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ENVIRONMENTAL SCIENCE CENTER
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ORIGINAL

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DATE : September 15, 2003

SUBJECT: Region III Data QA Review

FROM : Fredrick Foreman
Region III ESAT RPO (3EA20)

TO : Lorie Baker
Regional Project Manager (3HS34)

Attached is the inorganic data validation report for the Elkton Farm site (Case #: 31952, SDG#: MC0206, MC0228, MC01Y9) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2629.

Attachments

cc: Chris Hartman (MDE)

TO File #: 0011 TDF#: 0835

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DATE: September 9, 2003

SUBJECT: Inorganic Data Validation (IM2 Level)
Case: 31952
SDGs: MC0206, MC0228, MC01Y9
Site: Elkton Farm

FROM: Jeffrey Emanuel JE
Inorganic Data Reviewer

Mahboobeh Mecanic MM
Senior Oversight Chemist

TO: Fredrick Foreman
ESAT Region 3 Project Officer

OVERVIEW

Case 31952, Sample Delivery Groups (SDGs) MC0206, MC01Y9, and MC0228 from the Elkton Farms site consisted of seventeen (17) soil and seven (7) unfiltered aqueous samples analyzed for total metals and cyanide (CN^-), and seven (7) filtrate sample analyzed for dissolved metals. Samples were analyzed by Chemtech Consulting Group (CHEM). The sample set included one (1) soil field duplicate pair, one (1) filtrate field duplicate pairs, one (1) unfiltered field duplicate pair, two (2) filtrate field blanks, and two (2) unfiltered field blanks. Samples were analyzed according to Contract Laboratory Program (CLP) Statement of Work (SOW) ILM04.1 through Routine Analytical Services (RAS) program.

SUMMARY

All samples were successfully analyzed for all Target Analyte List (TAL) parameters with the exception of chromium (Cr) and lead (Pb) in SDG MC0228 and mercury (Hg) in SDGs MC0206 and MC01Y9. Areas of concern with respect to data usability are listed below.

The filtrate blank was used to assess field contamination for filtrate samples while the unfiltered field blank was utilized to assess field contamination for both unfiltered and soil samples based on corresponding sample dates.

Data in this Case have been impacted by outliers reported in laboratory and field blanks, serial dilution, matrix spike, and Contract Required Detection Limit (CRDL) standard analyses. Details for these outliers are discussed under "Major and Minor Problems", specific samples affected are outlined in "Table 1A" and qualified analytical results for all samples are summarized on Data Summary Forms (DSFs).

MAJOR PROBLEM

- Recoveries of CRDL standards were extremely low (<50%) for Cr and Pb in SDG MC0228 and for Hg in SDGs MC0206 and MC01Y9. Reported results less than two times (<2X) CRDL for these analytes in these SDGs may be biased extremely low and have been qualified "L" on the DSFs. Quantitation limits for these analytes were rejected and qualified "R" on the DSFs.

MINOR PROBLEMS

- Continuing Calibration (CCB), Preparation (PB), and/or Field (Fbs) Blanks had reported results greater than Instrument Detection Limits (IDLs) for analytes listed below. Reported results for these analytes in affected samples which are less than five times (<5X) blank concentrations may be biased high and have been qualified "B" on the DSFs.

SDG	Blank	Affected Analyte(s)
MC0206	CCB	selenium (Se)
MC0228	CCB	cyanide (CN^-)
	FB	copper (Cu), mercury (Hg), CN^-
MC01Y9	CCB	magnessium (Mg)
	PB	potassium (K)
	FB	Cu, Zn

- Continuing Calibration and/or Preparation Blanks for analytes listed below had negative results with absolute values greater than IDLs. Reported results for these analytes in affected samples which are less than two times (<2X) blank concentrations and quantitation limits may be biased low and have been qualified "L" and "UL", respectively on the DSFs.

SDG	Blank	Affected Analyte(s)
MC0206	PBN	thallium (Tl)
	CBN	Hg, CN^-
MC01Y9	CBN	Se
	PBN	Hg, Zn

- The percent differences (%D) for the ICP serial dilution analysis were outside the control limit (± 10%) for aluminum (Al), calcium (Ca), Mg, and manganese (Mn) in SDG MC0206. Reported results for these analytes are estimated and have been qualified "J" on the DSFs.

- The matrix spike recovery was low for Se in SDG MC0206, silver (Ag) in SDGs MC0228 and MC01Y9. Reported results and quantitation limits for these analytes in these SDGs may be biased low and have been qualified "L" and "UL", respectively, on the DSFs unless superseded by "B" or "UJ".

- Recoveries of CRDL standards were low (<90%) for antimony (Sb) and Tl in SDG MC0206, arsenic (As), cadmium (Cd), cobalt (Co), Cu, nickel (Ni), Tl, and vanadium (V) in SDG MC0228, and As and Tl in SDG MC01Y9. Low recoveries may indicate false negatives for results detected near detection limits due to an unstable baseline. Reported results <2X CRDL and quantitation limits for these analytes in affected samples may be biased low and have been qualified "L" and "UL", respectively on DSFs unless superseded by "B".

- Recoveries of CRDL standards were high (>110%) for Cu, Ni, and V in SDG MC0206, Hg, and Se in SDG MC0228, and for chromium (Cr), Cu, Mn, Ni, V and Zn in SDG MC01Y9. High recoveries may indicate positive biases for results detected near detection limits due to an unstable baseline. Reported results for these analytes in the affected samples which are less than two times CRDL (<2XCRDL) may be biased high and have been qualified "K" on the DSFs unless superseded by "B".

