB#: WG254325 00072565

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
04SB08 (9-10)	10/22/07	10/23/07	10/31/07	28	9.09	10/31/07	28	9.09	
04SB08 (4-5)	10/22/07	10/23/07	10/31/07	28	9.08	10/31/07	28	9.08	
04SB08 (0-0.5)	10/22/07	10/23/07	10/31/07	28	9.09	10/31/07	28	9.09	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

KEMRON FORMS - Modified 11/20/2006
Version 1.5 PDF File ID: 920899
Report generated 11/01/2007 09:22

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 314.0
Login Number: L0710597

AAB#: WG254207 00072566

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
LHSMW01-102207	10/22/07	10/23/07	10/29/07	28	7.12	10/29/07	28	7.12	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

KEMRON FORMS - Modified 11/20/2006
Version 1.5 PDF File ID: 920899
Report generated 11/01/2007 09:22

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072567

Login Number: L0710597
Blank File ID: I11029071237.12
Prep Date: 10/29/07 12:37
Analyzed Date: 10/29/07 12:37
Analyst: DSF

Work Group: WG254202
Blank Sample ID: WG254202-01
Instrument ID: IC1
Method: 314.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG254202-02	I11029071258.13	10/29/07 12:58	01
LHSMW01-102207	L0710597-01	I11029071318.14	10/29/07 13:18	DL01
DUP	WG254202-04	I11029071541.21	10/29/07 15:41	DL01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 920900
Report generated 11/01/2007 09:22

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072568

Login Number: L0710597
Blank File ID: I11031071205.12
Prep Date: 10/31/07 12:05
Analyzed Date: 10/31/07 12:05
Analyst: DSF

Work Group: WG254325
Blank Sample ID: WG254325-01
Instrument ID: IC1
Method: 314.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG254325-02	I11031071226.13	10/31/07 12:26	01
LCS2	WG254325-03	I11031071246.14	10/31/07 12:46	01
04SB08 (0-0.5)	L0710597-02	I11031071307.15	10/31/07 13:07	DL01
04SB08 (4-5)	L0710597-03	I11031071327.16	10/31/07 13:27	DL01
DUP	WG254325-05	I11031071347.17	10/31/07 13:47	DL01
04SB08 (9-10)	L0710597-04	I11031071455.19	10/31/07 14:55	DL01

KEMRON FORMS - Modified 01/31/2007
Version 1.5 PDF File ID: 920900
Report generated 11/01/2007 09:22

KEMRON Environmental Services

METHOD BLANK REPORT

00072569

Login Number: L0710597 Prep Date: 10/29/07 12:37 Sample ID: WG254202-01
Instrument ID: IC1 Run Date: 10/29/07 12:37 Prep Method: 314.0
File ID: I11029071237.12 Analyst: DSF Method: 314.0
Workgroup (AAB#): WG254202 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: IC1-23-OCT-07

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.500	1.00	0.500	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

KEMRON FORMS - Modified 12/07/2006
Version 1.5 PDF File ID: 920901
Report generated 11/01/2007 09:22

KEMRON Environmental Services

METHOD BLANK REPORT

00072570

Login Number: L0710597 Prep Date: 10/31/07 12:05 Sample ID: WG254325-01
Instrument ID: IC1 Run Date: 10/31/07 12:05 Prep Method: 314.0
File ID: I11031071205.12 Analyst: DSF Method: 314.0
Workgroup (AAB#): WG254325 Matrix: Soil Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: IC1 -

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	5.00	10.0	5.00	1	U

SDL Method Detection Limit
PQL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* Analyte concentration > RL

KEMRON FORMS - Modified 12/07/2006
Version 1.5 PDF File ID: 920901
Report generated 11/01/2007 09:22

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072571

Login Number: L0710597 Run Date: 10/29/2007 Sample ID: WG254202-02
Instrument ID: IC1 Run Time: 12:58 Prep Method: 314.0
File ID: I11029071258.13 Analyst: DSF Method: 314.0
Workgroup (AAB#): WG254202 Matrix: Water Units: ug/L
QC Key: STD Lot#: STD20008 Cal ID: IC1-23-OCT-07

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	25.0	23.9	95.6	85 - 115	

KEMRON FORMS - Modified 09/06/2007
Version 1.5 PDF File ID: 920902
Report generated 11/01/2007 09:23

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

Login Number: L0710597 Analyst: DSF Prep Method: 314.0
Instrument ID: IC1 Matrix: Soil Method: 314.0 00072572
Workgroup (AAB#): WG254325 Units: ug/kg
QC Key: STD Lot #: STD20008

Sample ID: WG254325-02 LCS File ID: I11031071226.13 Run Date: 10/31/2007 12:26
Sample ID: WG254325-03 LCS2 File ID: I11031071246.14 Run Date: 10/31/2007 12:46

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	250	251	101	250	257	103	2.33	85 - 115	25	

KEMRON FORMS - Modified 02/08/2007
Version 1.5 PDF File ID: 922171
Report generated 11/01/2007 09:23

KEMRON Environmental Services

DUPLICATE (DUP)

00072573

Sample Ref: L0710597-03 Cal ID: IC1-
Instrument ID: IC1
Sample ID: WG254325-04 File ID: I11031071327.16 Dil: 10
Duplicate ID: WG254325-05 File ID: I11031071347.17 Dil: 10

Worknum: WG254325
Method: 314
Matrix: SOLID
Units: ug/kg

Analyte	Sample	Duplicate	RPD	RPD Limit	Q
Perchlorate	4750	4690	1.22	25	

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 922172
Report generated 11/01/2007 09:22

Kemron
ENVIRONMENTAL SERVICES

00072574

Conductivity Probe
Calibration Check:
1412/1410 µs/cm

Perchlorate
Conductivity Check

Working MCT Level:
967 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
L0710597-01	6070, 728	1/10 Dil. for Conductivity
L0710596-03	1261, 662	1/2 " "
" -04	1265, 662	1/2 " "
" -06	336	
" -13	6.0	
L0710643-01	2190, 766	1/3 Dil. for Conductivity
" -02	2160, 765	1/3 " "

ASF
Analyst

10/29/07 1030
Date/Time

DCN#71622

KEMRON ENVIRONMENTAL SERVICES

00072575

Conductivity Probe Calibration Check: 1412/1410 µs/cm

Perchlorate Conductivity Check

Working MCT Level: 147.4 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
L0710597-02	12.5	
-03	45.8	
-04	15.0	

DSF
Analyst

10/30/07 08:30
Date/Time

DCN#71641

3.0 Attachments

AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BROWN
AML - ANTHONY M. LONG
ARA - ADRIAN R. ACHTERMANN
ASP - AARON S. PETRIE
BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEPHENS
CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL
DD - DIANE M. DENNIS
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS
DRP - DAVE R. PITZER
DSF - DEBRA S. FREDERICK
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
ED - EMILY E. DECKER
ERE - ERIN R. ELDER
FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR
HJR - HOLLY J. REED
JAB - JUANITA A. BECKER
JAL - JOHN A. LENT
JBK - JEREMY B. KINNEY
JCO - JOE C. OWENS
JDH - JUSTIN D. HESSON
JKP - JACQUELINE K. PARSONS
JKT - JANE K. THOMPSON
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KCZ - KEVIN C. ZUMBRO
KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES
KJW - KATIE J. WIEFERICH
KRA - KATHY R. ALBERTSON
KRV - KATHRINE R. VICKERS
LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
PJM - PAUL J. MILLER
RAH - ROY A. HALSTEAD
RB - ROBERT BUCHANAN
REK - ROBERT E. KYER
RLF - RACHEL L. FRYE
RLK - ROBIN L. KLINGER
RNP - RICK N. PETTY
RWC - RODNEY W. CAMPBELL
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SMH - SHAUNA M. HYDE
TDH - TRICIA D. HUCK
TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
WFM - WALTER F. MARTIN

KEMRON Environmental Services

List of Valid Qualifiers

November 02, 2007

Qualkey: STD

00072578

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
FL	Free Liquid
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
ND,L	Not detected; sample reporting limit (RL) elevated due to interference
ND,S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Chain of Custody

00072579 10304

Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Laboratory Name: Kemron
Address: 154 Starlite Drive Marrietta, Ohio
Contact: Stephanie Massburg

Project Name: LHAAP
Project Location: Karnack, Texas
Project No.: 117591.0009A130
Project Contact: Allen Willmore
Project Telephone No.: (713) 247-9292
Point of Contact: Larry Duty
Telephone No.: 713 996-4547
Project Manager/Supervisor: Praveen Srivastava

Analysis and Method Desired (Indicate separate containers): VOCs 8260

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	VOCs 8260						Remarks
1	47WW18-101807	10/18/07	08:45		✓	W	47WW18	3	X						
2	47WW18-101807	10/18/07	08:45		✓	W	4WW18-Field Dup	3	X						Field Dup.
3	47WW32-101807	10/18/07	11:45		✓	W	47WW32	3	X						
4	47WW30-101807	10/18/07	10:32		✓	W	47WW30	3	X						
5	47WW36-101907	10/19/07	09:55		✓	W	LHSMW36	3	X						
6	47WW31-101807	10/18/07	11:50		✓	W	47WW31	3	X						
7	47WW25-101607	10/18/07	09:00		✓	W	47WW25	3	X						
8	LHSMW34-101807	10/18/07	16:45		✓	W	LHSMW34	3	X						
9	EQUIPMENT RINSE#1	10/18/07	17:00		✓	W	ER #1	3	X						From Probe
10															

Transfers Relinquished By (signature)	Date/Time	Transfers Accepted By (signature)	Date/Time
Chris Mabe	10/19/07 13:00	[illegible]	10/19/07 13:00
[illegible]	10/22/07 17:30		
		Laboratory [illegible]	10/23/07 0950

Special Instructions: *7-day TAT

FedEx Airbill No.:

Sampler's Signature: Chris Mabe

TAT: _____ Standard _____ Rush Date _____ Seals Intact? ✓ Y _____ N Received Good Condition ✓ Y _____ N _____ Cold

White - Lab Copy Canary - Field Copy Pink - File Copy

Form Number: 433_1
Rev. 03-19-07

Chain of Custody

NO. 00072580 10301

Shaw® Shaw Environmental & Infrastructure, Inc.
3010 Briarpark Drive, Suite 400
Houston, TX 77042
(713) 996-4400

Laboratory Name: Kemron
Address: 154 Starlite Drive Marietta, Ohio
Contact: Stephanie Mossburg

Project Name: LHAAP
Project Location: Karnack, Texas
Project No.: 117591.0009A100
Project Contact: Allen Willmore
Project Telephone No.: (713) 247-9292
Point of Contact: Larry Doty
Telephone No.: (713) 996-4547
Project Manager/Supervisor: Praveen Srivastav

Analysis and Method Desired (Indicate separate containers): Perchlorate

Item No.	~~Telephone~~ SAMPLE Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	Perchlorate	Remarks
1	LHSMW01-102207	10/22/07	10:20		✓	W	LHSMW01	1	X	
2	045B08 (0-0.5)	10/22/07	11:00		✓	S	045B08 (0-0.5)	1	X	
3	045B08 (~~3-4~~ 4-5)	10/22/07	11:25		✓	S	045B08 (3-4)	1	X	SAMPLE COLLECTED 4 to 5' Please have label Perfect.
4	045B08 (9-10)	10/22/07	12:45		✓	S	045B08 (9-10)	1	X	
5										
6										
7										
8										
9										
10										

Transfers Relinquished By (signature)	Date/Time	Transfers Accepted By (signature)	Date/Time
[signature]	10/22/07 17:30		
		Laboratory [signature]	10/23/07 0950

Special Instructions: * 7-day TAT

FedEx Airbill No.:

Sampler's Signature: [signature]

TAT: ____ Standard ____ Rush Date ____ Seals Intact? ✓ Y ____ N Received Good Condition ✓ Y ____ N ____ Cold

White - Lab Copy Canary - Field Copy Pink - File Copy

Form Number: 433_1
Rev. 03-19-07

KEMRON Environmental Services

SAMPLE RECEIPT FORM

156 Starlite Drive
Marietta, OH 45750
(740) 373-4071

00072581

Client:	Shaw - LHAAP
Workorder Number: B	—
Date Received:	10-23-07
Delivered by:	( ) Fedx (✓) UPS ( ) Client ( ) Courier Time: 0950
Opened by:	RLK
IR Temp Gun:	(✓) D ( ) G
Logged by:	T.L. L 10-597

Cooler Information

Cooler ID	Temp C	Airbill#	COC#	Other
1822	4	12401 663222 1005 5867	10305, 10301	Soil, water
			10304	

Inspection Checklist	Y	N	NA	Discrepancy ID
Were shipping coolers sealed?	✓			
Were custody seals intact?	✓			
Were cooler temperatures in range of 0 - 6?	✓			
Was ice present?	✓			
Were COC's received/ information complete/signed and dated? (RK)	✓	✓		(1)
Were sample containers and labels intact and match COC?		✓		
Were the correct containers and volumes received?	✓			
Were correct preservatives used? (water only)	✓			
Were pH ranges acceptable? (voa's excluded)			✓	
Were VOA samples free of headspace?	✓	✓		(2)
Were samples received within EPA hold times?	✓			

Discrepancy/Comments/Other Problems

(1) On chain 10304: (A) Did not Rec. 3 bottles Labeled 47 WW18 - 101807 (Field Dup)
(B) Did Rec. 3 bottles Labeled "Dup 3" but no time on bottle
(C) Did not Rec. 3 bottles Labeled 47 WW36 - 101907
(D) Did Rec. 3 bottles Labeled LHS MW36 - 101907 / same time
(E) Rec. 3 bottles Labeled Labeled "Equipment Blank"; Chain says "Equipment Rinse #1"
(2) (RK) (*) Both trip Blanks have Bubbles the size of a pea.
(F) Equipment Rinse #2 - Rec'd Metals Bottle, Shaun says TSS/TDS

Distribution

Name of KEMRON representative	
Client/Company:	
Person Contacted:	
Date contacted:	

Resolution/other comments:

KEMRON Environmental Services
Internal Chain of Custody Report
Login: L0710597
Account: 2773
Project: 2773.025
Samples: 14
Due Date: 30-OCT-2007

00072582

Samplenum	Container ID	Products
L0710597-01	387535	CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	23-OCT-2007 12:10	AML	
2	ANALYZ	W1	SEM	29-OCT-2007 07:30	DSF	ERE
3	STORE	SEM	A1	01-NOV-2007 12:25	JKT	DSF

Samplenum	Container ID	Products
L0710597-07	387541	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Samplenum	Container ID	Products
L0710597-09	387543	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

KEMRON Environmental Services
Internal Chain of Custody Report
Login: L0710597
Account: 2773
Project: 2773.025
Samples: 14
Due Date: 30-OCT-2007

00072583

Samplenum	Container ID	Products
L0710597-12	387546	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		23-OCT-2007 12:11	AML	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Samplenum	Container ID	Products
L0710597-10	387544	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Samplenum	Container ID	Products
L0710597-03	387537	CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	23-OCT-2007 12:10	AML	
2	ANALYZ	W1	WET	23-OCT-2007 14:00	DIH	ERE
3	STORE	WET	W1	24-OCT-2007 07:31	ERE	DIH
4	ANALYZ	W1	SEM	29-OCT-2007 12:46	DSF	ERE
5	STORE	SEM	A1	01-NOV-2007 12:25	JKT	DSF

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

KEMRON Environmental Services
Internal Chain of Custody Report

Login: L0710597
Account: 2773
Project: 2773.025
Samples: 14
Due Date: 30-OCT-2007

00072584

Samplenum	Container ID	Products
L0710597-06	387540	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Samplenum	Container ID	Products
L0710597-02	387536	CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	23-OCT-2007 12:10	AML	
2	ANALYZ	W1	WET	23-OCT-2007 14:00	DIH	ERE
3	STORE	WET	W1	24-OCT-2007 07:31	ERE	DIH
4	ANALYZ	W1	SEM	29-OCT-2007 12:46	DSF	ERE
5	STORE	SEM	A1	01-NOV-2007 12:25	JKT	DSF

Samplenum	Container ID	Products
L0710597-04	387538	CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	W1	23-OCT-2007 12:10	AML	
2	ANALYZ	W1	WET	23-OCT-2007 14:00	DIH	ERE
3	STORE	WET	W1	24-OCT-2007 07:31	ERE	DIH
4	ANALYZ	W1	SEM	29-OCT-2007 12:46	DSF	ERE
5	STORE	SEM	A1	01-NOV-2007 12:25	JKT	DSF

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

KEMRON Environmental Services
Internal Chain of Custody Report

Login: L0710597
Account: 2773
Project: 2773.025
Samples: 14
Due Date: 30-OCT-2007

00072585

Samplenum	Container ID	Products
L0710597-11	387545	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Samplenum	Container ID	Products
L0710597-05	387539	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Samplenum	Container ID	Products
L0710597-14	387548	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

KEMRON Environmental Services
Internal Chain of Custody Report

Login: L0710597
Account: 2773
Project: 2773.025
Samples: 14
Due Date: 30-OCT-2007

00072586

Samplenum	Container ID	Products
L0710597-08	387542	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER		23-OCT-2007 12:10	AML	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:10	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Samplenum	Container ID	Products
L0710597-13	387547	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	V1	23-OCT-2007 12:11	AML	
2	ANALYZ	V1	ORG4	23-OCT-2007 13:58	MRT	RLK

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

158 Starlite Drive, Marietta, OH 45750 • T:740-373-4071 • F:740-373-4835 • http://www.microbac.com

Laboratory Report Number: L08080739

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories.

Review and compilation of your report was completed by Microbac's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box bleow at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Kathy Albertson	*Team Chemist/Data Specialist*	kalbertson@microbac.com
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Jacqueline Parsons	*Team Assistant*	jparsons@microbac.com

This report was reviewed on September 04, 2008.

Stephanie Mossburg

Stephanie Mossburg - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories.

This report was certified on September 04, 2008.

David E. Vandenberg

David Vandenberg - Managing Director

State of origin: Texas
Accrediting authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: Microbac (OVD) LQAP
This report contains a total of 35 pages.

Look closer. Go further. Do more.

1.0 Introduction 4
2.1 General Chemistry Data 10
2.1.1 Perchlorate Data 11
2.1.1.1 Summary Data 12
2.1.1.2 QC Summary Data 15
3.0 Attachments 29

1.0 Introduction

Laboratory Data Package Cover Page

00072590

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

✓R5 Test reports/summary forms for blank samples;

✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

✓R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

✓The exception Report for every "No" or "Not Reviewed (NR)" item IN laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

MICHAEL D. COCHRAN		Semivolatiles Lab Supervisor	September 4, 2008
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

Microbac Laboratories Inc.
Laboratory Review Checklist

00072591

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L08080739
Project Name:	798-LONGHORN
Method:	314
Prep Batch Number(s):	WG281500
Reviewer Name:	MICHAEL D. COCHRAN
LRC Date:	September 03, 2008

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?			✓		
Were % moisture (or solids) reported for all soil and sediment samples?			✓		
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				1
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

00072592

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00072593

Microbac Laboratories Inc.
Laboratory Review Checklist

00072594

Laboratory Name:	Microbac Laboratories Inc.
Laboratory Log Number:	L08080739
Project Name:	798-LONGHORN
Method:	314
Prep Batch Number(s):	WG281500
Reviewer Name:	MICHAEL D. COCHRAN
LRC Date:	September 03, 2008

EXCEPTIONS REPORT
ER# - Description
1. Sample 0739-01 was analyzed at a dilution in order to reduce its matrix conductivity below that of the working MCT.

(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

2.1 General Chemistry Data

2.1.1 Perchlorate Data

2.1.1.1 Summary Data

LABORATORY REPORT

L08080739

09/04/08 12:10

00072598

Submitted By

Microbac Laboratories Inc.
158 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Biulding
3010 Briarpark Drive Suite 4N
Houston, TX 77042
Attention: Larry Duty

Project Number: 2773.025
Project: Longhorn AAP
Site: WEEKLY SAMPLES

P.O. Number: 389869/ 390836(GWTP)

Sample Analysis Summary

Client ID	Lab ID	Method	Dilution	Date Received
LHS1MW02-082808	L08080739-01	314.0	5	29-AUG-08

Microbac Laboratories Inc.

Report Number: **L08080739**

Report Date : **September 4, 2008**

00072599

Sample Number: **L08080739-01**
Client ID: **LHS1MW02-082808**
Matrix: **Water**
Workgroup Number: **WG281500**
Collect Date: **08/28/2008 09:20**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **5**
Units: **ug/L**

Instrument: **IC1**
Prep Date: **09/03/2008 15:31**
Cal Date: **09/03/2008 13:29**
Run Date: **09/03/2008 17:13**
File ID: **I10903081713.17**

Analyte	CAS. Number	Result	Qual	PQL	SDL
Perchlorate	**14797-73-0**	**6.56**		**5.00**	**2.50**

Microbac®

2.1.1.2 QC Summary Data

The concentrations (ppm) of the calibration standards and the resulting area counts are used to determine the equation of a linear or quadratic plot.
The slope and y-intercept of that line are used to calculate the quantity of the analyzed unkown samples.
Amount(ppm) = [(slope)(area count of unknown) + y-intercept](dilution)
(The slope is the amt/area also identified as the CF or calibration factor)

WG281509 00072602

Conductivity Probe Calibration Check: 1418 /1410 µs/cm

Perchlorate Conductivity Check

Working MCT Level: 1359 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
L08080661-01	(-) 2210, (1/2) 1123	Diluted due conductance
02	(-) 2220, (1/2) 1125	greater than that of the
L08080739-01	(-) 5520, (1/5) 1254	working MCT

John Richards
Analyst

09/03/08/1235
Date/Time

DCN#76641

Microbac Laboratories Inc.

Instrument Run Log

00072603

Instrument: IC1 Dataset: 082808 9056 CURVE IC1.S

Analyst1: ADC Analyst2: NA

Method: 9056/300 SOP: IC1 Rev: 8

Maintenance Log ID:

Column 1 ID: AS14A-4MM Column 2 ID: NA

Workgroups:

Internal STD: NA Surrogate STD: NA Calibration STD STD27111

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I10828081449.01	WG281240-01 STD \#1	1	1		08/28/08 14:49
2	I10828081507.02	WG281240-02 STD \#2	1	1		08/28/08 15:07
3	I10828081524.03	WG281240-03 STD \#3	1	1		08/28/08 15:24
4	I10828081541.04	WG281240-04 STD \#4	1	1		08/28/08 15:41
5	I10828081559.05	WG281240-05 STD \#5	1	1		08/28/08 15:59
6	I10828081616.06	WG281240-06 STD \#6	1	1		08/28/08 16:16
7	I10828081634.07	WG281240-07 ALT STD	1	1		08/28/08 16:34
8	I10828081651.08	ELUENT	1	1		08/28/08 16:51
9	I10828081708.09	DI WATER	1	1		08/28/08 17:08
10	I10828081726.10	END	1	1		08/28/08 17:26

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved: 02-SEP-08

Microbac Laboratories Inc.

Instrument Run Log

00072604

Instrument: IC1 Dataset: 090308 CLO4 IC1.SEQ
Analyst1: JWR Analyst2: NA
Method: CLO4 SOP: IC2 Rev: 5

Maintenance Log ID: 25662

Column 1 ID: AS16-4MM Column 2 ID: NA

Workgroups: WG281500

Internal STD: NA Surrogate STD: NA Calibration STD STD28396

Comments: All samples were analyzed at dilutions in order to reduce their matrix conductivities below that of the working MCT.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I10903081147.01	CLO4 @ 100 ppb	1	1		09/03/08 11:47
2	I10903081207.02	CLO4 @ 50 ppb	1	1		09/03/08 12:07
3	I10903081227.03	CLO4 @ 25 ppb	1	1		09/03/08 12:27
4	I10903081248.04	CLO4 @ 10 ppb	1	1		09/03/08 12:48
5	I10903081308.05	CLO4 @ 4 ppb	1	1		09/03/08 13:08
6	I10903081329.06	CLO4 @ 1 ppb	1	1		09/03/08 13:29
7	I10903081349.07	CLO4 ALT (25 ppb)	1	1		09/03/08 13:49
8	I10903081409.08	MCT \#7 (@25 ppb)	1	1		09/03/08 14:09
9	I10903081430.09	MCT \#8 (@25 ppb)	1	1		09/03/08 14:30
10	I10903081450.10	ELUENT	1	1		09/03/08 14:50
11	I10903081511.11	DI WATER	1	1		09/03/08 15:11
12	I10903081531.12	CCV (1 ppb) CLO4	1	1		09/03/08 15:31
13	I10903081551.13	WG281500-01 BLANK	1	1		09/03/08 15:51
14	I10903081612.14	WG281500-02 LCS (25 ppb)	1	1		09/03/08 16:12
15	I10903081632.15	L08080661-01 (1/2)	1	2		09/03/08 16:32
16	I10903081653.16	L08080661-02 (1/2)	1	2		09/03/08 16:53
17	I10903081713.17	L08080739-01 (1/5) REF	1	5		09/03/08 17:13
18	I10903081733.18	WG281500-04 DUP 0739-01 (1/5)	1	5		09/03/08 17:33
19	I10903081754.19	WG281500-05 MS 0739-01 (1/5)	1	5		09/03/08 17:54
20	I10903081814.20	WG281500-06 MSD 0739-01 (1/5)	1	5		09/03/08 18:14
21	I10903081835.21	DI WATER	1	1		09/03/08 18:35
22	I10903081855.22	CCV (25 ppb) CLO4	1	1		09/03/08 18:55

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1 Approved: 04-SEP-08

Microbac Laboratories Inc.