- Recoveries of CRDL standards were mixed (>110% and <90%) for Ag in SDG MC0228 producing opposing bias effects for results detected near the detection limits. Quantitation limits for this analyte in this SDG are estimated and have been qualified "UJ" on the DSFs.

NOTES

The concentration value was not rounded correctly for beryllium (Be) on the Form I for sample MC0205 (SDG MC0206). The concentration has been changed, initialed and dated by the validator on the applicable Form I.

Reported results for field duplicate pairs were all comparable and within 20% RPD, ±CRQL with the exception of Pb and Zn in aqueous field duplicate pair MC0224/MC0225.

Data for case 31952, SDGs MC0206, MC0228, and MC01Y9, were reviewed in accordance with National Functional Guidelines for Evaluating Inorganic Analyses with Modification for use within Region III.

ATTACHMENTS

INFORMATION REGARDING REPORT CONTENT

Table 1A is a summary of qualifiers applied to the laboratory- generated results during data validation.

TABLE 1A	SUMMARY OF QUALIFIERS ON DATA SUMMARY FORMS AFTER DATA VALIDATION
TABLE 1B	CODES USED IN COMMENTS COLUMN OF TABLE 1A
APPENDIX A	GLOSSARY OF DATA QUALIFIER CODES
APPENDIX B	DATA SUMMARY FORMS
APPENDIX C	CHAIN OF CUSTODY (COC) RECORDS
APPENDIX D	LABORATORY CASE NARRATIVES

DCN: Nar_31952_MC0206_1Y9_228.wpd

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY FORM AFTER DATA VALIDATION

Case 31952, SDG MC0206

ANALYTE	SAMPLES AFFECTED	POSITIVE VALUES	NON-DETECTED VALUES	BIAS	COMMENTS*
Al	All samples	J			ISD (47.2%)
Sb	All samples		UL	Low	CRL (86.6%)
Ca	All samples	J			ISD (299.3%)
Cu	All sample except MC0204, MC0213	K		High	CRH (116.1%)
Mg	All samples	J			ISD (369.7%)
Mn	All samples	J			ISD (37.7%)
Hg	All samples	L	R	Extremely Low	CRE (0.0%) CBN (-0.2 µg/L)
Ni	All samples except MC0204, MC0213	K		High	CRH (111.4%)
Se	All samples except MC0204, MC0209, MC0215		UL	Low	MSL (50.1%)
	MC0204, MC0209, MC0215	B		High	CCB (3.9 µg/L) MSL (50.1%)
Tl	All samples		UL	Low	CRL (82.6%) PBN (-1.613 mg/kg)
V	MC0205, MC0207, MC0208, MC0210, MC0213, MC0216	K		High	CRH (111.3%)
CN^-	MC0206, MC0207, MC0209, MC0215, MC0216, MC0218		UL	Low	CBN (-1.4 µg/L)
	MC0212, MC0213, MC0214, MC0217		UL	Low	CBN (-1.2 µg/L)

* See explanation of comments in Table 1B

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY FORM AFTER DATA VALIDATION

Case 31952, SDG MC0228

ANALYTE	SAMPLES AFFECTED	POSITIVE VALUES	NON-DETECTED VALUES	BIAS	COMMENTS*
As	MC0220, MC0228, MC0229		UL	Low	CRL (75.9%)
Cd	MC0220, MC0228 MC0229		UL	Low	CRL (82.1%)
Cr	MC0220, MC0228, MC0229	L	R	Extremely Low	CRE (36.0%)
Co	MC0220, MC0228, MC0229	L	UL	Low	CRL (83.9%)
Cu	MC0220	B		High	FB (4.3 µg/L) CRL (78.1%)
	MC0228, MC0229	L	UL	Low	CRL (78.1%)
Pb	MC0220, MC0228, MC0229		R	Extremely Low	CRE (47.3%)
	MC0230		UL	Low	CRL (88.3%)
Hg	MC0224, MC0225, MC0229	K		High	CRH (160.0%)
	MC0226, MC0228	B		High	FB (0.87 µg/L) CRH (160.0%)

* See explanation of comments in Table 1B

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY FORM AFTER DATA VALIDATION

Case 31952, SDG MC0228

ANALYTE	SAMPLES AFFECTED	POSITIVE VALUES	NON-DETECTED VALUES	BIAS	COMMENTS*
Ni	MC0220, MC0228, MC0229	L	UL	Low	CRL (83.8%)
Se	MC0226	K		High	CRH (120.4%)
Ag	MC0220, MC0228, MC0229		UJ	Mixed	CRM (74.6%, 111.5%) MSL (55.5%)
	MC0224, MC0225, MC0226, MC0230		UL	Low	MSL (55.5%)
Tl	MC0220, MC0228, MC0229		UL	Low	CRL (82.5%)
V	MC0220, MC0228, MC0229	L	UL	Low	CRL (86.2%)
CN^-	MC0224, MC0225, MC0229, MC0230	B		High	CCB (8.5 µg/L)
	MC0220, MC0226, MC0228	B		High	FB (9.8 µg/L)

* See explanation of comments in Table 1B

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY FORM AFTER DATA VALIDATION

Case 31952, SDG MC01Y9

ANALYTE	SAMPLES AFFECTED	POSITIVE VALUES	NON-DETECTED VALUES	BIAS	COMMENTS*
As	All samples		UL	Low	CRL (86.6%)
Cr	MC01Y9	K		High	CRH (115.4%, 110.4%)
Cu	MC01Y9, MC01Z1, MC01Z8	B		High	FB (4.3 µg/L) CRH (115.4%, 110.4%)
	MC01Y7, MC01Y8, MC01Z2	K		High	CRH (115.4%, 110.4%)
Mg	MC01Z2	B		High	CCB (21.6 µG/L)
Mn	MC01Z8	K		High	CRH (113.6%)
Hg	MC01Y7, MC01Y8	L	R	Extremely Low	CRE (0.0%) CBN (-0.2 µg/L)
	All samples except MC01Y7, MC01Y8		R	Extremely Low	CRE (0.0%) PBN (-0.152 µg/L)
Ni	MC01Y7, MC01Y8, MC01Y9, MC01Z1	K		High	CRH (111.4%)
K	MC01Z2	B		High	PB (94.745 µg/L)
Se	MC01Y7, MC01Y8, MC01Z8		UL	Low	CBN (-3.9 µg/L)
Ag	All samples		UL	Low	MSL (56.4%)
Tl	All samples		UL	Low	CRL (82.6%)
V	MC01Y9	K		High	CRH (111.3%)

* See explanation of comments in Table 1B

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY FORM AFTER DATA VALIDATION

Case 31952, SDG MC01Y9

ANALYTE	SAMPLES AFFECTED	POSITIVE VALUES	NON-DETECTED VALUES	BIAS	COMMENTS*
Zn	MC01Y4		UL	Low	PBN (-3.980 µg/L)
	MC01Y9, MC01Z8	B		High	FB (31.8 µg/L)
	MC01Z1	B		High	FB (31.8 µg/L) CRH (110.7%)
	MC01Z2	K		High	CRH (110.7%)

* See explanation of comments in Table 1B

TABLE 1B
CODES USED IN COMMENTS COLUMN

ISD	=	Percent Difference (%D) for ICP serial dilution analysis was outside of control limits (%D >10% is in parenthesis). Reported results are estimated.
CRL	=	CRDL standard recoveries were low (<90.0%) [% recovery is in parenthesis]. Reported results and quantitation limits may be biased low.
CRH	=	CRDL standard recoveries were high (>110%) [% recovery is in parenthesis]. Reported results which are <2X CRDL may be biased high.
CRE	=	CRDL standard recoveries were extremely low (<50.0%) [% recovery is in parenthesis]. Reported results which are <2X CRDL may be biased extremely low. Quantitation limits have been rejected.
MSL	=	The matrix spike recovery was low (<75%) [%R is in parenthesis]. Reported results and quantitation limits may be biased low.
CCB	=	Continuing calibration blanks had results >IDL (the results are in parenthesis). Reported results which are <5X the blank concentration may be biased high.
PBN	=	Preparation blanks had negative results greater than absolute values of IDLs (results are in parenthesis). Reported results which are <2X absolute value of the blank concentration and quantitation limits may be biased low.
FB	=	Field blanks had results >IDLs (results are in parenthesis). Reported results which are <5X the blank concentration may be biased high.
CRM	=	CRDL standard recoveries were mixed (>110% and <90%) (% recovery is in parenthesis). Reported results which are <2X CRDL are estimated.
PB	=	Preparation blanks had results > MDLs (results are in parenthesis). Reported results which are <5X the blank concentration may be biased high.
CBN	=	Continuing Calibration Blanks had negative results greater than absolute values of IDLs (the results are in parenthesis). Reported results <2X absolute value of the blank concentration and quantitation limits may be biased low.

Appendix A

Glossary of Data Qualifier Codes

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of analytes):

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

(NO CODE) = Confirmed identification.

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

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

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

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

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

[ ] = Analyte present. As values approach the IDL the quantitation may not be accurate.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

Appendix B

Data Summary Forms

DATA SUMMARY FORM: INORGANIC

Case #: 31952
Site :
Lab. :

SDG : MC0206
ELKTON FARM
CHEM

Number of Soil Samples : 17
Number of Water Samples : 0

Sample Number :		MC0203		MC0204		MC0205		MC0206		MC0207	
Sampling Location :		E4S2		E4S3		E4S4		E4S5		E4S6	
Field QC:											
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		13:00		08:40		12:30		12:55		08:55	
%Solids :		90.3		77.3		86.9		84.5		87.8	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	40	6460	J	11700	J	4240	J	5780	J	2940	J
ANTIMONY	12		UL		UL		UL		UL		UL
ARSENIC	2	4.0		4.2		2.4		3.9		[1.9]	
BARIUM	40	44.4		137		58.5		[44.3]		[40.0]	
BERYLLIUM	1	[0.37]		[1.0]		[0.34]		[0.40]		[0.33]	
CADMIUM	1										
CALCIUM	1000	1570	J	[987]	J	[646]	J	1570	J	[1100]	J
CHROMIUM	2	16.3		24.5		9.4		26.6		9.0	
COBALT	10	[4.4]		14.1		[4.0]		[4.6]		[3.5]	
COPPER	5	7.8	K	31.5		[4.4]	K	8.0	K	6.1	K
IRON	20	13100		19300		7990		14500		7570	
*LEAD	0.6	21.6		51.4		15.5		15.8		14.4	
MAGNESIUM	1000	1110	J	2790	J	[602]	J	[818]	J	[559]	J
MANGANESE	3	168	J	653	J	285	J	170	J	208	J
MERCURY	0.1		R	[0.09]	L		R		R		R
NICKEL	8	[5.7]	K	24.4		[3.4]	K	[5.1]	K	[3.3]	K
POTASSIUM	1000	[354]		[1140]		[130]		[346]		[166]	
SELENIUM	1		UL	2.0	B		UL		UL		UL
SILVER	2										
SODIUM	1000			[167]							
THALLIUM	2		UL		UL		UL		UL		UL
VANADIUM	10	24.9		33.0		18.3	K	28.1		13.5	K
ZINC	4	25.3		67.7		16.6		27.7		35.5	
CYANIDE	1								UL		UL