Data Checklist

00072605

Date: 28-AUG-2008
Analyst: ADC
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: WG281240
Runlog ID: 24025
Analytical Workgroups: WG281240

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	
Recoveries	
Surrogate recoveries	NA
MS/MSD/Sample duplicates	
Recoveries	
%RPD	
Samples	
TCL hits	
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	
Reruns	
Manual integrations	
Project/client specific requirements	
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	ADC
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
02-SEP-2008

Secondary Reviewer:
02-SEP-2008

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-02-2008 11:55:43

Microbac Laboratories Inc.

Data Checklist

00072606

Date: 03-SEP-2008
Analyst: JWR
Analyst: NA
Method: CLO4
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 24069
Analytical Workgroups: 08-0661, 0739

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
04-SEP-2008
John Richards

Secondary Reviewer:
04-SEP-2008
Michael Cochran

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-04-2008 11:11:46

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Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 314.0

Login Number: L08080739

AAB#: WG281500 00072607

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
LHS1MW02-082808	08/28/08	08/29/08	09/03/08	28	6.26	09/03/08	28	0.0708	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 1190010
Report generated 09/04/2008 11:45

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

00072608

Login Number: L08080739
Blank File ID: I10903081551.13
Prep Date: 09/03/08 15:31
Analyzed Date: 09/03/08 15:51
Analyst: JWR

Work Group: WG281500
Blank Sample ID: WG281500-01
Instrument ID: IC1
Method: 314.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG281500-02	I10903081612.14	09/03/08 16:12	01
LHS1MW02-082808	L08080739-01	I10903081713.17	09/03/08 17:13	DL01
DUP	WG281500-04	I10903081733.18	09/03/08 17:33	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 1190011
Report generated 09/04/2008 11:45

Microbac Laboratories Inc.

METHOD BLANK REPORT

00072609

Login Number: L08080739 Prep Date: 09/03/08 15:31 Sample ID: WG281500-01

Instrument ID: IC1 Run Date: 09/03/08 15:51 Prep Method: 314.0

File ID: I10903081551.13 Analyst: JWR Method: 314.0

Workgroup (AAB#): WG281500 Matrix: Water Units: ug/L

Contract #: DACA56-94-D-0020 Cal ID: IC1-28-AUG-08

Analytes	SDL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.500	1.00	0.500	1	U

SDL Method Detection Limit

PQL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 1190012

04-SEP-2008 11:45

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

00072610

Login Number: L08080739
Run Date: 09/03/2008
Sample ID: WG281500-02
Instrument ID: IC1
Run Time: 16:12
Prep Method: 314.0
File ID: I10903081612.14
Analyst: JWR
Method: 314.0
Workgroup (AAB#): WG281500
Matrix: Water
Units: ug/L
QC Key: STD
Lot#: STD28396
Cal ID: IC1-28-AUG-08

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	25.0	25.0	99.9	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 1190013
Report generated: 09/04/2008 11:46

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Microbac Laboratories Inc.

DUPLICATE (DUP)

00073611

Sample Ref: L08080739-01 Cal ID: IC1 -03-SEP-2008 Worknum: WG281500

Instrument ID: IC1 Method: 314

Sample ID: WG281500-03 File ID: I10903081713.17 Dil: 5 Matrix: WATER

Duplicate ID: WG281500-04 File ID: I10903081733.18 Dil: 5 Units: ug/L

Analyte	Sample	Duplicate	RPD	RPD Limit	Q
Perchlorate	6.56	6.31	3.81	25	

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_DUP_DRYWT - Modified 03/06/2008

PDF File ID: 1190015

Report generated 09/04/2008 11:46

WG281500 00072612

Conductivity Probe Calibration Check: 1418 /1410 µs/cm

Perchlorate Conductivity Check

Working MCT Level: 1359 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
L08080661-01	(-) 2210, (1/2) 1123	Diluted due conductance
02	(-) 2220, (1/2) 1125	greater than that of the
L08080739-01	(-) 5520, (1/5) 1254	working MCT

John Richards
Analyst

09/03/08 1235
Date/Time

DCN#76641

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00072613

Loginnum: L08080739 Cal ID: IC1-03-SEP-2008 Worknum: WG281500
Instrument ID: IC1 Contract #: DACA56-94-D-0020 Method: 314.0
Parent ID: WG281500-03 File ID: I10903081713.17 Dil: 5 Matrix: WATER
Sample ID: WG281500-05 MS File ID: I10903081754.19 Dil: 5 Units: ug/L
Sample ID: WG281500-06 MSD File ID: I10903081814.20 Dil: 5

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	6.56	25.0	32.2	102	25.0	32.5	104	1.05	80 - 120	25	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 03/07/2008
PDF File ID: 1190014
Report generated 09/04/2008 11:46

3.0 Attachments

ADC - ANTHONY D. CANTER
AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BROWN
AM - ALISON J. MILLER
AML - ANTHONY M. LONG
BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS
CAH - CHARLES A. HALL
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLW - CHARISSA L. WINTERS
CMS - CRYSTAL M. STEPHENS
CPD - CHAD P. DAVIS
CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS
DSF - DEBRA S. FREDERICK
EAB - EDDIE A. BYERS
ECL - ERIC C. LAWSON
ED - EMILY E. DECKER
EDA - ERIN S. AGEE
EDH - ETHAN D. MORRIS
ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR
HJR - HOLLY J. REED
JBK - JEREMY B. KINNEY
JC - JOHN L. CONLEY
JDH - JUSTIN D. HESSON
JKP - JACQUELINE K. PARSONS
JKT - JANE K. THOMPSON
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES
KJW - KATIE J. WIEFERICH
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MES - MARY E. SCHILLING
MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON
NPM - NATHANIEL P. MILLER
PDM - PIERCE D. MORRIS
RAH - ROY A. HALSTEAD
RB - ROBERT BUCHANAN
REK - ROBERT E. KYER
RLK - ROBIN L. KLINGER
RWC - RODNEY W. CAMPBELL
SAV - SARAH A. VANDENBERG
SDH - SHANA D. HINYARD
SDL - SHELLY D. LENT
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SMH - SHAUNA M. HYDE
TDH - TRICIA D. HUCK
TIP - TAE I. PARRISH
TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
WTD - WADE T. DELONG

Microbac Laboratories Inc.
List of Valid Qualifiers
September 04, 2008

Qualkey: STD

00072616

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concenration of target analyte.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E1	Concentration estimated. Analyte exceeded calibration range. Insufficient sample for reanalysis.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to matrix.
E3	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
M1	Matrix spike recovery was high; the assocated blank spike recovery was acceptable.
M2	Matrix spike recovery was low; the assocated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration is disproportionate to the spike level.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
Q1	Sample integraity was not maintained. See report narrative.
QNS	Quantity of sample not sufficient to perform analysis
R1	Duplicate RPD/RSD exceeded the method acceptance limit.
R2	Duplicate RPD/RSD exceeded the laboratory acceptance limit.
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V2	CCV recovery was above method acceptance limits. Insufficient volume for sample reanalysis.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

Microbac®

Qualkey: STD

00072617

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

00072618

Shaw® Shaw Environmental, Inc.

3010 Briarpark Drive, Suite 4N
Houston, TX 77042 (713) 996-4400

CHAIN-OF-CUSTODY

No. 10447

Laboratory Name: MICROBAC Address: 158 Starlite Dr. Marietta, OH. Contact: Stephanie MOSSBURG

Project Name: LHAAP Project Location: KARNACK, TX.

Project No.: 117591.0009C100 Project Contact: Allen Willmore Project Telephone No.: 713-996-4586

Point of contact: Scott Beesinger Telephone No. 903-679-3448

Project Manager/Supervisor: Praveen Srinivasan

Analysis and Method Desired (Indicate separate containers)

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	Perchlorate							Remarks
1	LHSIMW02-082808	8/28/08	9:20		✓	W	Groundwater, Site 04	1	✓							
2																
3																
4																
5																
6																
7																
8																
9																
10																

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
Scott Beesinger	8/28/08 2:00		
		Laboratory Cindy Porter	8-29-08 0935

Special Instructions

FedEx Airbill No.:

Sampler's Signature: Scott Beesinger

TAT: ✓ Standard ____ Rush Due: ____ Seals Intact? ____ Y ____ N Received Good Condition ____ Y ____ N ____ Cold

White - Lab Copy Canary - Field Copy Pink - File Copy

Microbac Laboratories, Inc.

SAMPLE RECEIPT FORM

B9084- C104 only

158 Starlite Drive
Marietta, OH 45750
(740) 373-4071

00072619

Client:	SHAW longhorn
Workorder Number:	B
Date Received:	8-29-08
Delivered by:	( ) Fedx (✓) UPS ( ) Client ( ) Courier Time: 0935
Opened by:	ERP
IR Temp Gun:	( ) D (✓) G
Logged by:	ERP | JKT L08080739

Cooler information

Cooler ID	Temp C	Airbill#	COC#	Other
1105	1	1Z66U7250192014182		

Inspection Checklist	**Y**	**N**	**NA**	**Discrepancy ID**
Were shipping coolers sealed?	✓			
Were custody seals intact?	✓			
Were cooler temperatures in range of 0 - 6?	✓			
Was ice present?	✓			
Were COC's received/ information complete/signed and dated?	✓			
Were sample containers and labels intact and match COC?	✓			
Were the correct containers and volumes received?	✓			
Were correct preservatives used? (water only)	✓			
Were pH ranges acceptable? (voa's excluded)			✓	
Were VOA samples free of headspace (< 6mm)?			✓	
Were samples received within EPA hold times?	✓			

Discrepancy/Comments/Other Problems

Distribution

Name of Microbac representative:	
Client/Company:	
Person Contacted:	
Date contacted:	

Resolution/other comments:

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L08080739
Account: 2773
Project: 2773.025
Samples: 1
Due Date: 04-SEP-2008

00072620

Samplenum	Container ID	Products
L08080739-01	496444	CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN	COOLER	L1	29-AUG-2008 10:54	ERE	
2	ANALYZ	L1	SEM	03-SEP-2008 11:07	JWR	ERE

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Appendix C

2006 and 2007 Soil Sampling Data

2006 Soil Sampling Data

		LOCATION_CODE	04SB07					04SB07					04SB07					04SB08				
		SAMPLE_NO	04SB07(0-0.5)					04SB07(3-4)					SITE4-SB07-01					SITE4-SB08-01				
		SAMPLE_DATE	27-Jun-06					27-Jun-06					15-Sep-06					15-Sep-06				
		SAMPLE_DEPTH	0-.5 Ft					3-4 Ft					21.5-21.5 Ft					0-.5 Ft				
		SAMPLE_PURPOSE	REG					REG					REG					REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Percent Solids	Percent	93.3				1	85.2				1	77				1	90.2				1
GEN CHEMISTRY	Perchlorate	µg/kg	3830				10	5160				10	134				1	27100				100

Notes and Abbreviations:

µg/kg - micrograms per kilogram

DF - dilution factor

RC - reason code

U - Not detected. The analyte was analyzed for, but not detected above the associated reporting limit.

2006 Soil Sampling Data

		LOCATION_CODE	04SB08					04SB08					04SB09					04SB09				
		SAMPLE_NO	SITE4-SB08-02					SITE4-SB08-03					04SB09(0-0.5)					04SB09(3-4)				
		SAMPLE_DATE	15-Sep-06					15-Sep-06					26-Jun-06					26-Jun-06				
		SAMPLE_DEPTH	3-4 Ft					19.5-19.5 Ft					0-.5 Ft					3-4 Ft				
		SAMPLE_PURPOSE	REG					REG					REG					REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Percent Solids	Percent	84.8				1	74.9				1	89.5				1	79.3				1
GEN CHEMISTRY	Perchlorate	µg/kg	95500				400	355				1	5	U	U		1	18.4				1

Notes and Abbreviations:

µg/kg - micrograms per kilogram

DF - dilution factor

RC - reason code

U - Not detected. The analyte was analyzed for, but not detected above the

2006 Soil Sampling Data

		LOCATION_CODE	04SB10					04SB10					04SB11					04SB11				
		SAMPLE_NO	04SB10(0-0.5)					04SB10(3-4)					04SB11(0-0.5)					04SB11(3-4)				
		SAMPLE_DATE	27-Jun-06					27-Jun-06					27-Jun-06					27-Jun-06				
		SAMPLE_DEPTH	0-.5 Ft					3-4 Ft					0-.5 Ft					3-4 Ft				
		SAMPLE_PURPOSE	REG					REG					REG					REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Percent Solids	Percent	87.9				1	86				1	94.3				1	91.4				1
GEN CHEMISTRY	Perchlorate	µg/kg	5	U	U		1	36.8				1	4.98	U	U		1	5	U	U		1

Notes and Abbreviations:

µg/kg - micrograms per kilogram

DF - dilution factor

RC - reason code

U - Not detected. The analyte was analyzed for, but not detected above the

2006 Soil Sampling Data

		LOCATION_CODE	04SB12					04SB12					04SB12					04SB13				
		SAMPLE_NO	04SB12(0-0.5)					04SB12(3-4)					04SB12(3-4)-FD					04SB13-01				
		SAMPLE_DATE	27-Jun-06					27-Jun-06					27-Jun-06					30-Aug-06				
		SAMPLE_DEPTH	0-.5 Ft					3-4 Ft					3-4 Ft					0-.5 Ft				
		SAMPLE_PURPOSE	REG					REG					FD					REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Percent Solids	Percent	91.5				1	81.4				1	83.3				1	86.3				1
GEN CHEMISTRY	Perchlorate	µg/kg	63.1				1	2330				5	1660				4	1620				4

Notes and Abbreviations:

µg/kg - micrograms per kilogram

DF - dilution factor

RC - reason code

U - Not detected. The analyte was analyzed for, but not detected above the

2006 Soil Sampling Data

		LOCATION_CODE	04SB13					04SB13				
		SAMPLE_NO	04SB13-02					SITE4-SB13-01				
		SAMPLE_DATE	30-Aug-06					15-Sep-06				
		SAMPLE_DEPTH	3-4 Ft					23.5-24.5 Ft				
		SAMPLE_PURPOSE	REG					REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Percent Solids	Percent	86.1				1	75.2				1
GEN CHEMISTRY	Perchlorate	µg/kg	1840				4	2870				10

Notes and Abbreviations:

µg/kg - micrograms per kilogram

DF - dilution factor

RC - reason code

U - Not detected. The analyte was analyzed for, but not detected above the

2007 Soil Sampling Data

		LOCATION_CODE	04SB08					04SB08					04SB08				
		SAMPLE_NO	04SB08(0-0.5)					04SB08(4-5)					04SB08(9-10)				
		SAMPLE_DATE	22-Oct-07					22-Oct-07					22-Oct-07				
		SAMPLE_DEPTH	0-0.5 FT					4-5 FT					9-10 FT				
		SAMPLE_PURPOSE	REG					REG					REG				
Test Group	Parameter	Units	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF	Result	Qual	ValQual	RC	DF
GEN CHEMISTRY	Perchlorate	µg/kg	1680				2	4750				10	25600				50

Notes and Abbreviations:

µg/kg - micrograms per kilogram

DF - dilution factor

RC - reason code

156 Starlite Drive, Marietta, OH 45750 * TEL 740-373-4071 * FAX 740-373-4835 * http://www.kemron.com

00072628

Laboratory Report Number: L0606667

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact our team member noted in the Reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Debra Elliott - Team Leader
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Annie Bock - Client Services Specialist
abock@kemron-lab.com

This report was reviewed on 19-JUL-06.

Stephanie Mossburg

STEPHANIE MOSSBURG

I certify that all test results meet all of the requirments of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on an 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

This report was certified on 19-JUL-06.

David E. Vandenberg

DAVID VANDENBERG

FL DOH NELAP ID: E8755

This report contains a total of 44 pages.

Protecting Our Environmental Future

LABORATORY REPORT

L0606667

07/17/06 08:46

00072629

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Biulding
3010 Briarpark
Houston, TX 77042
Attention: Diane Mever

Account Number: 2773
Work ID: LHAAP

P.O. Number: 161755

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
04SB09 (0-0.5)	L0606667-01	26-JUN-06	29-JUN-06
04SB09 (3-4')	L0606667-02	26-JUN-06	29-JUN-06
04SB12 (3-4)	L0606667-03	27-JUN-06	29-JUN-06
04SB12 (3-4)DUP	L0606667-04	27-JUN-06	29-JUN-06
04SB12 (0-0.5")	L0606667-05	27-JUN-06	29-JUN-06
04SB11 (0-0.5")	L0606667-06	27-JUN-06	29-JUN-06
04SB10 (3-4)	L0606667-07	27-JUN-06	29-JUN-06
04SB07 (0-0.5)	L0606667-08	27-JUN-06	29-JUN-06
04SB07 (3-4)	L0606667-09	27-JUN-06	29-JUN-06
04SB10(0-0.5")	L0606667-10	27-JUN-06	29-JUN-06
04SB11 (3-4)	L0606667-11	27-JUN-06	29-JUN-06
EQUIPMENT RINSE #1	L0606667-12	27-JUN-06	29-JUN-06

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

00072630

KEMRON Login No.: L0606667

CHAIN OF CUSTODY: The chain of custody numbers were 10701 and 10702

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 2 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 30-JUN-06
Stephanie Mossburg

Laboratory Data Package Cover Page

00072631

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10

b) dilution factors,

c) preparation methods,

d) Cleanup methods, and

e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and

b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

a) LCS spiking amount,

b) Calculated %R for each analyte, and

c) The laboratory"s LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,

b) MS/MSD spiking amounts,

c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d) Calculated %R and relative percent differences (RPDs), and

e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,

b) the calculated RPD, and

c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

DEANNA I. HESSON	Deanna I Hesson	Conventional Lab Supervisor	July 6, 2006
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00072632

Laboratory Name:	KEMRON
Laboratory Log Number:	L0606667
Project Name:	798-LONGHORN
Method:	PCTSOLIDS
Prep Batch Number(s):	WG216522
Reviewer Name:	DEANNA I. HESSON
LRC Date:	July 06, 2006

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?			✓		
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?			✓		
Were sample quantitation limits reported for all analytes not detected?			✓		
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?			✓		
Were blanks analyzed at the appropriate frequency?			✓		
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?			✓		
Were blank concentrations <MQL?			✓		
Laboratory control samples (LCS):					
Were all COCs included in the LCS?			✓		
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			✓		
Were LCSs analyzed at the required frequency?			✓		
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			✓		
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?			✓		
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?			✓		
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?			✓		
Are unadjusted MQLs included in the laboratory data package?			✓		
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?			✓		
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?			✓		
Was the number of standards recommended in the method used for all analytes?			✓		
Were all points generated between the lowest and highest standard used to calculate the curve?			✓		
Are ICAL data available for all instruments used?			✓		
Has the initial calibration curve been verified using an appropriate second source standard?			✓		
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			✓		
Were percent differences for each analyte within the method-required QC limits?			✓		
Was the ICAL curve verified for each analyte?			✓		
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?			✓		
Is the MDL either adjusted or supported by the analysis of DCSs?			✓		
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?			✓		

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Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?			✓		
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?			✓		
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00072634

KEMRON Environmental Services
Laboratory Review Checklist

00072635

Laboratory Name:	KEMRON
Laboratory Log Number:	L0606667
Project Name:	798-LONGHORN
Method:	PCTSOLIDS
Prep Batch Number(s):	WG216522
Reviewer Name:	DEANNA I. HESSON
LRC Date:	July 06, 2006

EXCEPTIONS REPORT
ER# - Description
Footnotes:
(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

Report Number: **L0606667**
Report Date : **July 17, 2006**

00072636

Sample Number: **L0606667-01**
Client ID: **04SB09 (0-0.5)**
Matrix: **Soil**
Workgroup Number: **WG216682**
Collect Date: **06/26/2006 17:10**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **1**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/05/2006 18:05**
Cal Date:
Run Date: **07/05/2006 18:05**
File ID: **I1070506.20**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**		**U**	**10.0**	**5.00**

U Not detected at or above adjusted sample detection limit

Sample Number: **L0606667-01**
Client ID: **04SB09 (0-0.5)**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/26/2006 17:10**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-14**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**89.5**		**1.00**	**1.00**

Sample Number: **L0606667-02**
Client ID: **04SB09 (3-4')**
Matrix: **Soil**
Workgroup Number: **WG216682**
Collect Date: **06/26/2006 17:25**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **1**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/05/2006 18:25**
Cal Date:
Run Date: **07/05/2006 18:25**
File ID: **I1070506.21**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**	**18.4**		**9.95**	**4.97**

Sample Number: **L0606667-02**
Client ID: **04SB09 (3-4')**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/26/2006 17:25**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-15**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**79.3**		**1.00**	**1.00**

Report Number: **L0606667**
Report Date : **July 17, 2006**

00072637

Sample Number: **L0606667-03**
Client ID: **04SB12 (3-4)**
Matrix: **Soil**
Workgroup Number: **WG216839**
Collect Date: **06/27/2006 10:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **5**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/07/2006 18:37**
Cal Date:
Run Date: **07/07/2006 18:37**
File ID: **I1070706.15**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**	**2330**		**50.0**	**25.0**

Sample Number: **L0606667-03**
Client ID: **04SB12 (3-4)**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/27/2006 10:10**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-16**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**81.4**		**1.00**	**1.00**

Sample Number: **L0606667-04**
Client ID: **04SB12 (3-4)DUP**
Matrix: **Soil**
Workgroup Number: **WG216839**
Collect Date: **06/27/2006 10:10**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **4**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/07/2006 18:57**
Cal Date:
Run Date: **07/07/2006 18:57**
File ID: **I1070706.16**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**	**1660**		**40.0**	**20.0**

Sample Number: **L0606667-04**
Client ID: **04SB12 (3-4)DUP**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/27/2006 10:10**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-17**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**83.3**		**1.00**	**1.00**

Report Number: **L0606667**
Report Date : **July 17, 2006**

00072638

Sample Number: **L0606667-05**
Client ID: **04SB12 (0-0.5")**
Matrix: **Soil**
Workgroup Number: **WG216682**
Collect Date: **06/27/2006 09:55**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **1**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/05/2006 19:47**
Cal Date:
Run Date: **07/05/2006 19:47**
File ID: **I1070506.25**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**	**63.1**		**10.0**	**5.00**

Sample Number: **L0606667-05**
Client ID: **04SB12 (0-0.5")**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/27/2006 09:55**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-18**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**91.5**		**1.00**	**1.00**

Sample Number: **L0606667-06**
Client ID: **04SB11 (0-0.5")**
Matrix: **Soil**
Workgroup Number: **WG216682**
Collect Date: **06/27/2006 10:50**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **1**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/05/2006 20:07**
Cal Date:
Run Date: **07/05/2006 20:07**
File ID: **I1070506.26**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**		**U**	**9.97**	**4.98**

U Not detected at or above adjusted sample detection limit

Sample Number: **L0606667-06**
Client ID: **04SB11 (0-0.5")**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/27/2006 10:50**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-19**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**94.3**		**1.00**	**1.00**

00072639

Sample Number: L0606667-07
Client ID: 04SB10 (3-4)
Matrix: Soil
Workgroup Number: WG216682
Collect Date: 06/27/2006 14:10
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 314.0
Analytical Method: 314.0
Analyst: JWR
Dilution: 1
Units: ug/kg

Instrument: IC1
Prep Date: 07/05/2006 20:28
Cal Date:
Run Date: 07/05/2006 20:28
File ID: I1070506.27

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	14797-73-0	36.8		9.98	4.99

Sample Number: L0606667-07
Client ID: 04SB10 (3-4)
Matrix: Soil
Workgroup Number: WG216522
Collect Date: 06/27/2006 14:10

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: TMM
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 06/30/2006 08:50
Cal Date:
Run Date: 06/30/2006 08:50
File ID: OV.0606300850-20

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	10-02-6	86.0		1.00	1.00

Sample Number: L0606667-08
Client ID: 04SB07 (0-0.5)
Matrix: Soil
Workgroup Number: WG216839
Collect Date: 06/27/2006 10:17
Sample Tag: DL01

PrePrep Method: NONE
Prep Method: 314.0
Analytical Method: 314.0
Analyst: JWR
Dilution: 10
Units: ug/kg

Instrument: IC1
Prep Date: 07/07/2006 19:23
Cal Date:
Run Date: 07/07/2006 19:23
File ID: I1070706.17

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	14797-73-0	3830		99.9	49.9

Sample Number: L0606667-08
Client ID: 04SB07 (0-0.5)
Matrix: Soil
Workgroup Number: WG216522
Collect Date: 06/27/2006 10:17

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: TMM
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 06/30/2006 08:50
Cal Date:
Run Date: 06/30/2006 08:50
File ID: OV.0606300850-21

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	10-02-6	93.3		1.00	1.00

Report Number: **L0606667**
Report Date : **July 17, 2006**

00072640

Sample Number: **L0606667-09**
Client ID: **04SB07 (3-4)**
Matrix: **Soil**
Workgroup Number: **WG216839**
Collect Date: **06/27/2006 10:37**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **10**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/07/2006 19:43**
Cal Date:
Run Date: **07/07/2006 19:43**
File ID: **I1070706.18**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**	**5160**		**99.8**	**49.9**

Sample Number: **L0606667-09**
Client ID: **04SB07 (3-4)**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/27/2006 10:37**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-22**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**85.2**		**1.00**	**1.00**

Sample Number: **L0606667-10**
Client ID: **04SB10(0-0.5")**
Matrix: **Soil**
Workgroup Number: **WG216682**
Collect Date: **06/27/2006 13:53**
Sample Tag: **01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **1**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **07/05/2006 21:29**
Cal Date:
Run Date: **07/05/2006 21:29**
File ID: **I1070506.30**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**		**U**	**10.0**	**5.00**

U Not detected at or above adjusted sample detection limit

Sample Number: **L0606667-10**
Client ID: **04SB10(0-0.5")**
Matrix: **Soil**
Workgroup Number: **WG216522**
Collect Date: **06/27/2006 13:53**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **06/30/2006 08:50**
Cal Date:
Run Date: **06/30/2006 08:50**
File ID: **OV.0606300850-23**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**87.9**		**1.00**	**1.00**

00072641

Sample Number: L0606667-11
Client ID: 04SB11 (3-4)
Matrix: Soil
Workgroup Number: WG216682
Collect Date: 06/27/2006 13:40
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 314.0
Analytical Method: 314.0
Analyst: JWR
Dilution: 1
Units: ug/kg

Instrument: IC1
Prep Date: 07/05/2006 21:49
Cal Date:
Run Date: 07/05/2006 21:49
File ID: I1070506.31

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	14797-73-0		U	10.0	5.00

U Not detected at or above adjusted sample detection limit

Sample Number: L0606667-11
Client ID: 04SB11 (3-4)
Matrix: Soil
Workgroup Number: WG216522
Collect Date: 06/27/2006 13:40

PrePrep Method: NONE
Prep Method: D2216-90
Analytical Method: D2216-90
Analyst: TMM
Dilution: 1
Units: weight %

Instrument: OVEN
Prep Date: 06/30/2006 08:50
Cal Date:
Run Date: 06/30/2006 08:50
File ID: OV.0606300850-24

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	10-02-6	91.4		1.00	1.00

Sample Number: L0606667-12
Client ID: EQUIPMENT RINSE #1
Matrix: Water
Workgroup Number: WG217333
Collect Date: 06/27/2006 16:05
Sample Tag: 01

PrePrep Method: NONE
Prep Method: 314.0
Analytical Method: 314.0
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: IC1
Prep Date: 07/14/2006 02:16
Cal Date:
Run Date: 07/14/2006 02:16
File ID: I1071406.17

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	14797-73-0		U	1.00	0.500

U Not detected at or above adjusted sample detection limit

WORKGROUP SUMMARY BY METHOD

WORKGROUP SUMMARY BY METHOD

00072643

Analysis: Percent Solids
Analytical Method: D2216-90
Workgroup: WG216522

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0606667-01	04SB09 (0-0.5)			06/30/06 08:50		OVEN	TMM
L0606667-02	04SB09 (3-4')			06/30/06 08:50		OVEN	TMM
L0606667-03	04SB12 (3-4)			06/30/06 08:50		OVEN	TMM
L0606667-04	04SB12 (3-4)DUP			06/30/06 08:50		OVEN	TMM
L0606667-05	04SB12 (0-0.5")			06/30/06 08:50		OVEN	TMM
L0606667-06	04SB11 (0-0.5")			06/30/06 08:50		OVEN	TMM
L0606667-07	04SB10 (3-4)			06/30/06 08:50		OVEN	TMM
L0606667-08	04SB07 (0-0.5)			06/30/06 08:50		OVEN	TMM
L0606667-09	04SB07 (3-4)			06/30/06 08:50		OVEN	TMM
L0606667-10	04SB10(0-0.5")			06/30/06 08:50		OVEN	TMM
L0606667-11	04SB11 (3-4)			06/30/06 08:50		OVEN	TMM

Analysis: Perchlorate
Analytical Method: 314.0
Workgroup: WG216682

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0606667-01	04SB09 (0-0.5)			07/05/06 18:05	01	IC1	JWR
L0606667-02	04SB09 (3-4')			07/05/06 18:25	01	IC1	JWR
L0606667-05	04SB12 (0-0.5")			07/05/06 19:47	01	IC1	JWR
L0606667-06	04SB11 (0-0.5")			07/05/06 20:07	01	IC1	JWR
L0606667-07	04SB10 (3-4)			07/05/06 20:28	01	IC1	JWR
L0606667-10	04SB10(0-0.5")			07/05/06 21:29	01	IC1	JWR
L0606667-11	04SB11 (3-4)			07/05/06 21:49	01	IC1	JWR

Analysis: Perchlorate
Extraction Method: 314.0
Workgroup: WG216682

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0606667-01	04SB09 (0-0.5)					FILTER	JWR
L0606667-02	04SB09 (3-4')					FILTER	JWR
L0606667-05	04SB12 (0-0.5")					FILTER	JWR
L0606667-06	04SB11 (0-0.5")					FILTER	JWR
L0606667-07	04SB10 (3-4)					FILTER	JWR
L0606667-10	04SB10(0-0.5")					FILTER	JWR
L0606667-11	04SB11 (3-4)					FILTER	JWR

WORKGROUP SUMMARY BY METHOD

00072644

Analysis: Perchlorate
Analytical Method: 314.0
Workgroup: WG216839

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0606667-03	04SB12 (3-4)			07/07/06 18:37	DL01	IC1	JWR
L0606667-04	04SB12 (3-4)DUP			07/07/06 18:57	DL01	IC1	JWR
L0606667-08	04SB07 (0-0.5)			07/07/06 19:23	DL01	IC1	JWR
L0606667-09	04SB07 (3-4)			07/07/06 19:43	DL01	IC1	JWR

Analysis: Perchlorate
Extraction Method: 314.0
Workgroup: WG216839

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0606667-03	04SB12 (3-4)		07/07/06 17:36			FILTER	JWR
L0606667-04	04SB12 (3-4)DUP		07/07/06 17:36			FILTER	JWR
L0606667-08	04SB07 (0-0.5)		07/07/06 17:36			FILTER	JWR
L0606667-09	04SB07 (3-4)		07/07/06 17:36			FILTER	JWR

Analysis: Perchlorate
Analytical Method: 314.0
Workgroup: WG217333

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0606667-12	EQUIPMENT RINSE #1			07/14/06 02:16	01	IC1	JWR

Analysis: Perchlorate
Extraction Method: 314.0
Workgroup: WG217333

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0606667-12	EQUIPMENT RINSE #1		07/13/06 20:49			FILTER	JWR

AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BOCK
ALT - ANN L. THAYER
BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS
CAK - CHERYL A. KOELSCH
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEPHENS
CPD - CHAD P. DAVIS
CRC - CARLA R. COCHRAN
CSA - LUCINDA S. ARNOLD
CSH - CHRIS S. HILL
DAS - DALLAS A. SULLIVAN
DD - DIANE M. DENNIS
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS
DSM - DAVID S. MOSSOR
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
ED - EMILY E. DECKER
HAV - HEMA VILASAGAR
JAL - JOHN A. LENT
JKT - JANE K. THOMPSON
JLS - JANICE L. SCHIMMEL
JNB - JOSHUA N. BOOTH
JS - JENNIFER L. SOUTHALL
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KCZ - KEVIN C. ZUMBRO
KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MLS - MICHAEL L. SCHIMMEL
MMB - MAREN M. BEERY
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
PAS - PATRICK A. STREET
PJM - PAUL J. MILLER
RB - ROBERT BUCHANAN
RDC - REBECCA D. CUTLIP
REK - ROBERT E. KYER
RWC - RODNEY W. CAMPBELL
SCM - SUSAN C. MOELLENDICK
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SMH - SHAUNA M. HYDE
SRM - SAMUEL R. MCFEE
TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
WFM - WALTER F. MARTIN

KEMRON Environmental Services

List of Valid Qualifiers

July 17, 2006

Qualkey: STD

00072646

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
FL	Free Liquid
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	ESTIMATE & COLUMNS DON'T AGREE TO WITHIN 40%
L	Sample reporting limits elevated due to matrix interference
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Inorganic QA/QC

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 314.0 AAB#: WG219637 00072648
Login Number: L0606667

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
04SB09 (0-0.5)	06/26/06	06/29/06	07/05/06	28	9.04	07/05/06	28	9.04	
04SB09 (3-4')	06/26/06	06/29/06	07/05/06	28	9.04	07/05/06	28	9.04	
04SB12 (0-0.5")	06/27/06	06/29/06	07/05/06	28	8.41	07/05/06	28	8.41	
04SB11 (0-0.5")	06/27/06	06/29/06	07/05/06	28	8.39	07/05/06	28	8.39	
04SB10 (3-4)	06/27/06	06/29/06	07/05/06	28	8.26	07/05/06	28	8.26	
04SB10(0-0.5")	06/27/06	06/29/06	07/05/06	28	8.32	07/05/06	28	8.32	
04SB11 (3-4)	06/27/06	06/29/06	07/05/06	28	8.34	07/05/06	28	8.34	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 510525
Report generated 07/14/2006 12:09

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 314.0
Login Number: L0606667

AAB#: WG210839 00072649

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
04SB12 (3-4)	06/27/06	06/29/06	07/07/06	28	10.4	07/07/06	28	10.4	
04SB12 (3-4)DUP	06/27/06	06/29/06	07/07/06	28	10.4	07/07/06	28	10.4	
04SB07 (0-0.5)	06/27/06	06/29/06	07/07/06	28	10.4	07/07/06	28	10.4	
04SB07 (3-4)	06/27/06	06/29/06	07/07/06	28	10.4	07/07/06	28	10.4	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 510525
Report generated 07/14/2006 12:09

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 314.0
Login Number: L0606667

AAB#: WG217333 00072650

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
EQUIPMENT RINSE #1	06/27/06	06/29/06	07/14/06	28	16.4	07/14/06	28	16.4	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 510525
Report generated 07/14/2006 12:09

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072651

Login Number: L0606667
Blank File ID: I1070506.12
Date Analyzed: 07/05/06
Time Analyzed: 15:22
Analyst: JWR

Work Group: WG216682
Blank Sample ID: WG216682-01
Instrument ID: IC1
Method: 314.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG216682-02	I1070506.14	07/05/06 16:02	01
DUP	WG216682-04	I1070506.19	07/05/06 17:44	01
04SB09 (0-0.5)	L0606667-01	I1070506.20	07/05/06 18:05	01
04SB09 (3-4')	L0606667-02	I1070506.21	07/05/06 18:25	01
04SB12 (0-0.5")	L0606667-05	I1070506.25	07/05/06 19:47	01
04SB11 (0-0.5")	L0606667-06	I1070506.26	07/05/06 20:07	01
04SB10 (3-4)	L0606667-07	I1070506.27	07/05/06 20:28	01
04SB10(0-0.5")	L0606667-10	I1070506.30	07/05/06 21:29	01
04SB11 (3-4)	L0606667-11	I1070506.31	07/05/06 21:49	01
DUP	WG216682-06	I1070506.32	07/05/06 22:10	01

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 510526
Report generated 07/14/2006 12:09

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072652

Login Number: L0606667
Blank File ID: I1070706.12
Date Analyzed: 07/07/06
Time Analyzed: 17:36
Analyst: JWR

Work Group: WG216839
Blank Sample ID: WG216839-01
Instrument ID: IC1
Method: 314.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG216839-02	I1070706.14	07/07/06 18:16	01
04SB12 (3-4)	L0606667-03	I1070706.15	07/07/06 18:37	DL01
04SB12 (3-4)DUP	L0606667-04	I1070706.16	07/07/06 18:57	DL01
04SB07 (0-0.5)	L0606667-08	I1070706.17	07/07/06 19:23	DL01
04SB07 (3-4)	L0606667-09	I1070706.18	07/07/06 19:43	DL01
DUP	WG216839-04	I1070706.20	07/07/06 20:24	01

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 510526
Report generated 07/14/2006 12:09

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072653

Login Number: L0606667
Blank File ID: I1071406.12
Date Analyzed: 07/14/06
Time Analyzed: 00:34
Analyst: JWR

Work Group: WG217333
Blank Sample ID: WG217333-01
Instrument ID: IC1
Method: 314.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG217333-02	I1071406.15	07/14/06 01:35	01
EQUIPMENT RINSE #1	L0606667-12	I1071406.17	07/14/06 02:16	01
DUP	WG217333-04	I1071406.21	07/14/06 03:37	01

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 510526
Report generated 07/14/2006 12:09

KEMRON Environmental Services

METHOD BLANK REPORT

00072654

Login Number: L0606667 Run Date: 07/05/2006 Sample ID: WG216682-01
Instrument ID: IC1 Run Time: 15:22 Prep Method: 314.0
File ID: I1070506.12 Analyst: JWR Method: 314.0
Workgroup (AAB#): WG216682 Matrix: Solid Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: IC1 -

Analytes	SQL	PQL	Concentration	Dilution	Qualifier
Perchlorate	5.00	10.0	5.00	1	U

MDL Method Detection Limit
RL Reporting/quantitation Limit

* Analyte concentration > RL

KEMRON FORMS - Modified 07/06/2006
Version 1.5 PDF File ID: 510527
Report generated 07/14/2006 12:09

KEMRON Environmental Services

METHOD BLANK REPORT

00072655

Login Number: L0606667 Run Date: 07/07/2006 Sample ID: WG216839-01
Instrument ID: IC1 Run Time: 17:36 Prep Method: 314.0
File ID: I1070706.12 Analyst: JWR Method: 314.0
Workgroup (AAB#): WG216839 Matrix: Solid Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: IC1 -