CRDL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRDL * Dilution Factor) / (%Solids/ 100)

SEE NARRATIVE FOR CODE DEFINITIONS
Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 31952 SDG : MC0206
Site : ELKTON FARM
Lab. : CHEM

Sample Number :		MC0208		MC0209		MC0210		MC0211		MC0212	
Sampling Location :		E4S7		E4S8		E4S1		E4SS1		E4SS2	
Field QC:											
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		07/23/2003		07/22/2003		07/23/2003		07/23/2003		07/23/2003	
Time Sampled :		10:05		11:40		12:15		14:35		14:45	
%Solids :		90.8		81.5		81.1		83.6		81.4	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	40	5840	J	11300	J	5040	J	7970	J	10800	J
ANTIMONY	12		UL		UL		UL		UL		UL
ARSENIC	2	[1.7]		4.7		[2.1]		3.0		4.1	
BARIUM	40	[16.8]		58.7		[43.2]		[45.8]		62.5	
BERYLLIUM	1	[0.20]		[0.54]		[0.32]		[0.47]		[0.68]	
CADMIUM	1										
CALCIUM	1000	[250]	J	[548]	J	[948]	J	[431]	J	[720]	J
CHROMIUM	2	14.3		22.1		11.5		21.5		18.5	
COBALT	10	[1.6]		[3.6]		[3.6]		[11.4]		[11.6]	
COPPER	5	[3.7]	K	7.7	K	6.2	K	7.2	K	11.9	K
IRON	20	10900		17600		9420		15200		20400	
*LEAD	0.6	5.1		9.6		19.2		7.9		7.8	
MAGNESIUM	1000	[397]	J	[1150]	J	[728]	J	1500	J	2660	J
MANGANESE	3	18.6	J	54.5	J	176	J	289	J	229	J
MERCURY	0.1		R		R		R		R		R
NICKEL	8	[2.6]	K	[6.3]	K	[4.5]	K	[7.1]	K	11.5	K
POTASSIUM	1000	[160]		[313]		[211]		[330]		[584]	
SELENIUM	1		UL	[1.0]	B		UL		UL		UL
SILVER	2										
SODIUM	1000							[134]			
THALLIUM	2		UL		UL		UL		UL		UL
VANADIUM	10	18.4	K	32.0		16.9	K	26.8		35.9	
ZINC	4	10.3		30.0		22.4		17.6		32.4	
CYANIDE	1				UL						UL

CRDL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRDL * Dilution Factor) / (%Solids/ 100)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 31952
Site :
Lab. :

SDG : MC0206
ELKTON FARM
CHEM

Sample Number :		MC0213		MC0214		MC0215		MC0216		MC0217	
Sampling Location :		E4SS3		E4SS4		E4SS5		E4SS6		E4SS7	
Field QC:						DUP (MC0219)					
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/22/2003		07/22/2003		07/23/2003	
Time Sampled :		08:45		12:35		13:00		09:00		10:10	
%Solids :		79.9		87.9		82.6		80.2		87.7	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	40	5360	J	6650	J	8590	J	4760	J	7360	J
ANTIMONY	12		UL		UL		UL		UL		UL
ARSENIC	2	[1.6]		[1.6]		4.1		[1.1]		3.0	
BARIUM	40	72.2		45.7		[46.6]		55.3		[36.9]	
BERYLLIUM	1	[0.57]		[0.44]		[0.50]		[0.54]		[0.49]	
CADMIUM	1										
CALCIUM	1000	[749]	J	[398]	J	1360	J	[933]	J	[319]	J
CHROMIUM	2	13.3		18.4		19.3		14.0		20.4	
COBALT	10	[8.0]		[4.0]		[4.5]		[5.3]		[3.1]	
COPPER	5	12.8		[5.6]	K	7.9	K	[4.9]	K	6.5	K
IRON	20	9780		8470		16400		8560		14000	
*LEAD	0.6	19.4		6.8		8.6		6.9		5.6	
MAGNESIUM	1000	1560	J	1160	J	[1170]	J	[593]	J	1140	J
MANGANESE	3	485	J	50.2	J	147	J	243	J	56.5	J
MERCURY	0.1	0.12	L	[0.07]	L		R		R		R
NICKEL	8	20.7		[5.8]	K	[6.0]	K	[3.9]	K	[5.2]	K
POTASSIUM	1000	[527]		[310]		[333]		[169]		[317]	
SELENIUM	1		UL		UL	[0.91]	B		UL		UL
SILVER	2										
SODIUM	1000			[123]				[199]			
THALLIUM	2		UL		UL		UL		UL		UL
VANADIUM	10	16.2	K	25.6		29.8		16.0	K	26.7	
ZINC	4	47.7		24.7		22.1		21.3		13.8	
CYANIDE	1		UL		UL		UL		UL		UL

CRDL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRDL * Dilution Factor) / (%Solids/ 100)

SEE NARRATIVE FOR CODE DEFINITIONS
Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 31952 SDG : MC0206
Site : ELKTON FARM
Lab. : CHEM