Analytes	SQL	PQL	Concentration	Dilution	Qualifier
Perchlorate	5.00	10.0	5.00	1	U

MDL Method Detection Limit
RL Reporting/quantitation Limit

* Analyte concentration > RL

KEMRON FORMS - Modified 07/06/2006
Version 1.5 PDF File ID: 510527
Report generated 07/14/2006 12:09

KEMRON Environmental Services

METHOD BLANK REPORT

00072656

Login Number: L0606667 Run Date: 07/14/2006 Sample ID: WG217333-01
Instrument ID: IC1 Run Time: 00:34 Prep Method: 314.0
File ID: I1071406.12 Analyst: JWR Method: 314.0
Workgroup (AAB#): WG217333 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: IC1 -

Analytes	SQL	PQL	Concentration	Dilution	Qualifier
Perchlorate	0.500	1.00	0.500	1	U

MDL Method Detection Limit
RL Reporting/quantitation Limit

* Analyte concentration > RL

KEMRON FORMS - Modified 07/06/2006
Version 1.5 PDF File ID: 510527
Report generated 07/14/2006 12:09

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072657

Login Number: L0606667
Run Date: 07/05/2006
Sample ID: WG216682-02
Instrument ID: IC1
Run Time: 16:02
Prep Method: 314.0
File ID: I1070506.14
Analyst: JWR
Method: 314.0
Workgroup (AAB#): WG216682
Matrix: Solid
Units: ug/kg
Contract #: DACA56-94-D-0020
Cal ID: IC1 -

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	250	233	93.2	85 - 115	

KEMRON FORMS - Modified 07/06/2006
Version 1.5 PDF File ID: 510528
Report generated 07/14/2006 12:09

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072658

Login Number: L0606667
Run Date: 07/07/2006
Sample ID: WG216839-02
Instrument ID: IC1
Run Time: 18:16
Prep Method: 314.0
File ID: I1070706.14
Analyst: JWR
Method: 314.0
Workgroup (AAB#): WG216839
Matrix: Solid
Units: ug/kg
Contract #: DACA56-94-D-0020
Cal ID: IC1 -

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	250	243	97.3	85 - 115	

KEMRON FORMS - Modified 07/06/2006
Version 1.5 PDF File ID: 510528
Report generated 07/14/2006 12:09

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072659

Login Number: L0606667 Run Date: 07/14/2006 Sample ID: WG217333-02
Instrument ID: IC1 Run Time: 01:35 Prep Method: 314.0
File ID: I1071406.15 Analyst: JWR Method: 314.0
Workgroup (AAB#): WG217333 Matrix: Water Units: ug/L
Contract #: DACA56-94-D-0020 Cal ID: IC1 -

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	25.0	23.9	95.6	85 - 115	

KEMRON FORMS - Modified 07/06/2006
Version 1.5 PDF File ID: 510528
Report generated 07/14/2006 12:09

KEMRON Environmental Services

DUPLICATE (DUP)

00072660

Sample Ref: L0606648-04 Cal ID: IC1 - Worknum: WG216682
Instrument ID: IC1 Method: 314
Sample ID: WG216682-03 File ID: I1070506.18 Dil: 1 Matrix: SOLID
Duplicate ID: WG216682-04 File ID: I1070506.19 Dil: 1 Units: ug/kg

Analyte	Sample	Duplicate	RPD	RPD Limit	Q
Perchlorate	16.1	16.9	5.10	25	

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 510530
Report generated 07/11/2006 12:36

KEMRON Environmental Services

DUPLICATE (DUP)

00072661

Sample Ref: L0606667-11 Cal ID: IC1-
Instrument ID: IC1
Sample ID: WG216682-05 File ID: I1070506.31 Dil: 1
Duplicate ID: WG216682-06 File ID: I1070506.32 Dil: 1

Worknum: WG216682
Method: 314
Matrix: SOLID
Units: ug/kg

Analyte	Sample	Duplicate	RPD	RPD Limit	Q
Perchlorate	ND	ND	0	25	

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 510530
Report generated 07/11/2006 12:36

KEMRON Environmental Services

DUPLICATE (DUP)

00073662

Sample Ref: L0606667-11 Cal ID: IC1 - Worknum: WG216839

Instrument ID: IC1 Method: 314

Sample ID: WG216839-03 File ID: I1070706.19 Dil: 1 Matrix: SOLID

Duplicate ID: WG216839-04 File ID: I1070706.20 Dil: 1 Units: ug/kg

Analyte	Sample	Duplicate	RPD	RPD Limit	Q
Perchlorate	ND	ND	0	25	

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 510530
Report generated 07/11/2006 12:36

KEMRON Environmental Services

MATRIX SPIKE (MS)

00072663

Loginnum:L0606667 Cal ID: IC1- Worknum:WG216839

Instrument ID:IC1 Contract #:DACA56-94-D-0020 Method:314.0

Parent ID:WG216839-03 File ID:I1070706.19 Dil:1 Matrix:SOLID

Sample ID:WG216839-05 MS File ID:I1070706.21 Dil:1 Units:ug/kg

Analyte	Parent	MS Spiked	MS Found	MS %Rec	%Rec Limits	Q
Perchlorate	ND	250	255	102	80 - 120	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 04/19/2006
Version 1.5 PDF File ID: 513888
Report generated 07/11/2006 12:36

KEMRON Environmental Services

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

00072664

Loginnum:L0606667 Cal ID: IC1 - Worknum:WG216682

Instrument ID:IC1 Contract #:DACA56-94-D-0020 Method:314.0

Parent ID:WG216682-05 File ID:I1070506.31 Dil:1 Matrix:SOLID

Sample ID:WG216682-07 MS File ID:I1070506.33 Dil:1 Units:ug/kg

Sample ID:WG216682-08 MSD File ID:I1070506.34 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	ND	250	243	97.2	250	243	97.2	0.0247	80 - 120	25	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 03/16/2006
Version 1.5 PDF File ID: 510529
Report generated 07/06/2006 11:55

00072665

Shaw® Shaw Environmental, Inc.

3010 Briarpark Drive, Suite 4N
Houston, TX 77042 (713) 996-4400

CHAIN-OF-CUSTODY

No. 10701

Laboratory Name: Kemron
Address: 156 Starlite Dr Marietta, Ohio 45750
Contact: Stephanie Mossburg

Project Name: LHAAP
Project Location: Karnack TX
Project No.: LHAAP Site 04 117591.0009A 100
Project Contact: D Meyers
Project Telephone No.: 7139964400
Point of contact: Kay Everett
Telephone No.: (713) 996-4421
Project Manager/Supervisor: Praveen Srivastav

Analysis and Method Desired (Indicate separate containers): Perchlorate SW-846

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	Perchlorate SW-846							Remarks
1	04SB09 (0-0.5)	6/26	17:10	✓		S		1	1							
2	04SB09 (3-4')	6/26	17:25	✓		S		1	1							
3	04SB12 (3-4)	6/27	10:10	✓		S		1	1							
4	04SB12 (3-4) Dup	6/27	10:10	✓		S		1	1							
5	04SB12 (0-0.5")	6/27	9:55	✓		S		1	1							
6	04SB11 (0-0.5")	6/27	10:50	✓		S		1	1							
7	04SB10 (3-4)	6/27	14:10	✓		S		1	1							
8	04SB07 (0-0.5)	6/27	10:17	✓		S		1	1							
9	04SB07 (3-4)	6/27	10:37	✓		S		1	1							
10	04SB10 (0-0.5")	6/27	13:55	✓		S		1	1							

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
M. [illegible]	6/27/06 15:45		
		Laboratory Blenda Gregory	6/29/06 @ 1005

Special Instructions: Cl sealed Sp intact cooler temp 2 bg

FedEx Airbill No.:

Sampler's Signature: M. [illegible]

TAT: ____ Standard ____ Rush Due: ___ Seals Intact? ____ Y ____ N Received Good Condition ____ Y ____ N ____ Cold

White - Lab Copy Canary - Field Copy Pink - File Copy

00072666

Shaw® Shaw Environmental, Inc.

3010 Briarpark Drive, Suite 4N
Houston, TX 77042 (713) 996-4400

CHAIN-OF-CUSTODY

No. 10702

Laboratory Name: Kehmron
Address: 156 Starlite Dr. Marietta, Ohio 45750
Contact: Stephanie Mossburg

Project Name: Longhorn AAP
Project Location: Karnack, Tx
Project No.: 117591.0009A100 LHAAP-04
Project Contact: D Meyer
Project Telephone No.: (713) 996 4400
Point of contact: Kay Everett
Telephone No.: (713) 996-4421
Project Manager/Supervisor: Praveen Srivastav

Analysis and Method Desired (Indicate separate containers): Perchlorate 314.1

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	Perchlorate 314.1							Remarks
1	045B11 (3-4)	6/27	13:40	✓		S		1	1							
2	EQUIPMENT RINSATE	6/27	~~15:30~~ 16:05	✓		W	Equipment Rinse from auger	1	1							
3																
4																
5																
6																
7																
8																
9																
10																

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
M. [illegible]	6/27/06 1545		
		Laboratory Brenda Gregory	6/29/06 1005

Special Instructions

FedEx Airbill No.:

Sampler's Signature: M. [illegible]

TAT: _____ Standard _____ Rush Due: ___ Seals Intact? _____ Y _____ N Received Good Condition _____ Y _____ N _____ Cold

White - Lab Copy Canary - Field Copy Pink - File Copy

KEMRON Environmental Services
Internal Chain of Custody Report

Login: L0606667
Account: 2773
Project: 2773.025
Samples: 12
Due Date: 12-JUL-2006

00072667

Samplenum	Container ID	Products
L0606667-01	247782	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-02	247783	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-03	247784	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:57	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-04	247785	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

KEMRON Environmental Services
Internal Chain of Custody Report

Login: L0606667
Account: 2773
Project: 2773.025
Samples: 12
Due Date: 12-JUL-2006

00072668

Samplenum	Container ID	Products
L0606667-05	247786	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-06	247787	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-07	247788	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-08	247789	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

KEMRON Environmental Services
Internal Chain of Custody Report

Login: L0606667
Account: 2773
Project: 2773.025
Samples: 12
Due Date: 12-JUL-2006

00072669

Samplenum	Container ID	Products
L0606667-09	247790	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-10	247791	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-11	247792	PCT-S CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 09:31	BRG	JB
3	STORE	WET	W1	30-JUN-2006 09:56	BRG	JB
4	ANALYZ	W1	WET	30-JUN-2006 11:39	JWR	JKT
5	STORE	WET	A1	07-JUL-2006 13:02	BRG	JWR

Samplenum	Container ID	Products
L0606667-12	247793	CLO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			29-JUN-2006 15:07	BRG	
2	ANALYZ	W1	WET	30-JUN-2006 11:40	JWR	JKT
3	STORE	WET	A1	14-JUL-2006 16:10	JS	JWR

SAMPLE RECEIPT FORM

B2349

1005

Date: 6-29-06 Client: SHAW

156 STADIUM DRIVE
MARIETTA, OH
45750
(740) 373-4071

00072670

Shipped By: ( ) Fed-Ex (✓) UPS ( ) DHL ( ) KEMRON ( ) Client ( ) Other

Opened By: BLG

Logged By: BLG Login # L06 06667

IR Temp Gun: ( ) D (✓) G

COOLER INFORMATION

Number	Cooler ID	Temp °C	Airbill#	COC#	Other
1	1100	2	1Z66V7250199841678		
2					
3					
4					
5					
6					

Were all coolers sealed?	Y	N	N/A
Were custody seals used on all coolers?	Y	N	N/A
Were custody seals intact?	Y	N	N/A
Was visible ice present?	Y	N	N/A
Were all coolers in the temperature range of 2-6C? (>6C*)	Y	N	N/A
Were the samples frozen?*	Y	N	N/A
Were COC papers provided?	Y	N	N/A
Were all sample containers intact?*	Y	N	N/A
Were all sample labels intact?	Y	N	N/A
Were all sample labels legible?*	Y	N	N/A
Did all sample labels match the COC?*	Y	N	N/A
Was the label information complete?*	Y	N	N/A
Were the correct containers used?*	Y	N	N/A
Were the correct preservatives added to water samples?*	Y	N	N/A
Was the pH tested on preserved water samples?	Y	N	N/A
Were pH ranges acceptable?*	Y	N	N/A
Was sufficient amount of sample provided?*	Y	N	N/A
Were bubbles present in VOA samples?*	Y	N	N/A
Were COC's signed and dated?	Y	N	N/A
Did samples arrive before hold time expired?*	Y	N	N/A
Are discrepancy forms attached?	Y	N	N/A

**Requires a discrepancy form*

CRF #1
Revised 8/22/03

Comments:

KEMRON
ENVIRONMENTAL SERVICES

CRF#4

00072671

Sample Discrepancy Form

Client: Shaw Project: _____

Date Received: 6/29/06

_____ Cooler temperature > than 6 degrees Celsius

Reason _____

_____ Samples received not on chain of custody

_____ Samples on chain of custody not received

✓ Information on sample containers different from chain of custody

~~CC SB11(3-4)@ 1340 = bottle label "2-5"~~

_____ Sample containers received broken, leaking or not sealed (List sample ID)

_____ pH out (List sample ID, which container, pH prior to adjusting, amount of acid, preservative)

_____ Insufficient sample volume

_____ Air bubbles present in VOA vials (List sample ID)

_____ Hold time expired (List sample ID)

Service Representative:
Was client notified regarding information: **YES** **NO**
Name of Person contacted: _____ Company: _____
Service Representative: _____ Date: _____

Last Revised 08/22/03

00072672

156 Starlite Drive, Marietta, OH 45750 ● TEL 740-373-4071 ● FAX 740-373-4835 ● http://www.kemron.com

Laboratory Report Number: L0609008

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box bleow at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Debra Elliott - Team Leader
delliott@kemron-lab.com

Cheryl Koelsch - Team Chemist/Data Specialist
ckoelsch@kemron-lab.com

Stephanie Mossburg - Team Chemist/Data Specialist
smossburg@kemron-lab.com

Kathy Albertson - Team Chemist/Data Specialist
kalbertson@kemron-lab.com

Amanda Fickiesen - Client Services Specialist
afickiesen@kemron-lab.com

Annie Bock - Client Services Specialist
abock@kemron-lab.com

This report was reviewed on September 13, 2006.