Sample Number :		MC0218		MC0219							
Sampling Location :		E4SS8		E4SS9							
Field QC:				DUP (MC0215)							
Matrix :		Soil		Soil							
Units :		mg/Kg		mg/Kg							
Date Sampled :		07/22/2003		07/22/2003							
Time Sampled :		11:45		13:15							
%Solids :		86.9		81.6							
Dilution Factor :		1.0		1.0							
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	40	5410	J	7560	J						
ANTIMONY	12		UL		UL						
ARSENIC	2	[1.9]		2.8							
BARIUM	40	[19.9]		[38.7]							
BERYLLIUM	1	[0.27]		[0.43]							
CADMIUM	1										
CALCIUM	1000	[429]	J	1220	J						
CHROMIUM	2	18.6		16.5							
COBALT	10	[2.0]		[4.0]							
COPPER	5	[5.5]	K	6.3	K						
IRON	20	11200		14100							
*LEAD	0.6	4.3		7.2							
MAGNESIUM	1000	[650]	J	[1130]	J						
MANGANESE	3	40.0	J	127	J						
MERCURY	0.1		R		R						
NICKEL	8	[2.9]	K	[5.6]	K						
POTASSIUM	1000	[193]		[308]							
SELENIUM	1		UL		UL						
SILVER	2										
SODIUM	1000	[127]									
THALLIUM	2		UL		UL						
VANADIUM	10	22.2		25.6							
ZINC	4	10.3		20.3							
CYANIDE	1		UL								

CRDL = Contract Required Quantitation Limit

To calculate sample quantitation limits: (CRDL * Dilution Factor) / (%Solids/ 100)

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 31952
Site :
Lab. :

SDG : MC0228
ELKTON FARM
CHEM

Number of Soil Samples : 0
Number of Water Samples : 7

TOTAL METALS

Sample Number :		MC0220		MC0224		MC0225		MC0226		MC0228	
Sampling Location :		E4D1		E4GW4		E4GW5		E4GW6		E4GW8	
Field QC:				DUP (MC0225)		DUP (MC0224)					
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		07/22/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		11:30		13:35		13:30		09:55		09:10	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200			10500		11600		92600		685	
ANTIMONY	60										
*ARSENIC	10		UL					60.1			UL
BARIUM	200	[184]		[175]		[199]		1640		[69.4]	
BERYLLIUM	5			[0.76]		[0.94]		19.8			
*CADMIUM	5		UL								UL
CALCIUM	5000	23400		8590		8960		69300		7570	
*CHROMIUM	10		R	84.5		90.6		704		[3.9]	L
COBALT	50		UL	[9.1]		[10.7]		231		78.7	L
COPPER	25	[3.1]	B	35.4		42.2		522		26.0	L
IRON	100	[54.7]		11900		12500		78400		1400	
*LEAD	3		R	18.0		23.4		265			R
MAGNESIUM	5000	11000		9820		9980		31200		[4980]	
MANGANESE	15	22.7		200		238		1310		296	
MERCURY	0.2			0.31	K	[0.18]	K	1.8	B	0.32	B
*NICKEL	40		UL	[33.9]		[35.7]		412		[16.2]	L
POTASSIUM	5000	[1600]		[1380]		[1440]		9070		[1120]	
SELENIUM	5							[4.0]	K		
SILVER	10		UJ		UL		UL		UL		UJ
SODIUM	5000	[4830]		[3630]		[3690]		9290		9700	
THALLIUM	10		UL								UL
VANADIUM	50		UL	58.8		69.1		744		[8.4]	L
ZINC	20			136		182		516			
*CYANIDE	10	[7.5]	B	[7.8]	B	[7.5]	B	[7.7]	B	[9.8]	B

CRDL = Contract Required Quantitation Limit
*Action Level Exists
SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRDL * Dilution Factor)
Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 31952
SDG : MC0228
[illegible]e :
ELKTON FARM
[illegible]ab. :
CHEM

TOTAL METALS

Sample Number :		MC0229		MC0230							
Sampling Location :		E4GW9		E4GW10							
Field QC:		Field Blank		Field Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		07/22/2003		07/23/2003							
Time Sampled :		11:10		10:15							
Dilution Factor :		1.0		1.0							
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200										
ANTIMONY	60										
*ARSENIC	10		UL								
BARIUM	200										
BERYLLIUM	5										
*CADMIUM	5		UL								
CALCIUM	5000	[196]		[215]							
*CHROMIUM	10		R								
COBALT	50		UL								
COPPER	25		UL								
IRON	100										
*LEAD	3		R		UL						
MAGNESIUM	5000	[50.2]		[56.5]							
MANGANESE	15										
MERCURY	0.2	0.87	K								
[illegible]ICKEL	40		UL								
POTASSIUM	5000										
SELENIUM	5										
SILVER	10		UJ		UL						
SODIUM	5000										
THALLIUM	10		UL								
VANADIUM	50		UL								
ZINC	20										
*CYANIDE	10	[9.8]	B	[7.9]	B						

CRDL = Contract Required Quantitation Limit
*Action Level Exists
SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRDL * Dilution Factor)
Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 31952
Site :
Lab. :