Stephanie Mossburg

STEPHANIE MOSSBURG - Team Chemist/Data Specialist

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

This report was certified on September 13, 2006.

David E. Vandenberg

David Vandenberg - Vice President

FL DOH NELAP ID: E8755
This report contains a total of 30 pages.

Protecting Our Environmental Future

LABORATORY REPORT

L0609008

09/13/06 12:47

00072673

Submitted By

KEMRON Environmental Services
156 Starlite Drive
Marietta , OH 45750
(740) 373 - 4071

For

Account Name: Shaw E & I, Inc.
ABB Lummus Biulding
3010 Briarpark
Houston, TX 77042
Attention: Diane Mever

Account Number: 2773
Work ID: LHAAP/SIRE 4/KARNACK,TX

P.O. Number: 200328

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
04-SB13-01	L0609008-01	30-AUG-06	01-SEP-06
04-SB13-02	L0609008-02	30-AUG-06	01-SEP-06

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

00072674

KEMRON Login No.: L0609008

CHAIN OF CUSTODY: The chain of custody number was 10403.

SHIPMENT CONDITIONS: The chain of custody forms were received sealed in a cooler. The cooler temperature was 3 degrees C.

SAMPLE MANAGEMENT: All samples received were intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Approved: 05-SEP-06
Stephanie Mossburg

Laboratory Data Package Cover Page

00072675

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10

b) dilution factors,

c) preparation methods,

d) Cleanup methods, and

e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and

b) The laboratory's surrogate QC limits.

R5 Test reports/summary forms for blank samples;

R6 Test reports/summary forms FOR laboratory control samples (LCSs) including:

a) LCS spiking amount,

b) Calculated %R for each analyte, and

c) The laboratory"s LCS QC limits.

R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,

b) MS/MSD spiking amounts,

c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d) Calculated %R and relative percent differences (RPDs), and

e) The laboratory's MS/MSD QC limits

R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,

b) the calculated RPD, and

c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

DEANNA I. HESSON	Deanna Hesson	Conventional Lab Supervisor	September 12, 2006
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00072676

Laboratory Name:	KEMRON
Laboratory Log Number:	L0609008
Project Name:	798-LONGHORN
Method:	PCTSOLIDS
Prep Batch Number(s):	WG221881
Reviewer Name:	DEANNA I. HESSON
LRC Date:	September 12, 2006

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?			✓		
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?			✓		
Were sample quantitation limits reported for all analytes not detected?			✓		
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?			✓		
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?			✓		
Were blanks analyzed at the appropriate frequency?			✓		
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?			✓		
Were blank concentrations <MQL?			✓		
Laboratory control samples (LCS):					
Were all COCs included in the LCS?			✓		
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			✓		
Were LCSs analyzed at the required frequency?			✓		
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			✓		
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?			✓		
Was the LCSD RPD within QC limits?			✓		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			✓		
Were MS/MSD analyzed at the appropriate frequency?			✓		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓		

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?			✓		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?			✓		
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?			✓		
Are unadjusted MQLs included in the laboratory data package?			✓		
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?			✓		
Were response factors and/or relative response factors for each analyte within QC limits?			✓		
Were percent RSDs or correlation coefficient criteria met?			✓		
Was the number of standards recommended in the method used for all analytes?			✓		
Were all points generated between the lowest and highest standard used to calculate the curve?			✓		
Are ICAL data available for all instruments used?			✓		
Has the initial calibration curve been verified using an appropriate second source standard?			✓		
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			✓		
Were percent differences for each analyte within the method-required QC limits?			✓		
Was the ICAL curve verified for each analyte?			✓		
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			✓		
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?			✓		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:					
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?			✓		
Is the MDL either adjusted or supported by the analysis of DCSs?			✓		
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?			✓		

00072677

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?			✓		
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?			✓		
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00072678

KEMRON Environmental Services
Laboratory Review Checklist

00072679

Laboratory Name:	KEMRON
Laboratory Log Number:	L0609008
Project Name:	798-LONGHORN
Method:	PCTSOLIDS
Prep Batch Number(s):	WG221881
Reviewer Name:	DEANNA I. HESSON
LRC Date:	September 12, 2006

EXCEPTIONS REPORT
ER# - Description
Footnotes:
(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

Laboratory Data Package Cover Page

00072680

This data Package consists of:

This signature page, the laboratory review checklists, and the following reportable data:

R1 Field chain-of-custody documentation;

R2 sample identification cross-reference;

R3 Test reports (analytical data sheets) for each enviornmental sample that includes:

a) Items consistant with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) Cleanup methods, and
e) If required for the project, tentatively identified compounds (TICs)

R4 Surrogate recovery data including:

a) Calculated recovery (%R) for each analyte, and
b) The laboratory's surrogate QC limits.

✓R5 Test reports/summary forms for blank samples;

✓R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amount,
b) Calculated %R for each analyte, and
c) The laboratory"s LCS QC limits.

✓R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %R and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

✓R8 Laboratory analytical duplicate (if applicable) revocery and precision:

a) the amount of analyte measured in the duplicate,
b) the calculated RPD, and
c) the laboratory's QC limits for anlytical duplicates.

R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;

R10 Other problems or anomalies.

The exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exceptions reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratoy in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, If applicable: [] This laboratory is an in-house laboratory controlled by the person repsonding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is trus.

DEANNA I. HESSON	Deanna Hesson	Conventional Lab Supervisor	September 12, 2006
Name (Printed)	Signature	Official Title (printed)	DATE

RG-366/TRRP-13 December 2002 A1

KEMRON Environmental Services
Laboratory Review Checklist

00072681

Laboratory Name:	KEMRON
Laboratory Log Number:	L0609008
Project Name:	798-LONGHORN
Method:	314
Prep Batch Number(s):	WG221715
Reviewer Name:	DEANNA I. HESSON
LRC Date:	September 12, 2006

Description	Yes	No	NA(1)	NR(2)	ER(3)
Chain-Of-Custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
Were all departures from standard conditions described in an exception report?	✓				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
Test reports					
Were all samples prepared and analyzed within holding times?	✓				
Other than those results <MQL, were all other raw values bracketed by calibration standards?	✓				
Were calculations checked by a peer or supervisor?	✓				
Were all analyte identifications checked by a peer or supervisor?	✓				
Were sample quantitation limits reported for all analytes not detected?	✓				
Were all results for soil and sediment samples reported on a dry weight basis?	✓				
Were % moisture (or solids) reported for all soil and sediment samples?	✓				
If required for the project, TICs reported?	✓				
Surrogate recovery data					
Were surrogates added prior to extraction?			✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			✓		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	✓				
Were blanks analyzed at the appropriate frequency?	✓				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
Were blank concentrations <MQL?	✓				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	✓				
Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
Were LCSs analyzed at the required frequency?	✓				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
Does the detectability data document the laboratorys capability to detect the COCs at the MDL used to calculate the SQLs?	✓				
Was the LCSD RPD within QC limits?	✓				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	✓				
Were MS/MSD analyzed at the appropriate frequency?	✓				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓			

Description	Yes	No	NA(1)	NR(2)	ER(3)
Were MS/MSD RPDs within laboratory QC limits?	✓				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	✓				
Were analytical duplicates analyzed at the appropriate frequency?	✓				
Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
Are unadjusted MQLs included in the laboratory data package?	✓				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
Were all necessary corrective actions performed for the reported data?	✓				
Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	✓				
Were response factors and/or relative response factors for each analyte within QC limits?	✓				
Were percent RSDs or correlation coefficient criteria met?	✓				
Was the number of standards recommended in the method used for all analytes?	✓				
Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
Are ICAL data available for all instruments used?	✓				
Has the initial calibration curve been verified using an appropriate second source standard?	✓				
Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	✓				
Were percent differences for each analyte within the method-required QC limits?	✓				
Was the ICAL curve verified for each analyte?	✓				
Was the absolute value of the analyte concentration in the inorganic CCB <MDL?	✓				
Mass spectral tuning:					
Was the appropriate compound for the method used for tuning?			✓		
Were ion abundance data within the method-required QC limits?			✓		
Internal standards (IS):					
Were IS area counts and retention times within the method-required QC limits?			✓		
Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section 4.12.2)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
Were data associated with manual integrations flagged on the raw data?	✓				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			✓		
Tentatively identified compounds (TICs):					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			✓		
Interference Check Sample (ICS) results:			✓		
Were percent recoveries within method QC limits?			✓		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			✓		
Method detection limit (MDL) studies					
Was a MDL study performed for each reported analyte?	✓				
Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
Proficiency test reports:					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				

00072682

Description	Yes	No	NA(1)	NR(2)	ER(3)
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	✓				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	✓				
Is documentation of the analyst's competency up-to-date and on file?	✓				
Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
Laboratory standard operating procedures (SOPs):					
Are laboratory SOPs current and on file for each method performed?	✓				

00072683

KEMRON Environmental Services
Laboratory Review Checklist

00072684

Laboratory Name:	KEMRON
Laboratory Log Number:	L0609008
Project Name:	798-LONGHORN
Method:	314
Prep Batch Number(s):	WG221715
Reviewer Name:	DEANNA I. HESSON
LRC Date:	September 12, 2006

EXCEPTIONS REPORT
ER# - Description
The MS recovery exceeded the advisory limits due the spike being diluted out.
Footnotes:
(1) NA = Not applicable to method or project
(2) NR = Not reviewed
(3) ER# = Exception report number

Report Number: **L0609008**
Report Date : **September 13, 2006**

00072685

Sample Number: **L0609008-01**
Client ID: **04-SB13-01**
Matrix: **Soil**
Workgroup Number: **WG221715**
Collect Date: **08/30/2006 14:25**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **4**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **09/06/2006 18:41**
Cal Date:
Run Date: **09/06/2006 18:41**
File ID: **I1090606.17**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**	**1620**		**40.0**	**20.0**

Sample Number: **L0609008-01**
Client ID: **04-SB13-01**
Matrix: **Soil**
Workgroup Number: **WG221881**
Collect Date: **08/30/2006 14:25**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **09/09/2006 12:00**
Cal Date:
Run Date: **09/09/2006 12:00**
File ID: **OV.0609091200-17**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**86.3**		**1.00**	**1.00**

Sample Number: **L0609008-02**
Client ID: **04-SB13-02**
Matrix: **Soil**
Workgroup Number: **WG221715**
Collect Date: **08/30/2006 14:35**
Sample Tag: **DL01**

PrePrep Method: **NONE**
Prep Method: **314.0**
Analytical Method: **314.0**
Analyst: **JWR**
Dilution: **4**
Units: **ug/kg**

Instrument: **IC1**
Prep Date: **09/06/2006 19:22**
Cal Date:
Run Date: **09/06/2006 19:22**
File ID: **I1090606.19**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Perchlorate	**14797-73-0**	**1840**		**40.0**	**20.0**

Sample Number: **L0609008-02**
Client ID: **04-SB13-02**
Matrix: **Soil**
Workgroup Number: **WG221881**
Collect Date: **08/30/2006 14:35**

PrePrep Method: **NONE**
Prep Method: **D2216-90**
Analytical Method: **D2216-90**
Analyst: **TMM**
Dilution: **1**
Units: **weight %**

Instrument: **OVEN**
Prep Date: **09/09/2006 12:00**
Cal Date:
Run Date: **09/09/2006 12:00**
File ID: **OV.0609091200-18**

Analyte	CAS. Number	Result	Qual	PQL	SQL
Percent Solids	**10-02-6**	**86.1**		**1.00**	**1.00**