SDG : MC01Y9
ELKTON FARM
CHEM

Number of Soil Samples : 0
Number of Water Samples : 7

DISSOLVED METALS

Sample Number :		MC01Y4		MC01Y7		MC01Y8		MC01Y9		MC01Z1	
Sampling Location :		DME410		DME44		DME45		DME46		DME48	
Field QC:		Field Blank		DUP (MC01Y8)		DUP (MC01Y7)					
		Filtrate of MC0230		Filtrate of MC0224		Filtrate of MC0225		Filtrate of MC0226		Filtrate of MC0228	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		07/23/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		10:15		13:35		13:30		09:55		09:10	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200			[77.6]		[73.9]		[140]			
ANTIMONY	60										
*ARSENIC	10		UL		UL		UL		UL		UL
BARIUM	200			[77.6]		[82.2]		[169]		[60.9]	
BERYLLIUM	5										
*CADMIUM	5										
CALCIUM	5000			5430		5570		49000		5100	
*CHROMIUM	10							[2.3]	K		
COBALT	50			[5.3]		[5.3]		[7.1]		69.3	
COPPER	25			[5.4]	K	[6.1]	K	[5.1]	B	[14.1]	B
IRON	100			666		625		7810		[37.7]	
*LEAD	3										
MAGNESIUM	5000			7860		8110		18400		[4610]	
MANGANESE	15			98.1		93.9		586		288	
MERCURY	0.2		R		R	[0.16]	L		R		R
*NICKEL	40			[23.6]	K	[25.0]	K	[10.0]	K	[18.6]	K
POTASSIUM	5000			[1060]		[1170]		[2900]		[1270]	
SELENIUM	5				UL		UL				
SILVER	10		UL		UL		UL		UL		UL
SODIUM	5000			[3300]		[3620]		9120		10400	
THALLIUM	10		UL		UL		UL		UL		UL
VANADIUM	50							[3.4]	K		
ZINC	20		UL	94.9		87.4		53.5	B	32.6	B

CRDL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRDL * Dilution Factor)

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 31952 SDG : MC01Y9
Site : ELKTON FARM
Lab. : CHEM

DISSOLVED METALS

Sample Number :		MC01Z2		MC01Z8							
Sampling Location :		DME49		DME4D1							
Field QC:		Field Blank									
		Filtrate of MC0229		Filtrate of MC0220							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		07/22/2003		07/22/2003							
Time Sampled :		11:10		11:30							
Dilution Factor :		1.0		1.0							
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200										
ANTIMONY	60										
*ARSENIC	10		UL		UL						
BARIUM	200			[178]							
BERYLLIUM	5										
*CADMIUM	5										
CALCIUM	5000	[228]		22500							
*CHROMIUM	10										
COBALT	50										
COPPER	25	[4.3]	K	[5.7]	B						
IRON	100			[30.1]							
*LEAD	3										
MAGNESIUM	5000	[60.4]	B	10600							
MANGANESE	15			20.4	K						
MERCURY	0.2		R		R						
*NICKEL	40										
POTASSIUM	5000	[105]	B	[1750]							
SELENIUM	5				UL						
SILVER	10		UL		UL						
SODIUM	5000			[4910]							
THALLIUM	10		UL		UL						
VANADIUM	50										
ZINC	20	31.8	K	50.1	B						

CRDL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRDL * Dilution Factor) Revised 09/99

Appendix C

Chain-of-Custody Records

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 31952
DAS No:
R

Region:	3	Date Shipped:	7/23/2003
Project Code:		Carrier Name:	FedEx
Account Code:	02T03N50102D037ZLA00	Airbill:	840878239412
CERCLIS ID:	MDD985407196	Shipped to:	Chemtech Consulting Group (CHEMED)
Spill ID:	037Z		284 Sheffield St ~~Raritan Center~~ ~~285 Campus Plaza 1~~
Site Name/State:	Elkton Farm July/MD		Mountainside, NJ ~~Edison NJ~~ 08837 ~~07092~~ ~~(732) 225-4111~~
Project Leader:	Alex Cox		908 789 8900
Action:	Expanded Site Investigation/RI		
Sampling Co:	MDE		

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC01Y4	Ground Water/ Peggy Smith	L/G	DM (21)	1878 (HNO3) (1)	DME410	S: 7/23/2003	10:15		Field Blank * Filtrate of MC0230
MC01Y7	Ground Water/ Dixon Wood	L/G	DM (21)	1881 (HNO3) (1)	DME44	S: 7/23/2003	13:35		-- * Filtrate of MC0224
MC01Y8	Ground Water/ Dixon Wood	L/G	DM (21)	1882 (HNO3) (1)	DME45	S: 7/23/2003	13:30		* Filtrate of MC0225
MC0203	Surface Soil (0"-12")/ Andy Zarins	L/G	ICP/AES (21)	1899 (Ice Only) (1)	E4S2	S: 7/23/2003	13:00	C0203	--
MC0204	Surface Soil (0"-12")/ Dixon Wood	L/G	ICP/AES (21)	1901 (Ice Only) (1)	E4S3	S: 7/23/2003	8:40	C0204	--
MC0205	Surface Soil (0"-12")/ Scott Morgan	L/G	ICP/AES (21)	1903 (Ice Only) (1)	E4S4	S: 7/23/2003	12:30	C0205	--
MC0208	Surface Soil (0"-12")/ Dixon Wood	L/G	ICP/AES (21)	1909 (Ice Only) (1)	E4S7	S: 7/23/2003	10:05	C0208	--
MC0210	Surface Soil (0"-12")/ Andy Zarins	L/G	ICP/AES (21)	1913 (Ice Only) (1)	E4S1	S: 7/23/2003	12:15	C0210	MS/MSD
MC0211	Subsurface Soil (>12")/ Andy Zarins	L/G	ICP/AES (21)	1919 (Ice Only) (1)	E4SS1	S: 7/23/2003	14:35	C0211	--
MC0212	Subsurface Soil (>12")/ Andy Zarins	L/G	ICP/AES (21)	1923 (Ice Only) (1)	E4SS2	S: 7/23/2003	14:45	C0212	--

* Per Peggy Smith, MDE
Jeffrey Emmel 9-4-03

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: MC0210	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?