WORKGROUP SUMMARY BY METHOD

WORKGROUP SUMMARY BY METHOD

00072687

Analysis: Perchlorate
Analytical Method: 314.0
Workgroup: WG221715

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0609008-01	04-SB13-01			09/06/06 18:41	DL01	IC1	JWR
L0609008-02	04-SB13-02			09/06/06 19:22	DL01	IC1	JWR

Analysis: Perchlorate
Extraction Method: 314.0
Workgroup: WG221715

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0609008-01	04-SB13-01		09/06/06 16:18			FILTER	JWR
L0609008-02	04-SB13-02		09/06/06 16:18			FILTER	JWR

Analysis: Percent Solids
Analytical Method: D2216-90
Workgroup: WG221881

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0609008-01	04-SB13-01			09/09/06 12:00		OVEN	TMM
L0609008-02	04-SB13-02			09/09/06 12:00		OVEN	TMM

AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BOCK
ALT - ANN L. THAYER
ARA - ADRIAN R. ACHTERMANN
BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS
CAK - CHERYL A. KOELSCH
CEB - CHAD E. BARNES
CFB - CHAD F. BOOK
CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEPHENS
CPD - CHAD P. DAVIS
CRC - CARLA R. COCHRAN
CSA - LUCINDA S. ARNOLD
CSH - CHRIS S. HILL
DAS - DALLAS A. SULLIVAN
DD - DIANE M. DENNIS
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DR - DEANNA ROBERTS
DRP - DAVE R. PITZER
DSM - DAVID S. MOSSOR
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
ED - EMILY E. DECKER
FJB - FRANCES J. BOLDEN
HAV - HEMA VILASAGAR
JAL - JOHN A. LENT
JKT - JANE K. THOMPSON
JLS - JANICE L. SCHIMMEL
JNB - JOSHUA N. BOOTH
JS - JENNIFER L. SOUTHALL
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KCZ - KEVIN C. ZUMBRO
KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MLS - MICHAEL L. SCHIMMEL
MMB - MAREN M. BEERY
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
PAS - PATRICK A. STREET
PJM - PAUL J. MILLER
RB - ROBERT BUCHANAN
RDC - REBECCA D. CUTLIP
REK - ROBERT E. KYER
RNP - RICK N. PETTY
RWC - RODNEY W. CAMPBELL
SCM - SUSAN C. MOELLENDICK
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SMH - SHAUNA M. HYDE
SRM - SAMUEL R. MCFEE
TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
WFM - WALTER F. MARTIN

KEMRON Environmental Services

List of Valid Qualifiers

September 13, 2006

Qualkey: STD

00072689

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
FL	Free Liquid
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	ESTIMATE & COLUMNS DON'T AGREE TO WITHIN 40%
L	Sample reporting limits elevated due to matrix interference
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
Z	Cannot be resolved from isomer - see below

*****Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound an are matrix dependent.

Inorganic QA/QC

KEMRON Environmental Services
Data Checklist

00072691

Date: 06-SEP-2006
Analyst: JWR
Analyst: NA
Method: CLO4
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 12144
Analytical Workgroups: WG221715

System Performance Check	
Eluent check	X
Initial Calibration	
Average RF	
Linear Reg or Higher Order Curve	09/05/06
Alt Source Check	09/05/06
Continuing Calibration	
Continuing Calibration	X
Client Specific Requirements	X
Blanks	
Quant Report / Chromatogram	X
Spike Compounds	X
MS/MSD	X
Excel Spreadsheet	X
Samples	
TCL Hits	X
Manual Integrations	X
Data Package	
Level 2	
Level 3	L0609007, 008
Level 4	
Primary Reviewer	JWR
Secondary Reviewer	MDC
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the resonableness of the results	X
Comments: L0609007, 008	LAB DUE 09/12/06
Samples L0609008-01,02 were analyzed at a dilution of 1/4 due to their CLO4 content.	
The Dup and MS of sample L0609008-02 were also analyzed at a 1/4 dilution. The	
MS % Rec. was below the advisory limit. All dilutions are performed on the sample	
extracts (in the case of soils). Due to the level of CLO4 in the parent sample, the	
level of CLO4 added to the MS and the dilution required, the spiked amount of CLO4	
was diluted out.	

Primary Reviewer:
08-SEP-2006
John Richards

Secondary Reviewer:
11-SEP-2006
Michael Cadwell

Generated: SEP-11-2006 10:41:56

KEMRON Environmental Services
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 314.0
Login Number: L0609008

AAB#: WG221715 00072692

Client ID	Date Collected	Date Received	Date Extracted	Max Hold Time Ext.	Time Held Ext.	Date Analyzed	Max Hold Time Anal	Time Held Anal.	Q
04-SB13-01	08/30/06	09/01/06	09/06/06	28	7.18	09/06/06	28	7.18	
04-SB13-02	08/30/06	09/01/06	09/06/06	28	7.20	09/06/06	28	7.20	

* EXT = SEE PROJECT QAPP REQUIREMENTS
*ANAL = SEE PROJECT QAPP REQUIREMENTS

KEMRON FORMS - Modified 02/14/2006
Version 1.5 PDF File ID: 560509
Report generated 09/12/2006 16:57

KEMRON Environmental Services

METHOD BLANK SUMMARY

00072693

Login Number: L0609008
Blank File ID: I1090606.10
Date Analyzed: 09/06/06
Time Analyzed: 16:18
Analyst: JWR

Work Group: WG221715
Blank Sample ID: WG221715-01
Instrument ID: IC1
Method: 314.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG221715-02	I1090606.13	09/06/06 17:19	01
04-SB13-01	L0609008-01	I1090606.17	09/06/06 18:41	DL01
04-SB13-02	L0609008-02	I1090606.19	09/06/06 19:22	DL01
DUP	WG221715-04	I1090606.20	09/06/06 19:42	DL01

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 560510
Report generated 09/12/2006 16:57

KEMRON Environmental Services

METHOD BLANK REPORT

00072694

Login Number: L0609008 Run Date: 09/06/2006 Sample ID: WG221715-01
Instrument ID: IC1 Run Time: 16:18 Prep Method: 314.0
File ID: I1090606.10 Analyst: JWR Method: 314.0
Workgroup (AAB#): WG221715 Matrix: Solid Units: ug/kg
Contract #: DACA56-94-D-0020 Cal ID: IC1 -

Analytes	SQL	PQL	Concentration	Dilution	Qualifier
Perchlorate	5.00	10.0	5.00	1	U

MDL Method Detection Limit
RL Reporting/quantitation Limit

* Analyte concentration > RL

KEMRON FORMS - Modified 07/21/2006
Version 1.5 PDF File ID: 560511
Report generated 09/12/2006 16:57

KEMRON Environmental Services

LABORATORY CONTROL SAMPLE (LCS)

00072695

Login Number: L0609008
Run Date: 09/06/2006
Sample ID: WG221715-02
Instrument ID: IC1
Run Time: 17:19
Prep Method: 314.0
File ID: I1090606.13
Analyst: JWR
Method: 314.0
Workgroup (AAB#): WG221715
Matrix: Solid
Units: ug/kg
Contract #: DACA56-94-D-0020
Cal ID: IC1 -

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	250	266	106	85 - 115	

KEMRON FORMS - Modified 07/06/2006
Version 1.5 PDF File ID: 560512
Report generated 09/12/2006 16:57

KEMRON Environmental Services

DUPLICATE (DUP)

00072696

Sample Ref: L0609008-02 Cal ID: IC1 - Worknum: WG221715

Instrument ID: IC1 Method: 314

Sample ID: WG221715-03 File ID: I1090606.19 Dil: 4 Matrix: SOLID

Duplicate ID: WG221715-04 File ID: I1090606.20 Dil: 4 Units: ug/kg

Analyte	Sample	Duplicate	RPD	RPD Limit	Q
Perchlorate	1840	1830	0.593	25	

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 03/06/2006
Version 1.5 PDF File ID: 560514
Report generated 09/08/2006 10:34

KEMRON Environmental Services

MATRIX SPIKE (MS)

00072697

Loginnum:L0609008 Cal ID: IC1- Worknum:WG221715

Instrument ID:IC1 Contract #:DACA56-94-D-0020 Method:314.0

Parent ID:WG221715-03 File ID:I1090606.19 Dil:4 Matrix:SOLID

Sample ID:WG221715-05 MS File ID:I1090606.21 Dil:4 Units:ug/kg

Analyte	Parent	MS Spiked	MS Found	MS %Rec	%Rec Limits	Q
Perchlorate	1840	250	1940	40.6	80 - 120	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

KEMRON FORMS - Modified 04/19/2006
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KEMRON Environmental Services
Data Checklist

00072698

Date: 09-SEP-2006
Analyst: TMM
Analyst: NA
Method: PCT-S
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG221881

Calibration/Linearity	09/09/06
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	
LCS/LCS Dup	
MS/MSD	
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	TMM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
11-SEP-2006

Secondary Reviewer:
13-SEP-2006

Generated: SEP-13-2006 07:59:31

00072699

Shaw® Shaw Environmental, Inc.

3010 Briarpark Drive, Suite 4N
Houston, TX 77042 (713) 996-4400

CHAIN-OF-CUSTODY Site 4

No. 10403

Laboratory Name: Kemron Address: Marietta, OH Contact:

Project Name: LAAAP Project Location: Site 4/ Karnack, Tx

Project No.: 117591 Project Contact: L. Duncan Project Telephone No.: 832-364-0173

Point of contact: Project Manager/Supervisor:

Telephone No.:

Item No.	Sample Number	Date	Time	Comp	Grab	Matrix	Sample Description, Location	Number of Containers	Perchlorate							Remarks
1	04-SB13-01	8/30	1425		X	S	0-6"	1	X							
2	04-SB13-02	↓	1435		X	S	4'	1	X							
3																
4																
5																
6																
7																
8																
9																
10																

Transfers Relinquished By (Signature)	Date/Time	Transfers Accepted By (Signature)	Date/Time
[signature]	8/31/06 1700	UPS	
		Laboratory Blenda Gregory	9/1/06 0930

Special Instructions: Clc sealed Intact Cooler temp 3 bag

UPS

FedEx Airbill No.: 1Z401663221005 4751

Sampler's Signature

TAT: ____ Standard ____ Rush Due: ___ Seals Intact? ____ Y ____ N Received Good Condition ____ Y ____ N ____ Cold

White - Lab Copy Canary - Field Copy Pink - File Copy

SAMPLE RECEIPT FORM

156 STARLITE DRIVE
MARIETTA, OH
45750
(740) 373-4071

09072700

Date: 9-01-06 Client: Shaw

Shipped By: ( ) Fed-Ex ( ) UPS ( )DHL ( ) KEMRON ( ) Client ( ) Other 9:30

Opened By: JH

Logged By: BG Login # L06 09008

IR Temp Gun: ( ) D (✓) G

COOLER INFORMATION

Number	Cooler ID	Temp °C	Airbill#	COC#	Other
1	1462	3	1240 1006 3221 0054 751		
2					
3					
4					
5					
6					

Were all coolers sealed?	(Y)	N	N/A
Were custody seals used on all coolers?	(Y)	N	N/A
Were custody seals intact?	(Y)	N	N/A
Was visible ice present?	(Y)	N	N/A
Were all coolers in the temperature range of 2-6C? (>6C*)	(Y)	N	N/A
Were the samples frozen?*	Y	(N)	N/A
Were COC papers provided?	(Y)	N	N/A
Were all sample containers intact?*	(Y)	N	N/A
Were all sample labels intact?	(Y)	N	N/A
Were all sample labels legible?*	(Y)	N	N/A
Did all sample labels match the COC?*	(Y)	N	N/A
Was the label information complete?*	(Y)	N	N/A
Were the correct containers used?*	(Y)	N	N/A
Were the correct preservatives added to water samples?*	Y	N	(N/A)
Was the pH tested on preserved water samples?	Y	N	(N/A)
Were pH ranges acceptable?*	Y	N	(N/A)
Was sufficient amount of sample provided?*	(Y)	N	N/A
Were bubbles present in VOA samples?*	Y	N	(N/A)
Were COC's signed and dated?	(Y)	N	N/A
Did samples arrive before hold time expired?*	(Y)	N	N/A
Are discrepancy forms attached?	Y	N	(N/A)

** Requires a discrepancy form*

CRF #1
Revised 8/22/03

Comments:

KEMRON Environmental Services
Internal Chain of Custody Report
Login: L0609008
Account: 2773
Project: 2773.025
Samples: 2
Due Date: 12-SEP-2006

00072701

Samplenum	Container ID	Products
L0609008-01	270815	CLO4 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			01-SEP-2006 12:34	BRG	
2	ANALYZ	W1	WET	05-SEP-2006 11:04	JWR	BRG
3	STORE	WET	A2	13-SEP-2006 11:20	BRG	TMM

Samplenum	Container ID	Products
L0609008-02	270816	CLO4 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish
1	LOGIN			01-SEP-2006 12:34	BRG	
2	ANALYZ	W1	WET	05-SEP-2006 11:04	JWR	BRG
3	STORE	WET	A2	13-SEP-2006 11:20	BRG	TMM