CN = Cyanide, DM = CLP TAL Dissolved Metals+Hg ICP-AES, ICP/AES = CLP TAL ICP-AES TM+CN+HG, TM = CLP TAL Total Metals

TR Number: 3-592370820-072303-0004

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

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USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 31952
DAS No:
R

Region:	3	Date Shipped:	7/23/2003
Project Code:		Carrier Name:	FedEx
Account Code:	02T03N50102D037ZLA00	Airbill:	840878239412
CERCLIS ID:	MDD985407196	Shipped to:	Chemtech Consulting Group (CHEMED)
Spill ID:	037Z		284 Sheffield St ~~Raritan Center~~
Site Name/State:	Elkton Farm July/MD		~~205 Campus Plaza 1~~
Project Leader:	Alex Cox	Mountainside, NJ	~~Edison NJ 08837~~ 07092
Action:	Expanded Site Investigation/RI		~~(732) 225 4111~~
Sampling Co:	MDE		908 789 8900

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0213	Subsurface Soil (>12")/ Dixon Wood	L/G	ICP/AES (21)	1927 (Ice Only) (1)	E4SS3	S: 7/23/2003	8:45	C0213	--
MC0214	Subsurface Soil (>12")/ Scott Morgan	L/G	ICP/AES (21)	1931 (Ice Only) (1)	E4SS4	S: 7/23/2003	12:35	C0214	--
MC0217	Subsurface Soil (>12")/ Dixon Wood	L/G	ICP/AES (21)	1943 (Ice Only) (1)	E4SS7	S: 7/23/2003	10:10	C0217	--
MC0224	Ground Water/ Dixon Wood	L/G	CN (21), TM (21)	1989 (HNO3), 1994 (NaOH) (2)	E4GW4	S: 7/23/2003	13:35	C0224	--
MC0225	Ground Water/ Dixon Wood	L/G	CN (21), TM (21)	1995 (HNO3), 2000 (NaOH) (2)	E4GW5	S: 7/23/2003	13:30	C0225	Dup of E4GW4
MC0230	Ground Water/ Peggy Smith	L/G	CN (21), TM (21)	2025 (HNO3), 2030 (NaOH) (2)	E4GW10	S: 7/23/2003	10:15	C0230	Field Blank

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: MC0210	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

CN = Cyanide, DM = CLP TAL Dissolved Metals+Hg ICP-AES, ICP/AES = CLP TAL ICP-AES TM+CN+HG, TM = CLP TAL Total Metals

TR Number 3-592370820-072303-0004

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

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USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 31952
DAS No:

Region:	3	Date Shipped:	7/22/2003
Project Code:		Carrier Name:	FedEx
Account Code:	02T03N50102D037ZLA00	Airbill:	840878239456
CERCLIS ID:	MDD985407198	Shipped to:	Chemtech Consulting Group (CHEMED) ~~Raritan Center~~ PWS
Spill ID:	037Z		284 Sheffield St ~~205 Campus Plaza~~
Site Name/State:	Elkton Farm July/MD		Mountainside ~~Edison NJ 08837~~ 07092
Project Leader:	Alex Cox		~~(732) 225-4111~~
Action:	Expanded Site Investigation/RI		908 789 8900
Sampling Co:	MDE		

Chain of Custody Record		Sampler Signature:	
Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC01Z1	Ground Water/ Dixon Wood	L/G	DM (21)	1885 (HNO3) (1)	DME48	S: 7/22/2003	9:10		* Filtrate of MC0228
MC01Z2	Ground Water/ Peggy Smith	L/G	DM (21)	1886 (HNO3) (1)	DME49	S: 7/22/2003	11:10		Field Blank * Filtrate of MC0229
MC0206	Surface Soil (0"-12")/ Scott Morgan	L/G	ICP/AES (21)	1905 (Ice Only) (1)	E4S5	S: 7/22/2003	12:55	C0206	–
MC0207	Surface Soil (0"-12")/ Alex Cox	L/G	ICP/AES (21)	1907 (Ice Only) (1)	E4S6	S: 7/22/2003	9:55	C0207	* Per Peggy Smith, MDE JE initiator 9-4-03
MC0209	Surface Soil (0"-12")/ Alex Cox	L/G	ICP/AES (21)	1911 (Ice Only) (1)	E4S8	S: 7/22/2003	11:40	C0209	–
MC0215	Subsurface Soil (>12")/ Scott Morgan	L/G	ICP/AES (21)	1935 (Ice Only) (1)	E4SS5	S: 7/22/2003	13:00	C0215	–
MC0216	Subsurface Soil (>12")/ Alex Cox	L/G	ICP/AES (21)	1939 (Ice Only) (1)	E4SS6	S: 7/22/2003	9:00	C0216	–
MC0218	Subsurface Soil (>12")/ Alex Cox	L/G	ICP/AES (21)	1947 (Ice Only) (1)	E4SS8	S: 7/22/2003	11:45	C0218	–
MC0219	Subsurface Soil (>12")/ Scott Morgan	L/G	ICP/AES (21)	1951 (Ice Only) (1)	E4SS9	S: 7/22/2003	13:15	C0219	Field Duplicate of E4SS5
MC0228	Ground Water/ Dixon Wood	L/G	CN (21), TM (21)	2013 (HNO3), 2018 (NaOH) (2)	E4GW8	S: 7/22/2003	9:10	C0228	–

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?

CN = Cyanide, DM = CLP TAL Dissolved Metals+Hg ICP-AES, ICP/AES = CLP TAL ICP-AES TM+CN+HG, TM = CLP TAL Total Metals

TR Number: 3-592370820-072203-0004

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USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 31952 R
DAS No:

Region:	3	Date Shipped:	7/22/2003
Project Code:		Carrier Name:	FedEx
Account Code:	02T03N50102D037ZLA00	Airbill:	840878239456
CERCLIS ID:	MDD985407196	Shipped to:	Chemtech Consulting Group (CHEMED) PWS ~~Raritan Center~~ 284 Sheffield St ~~205 Campus Plaza 1~~ Montclair ~~Edison~~ NJ ~~08837~~ 07092 ~~(732) 225-4111~~ 908 789 8900
Spill ID:	037Z		
Site Name/State:	Elkton Farm July/MD		
Project Leader:	Alex Cox		
Action:	Expanded Site Investigation/RI		
Sampling Co:	MDE		

Chain of Custody Record

Sampler Signature:

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC0229	Ground Water/ Peggy Smith	L/G	CN (21), TM (21)	2019 (HNO3), 2024 (NaOH) (2)	E4GW9	S: 7/22/2003 11:10	C0229	Field Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = O, Grab = G	Shipment Iced?

CN = Cyanide, DM = CLP TAL Dissolved Metals+Hg ICP-AES, ICP/AES = CLP TAL ICP-AES TM+CN+HG, TM = CLP TAL Total Metals

TR Number: 3-592370820-072203-0004

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

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08/18/2003 MON 10:55 [TX/RX NO 5930] 003

USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 31952
DAS No:

Region: 3	Date Shipped: 7/22/2003	Chain of Custody Record	Sampler Signature:
Project Code:	Carrier Name: FedEx	Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 02T03N50102D037ZLA00	Airbill: 840878239456	1	
CERCLIS ID: MDD985407196	Shipped to: Chemtech Consulting Group (CHEMED) ~~Raritan Center~~ ~~285 Campus Plaza I~~ ~~Edison~~ NJ ~~08837-07092~~ ~~(732) 225-6111~~ 908 789 8900	2	
Spill ID: 037Z		3	
Site Name/State: Elkton Farm July/MD		4	
Project Leader: Alex Cox			
Action: Expanded Site Investigation/RI			
Sampling Co: MDE			

PWS
284 Sheffield St
Mountainside

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC01Y9	Ground Water/ Scott Morgan	L/G	DM (21)	1883 (HNO3) (1)	DME46	S: 7/22/2003	9:55		* Filtrate of MC01Z6
MC01Z8	Ground Water/ Dixon Wood	L/G	DM (21)	1892 (HNO3), 1893 (HNO3) (2)	DME4D1	S: 7/22/2003	11:30		MS/MSD * Filtrate of MC0220
MC0220	Ground Water/ Dixon Wood	L/G	CN (21), TM (21)	1967 (HNO3), 1968 (HNO3), 1969 (NaOH), 1970 (NaOH) (4)	E4D1	S: 7/22/2003	11:30	C0220	MS/MSD
MC0226	Ground Water/ Scott Morgan	L/G	CN (21), TM (21)	2001 (HNO3), 2006 (NaOH) (2)	E4GW6	S: 7/22/2003	9:55	C0226	–

* Per Peggy Smith - MDE
JE Validator 9-2-03

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: MC01Z6, MC0220	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?
CN = Cyanide, DM = CLP TAL Dissolved Metals+Hg ICP-AES, TM = CLP TAL Total Metals			

TR Number: 3-592370820-072203-0003

REGION COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA 20191-3400 Phone 703/264-9348 Fax 703/264-9222

F2V5.1.043 Page 1 of 1

Aug-18-2003 09:58am From-MDE WAS ERRP T-616 P.004/004 F-423 410 537 3472 08/18/2003 MON 10:55 [TX/RX NO 5930] 004

U.S. EPA Region III Sample Scheduling Request Form

RAS CASE No: CT1872 / 31952		DAS No:	NSF No:
Date: 7/14/03	Data Validation Level: M3, IM2		EPA Lab Reply:
Site Name: Elkton Farm			Cost:
Address: 183 Zeitler Road		City: Elkton	State: MD
Latitude:	Longitude:		Anal +Val Data TAT:42 Days
Program: CERCLA	CERCLIS No: MDD985407196		Activity: SI
Account No: 03T03N50102D037ZLA00	Operable Unit:		Spill ID:
Preparer: Peggy Smith	RPM/PO: Lorie Baker		Site Leader: Alex Cox
Phone: 410-537-3493	Phone: 215-814-3355		Phone: 410-537-3493
FAX: 410-537-3472	FAX:		FAX: 410-537-3472
E-mail: chartman@mde.state.md.us	E-mail:		E-mail: acox@mde.state.md.us
EPA CO:	Contract Type: State	Prime: MDE	Sub:
Lab Assignment Date:	Analytical TAT: 21 Days		Ship Date From: 7/21/03
Organic Lab:			Ship Date To: 7/25/03
Inorganic Lab:			Carrier:

SAMPLES	METHOD	PARAMETER	MATRIX
13	OLM04.3	TCL	AQ
11	~~ILM05.2~~ DH 8/15/03 ILM04.1	ICP-AES TAL +HG +CN	AQ
11	~~ILM05.2~~ DH 8/15/03 ILM04.1	ICP-AES TAL (DM) +HG	AQ
17	~~ILM05.2~~ DH 8/15/03 ILM04.1	ICP-AES TAL +HG +CN	SOIL
17	OLM04.3	TCL (ENCORE)	SOIL

NOTE: Data validation levels M3 & IM2 require justification. QC field samples must be included as part of total number of samples.

1. Special Instructions: ~~SEVEN (7) SOIL SAMPLES NO VOC ANALYSIS.~~ PLEASE SEND THE ELECTRONIC DATA ASAP.
2. Objectives / Project Plan ID / Permit ID:
3. Program / Project / Permit Reporting Limits
4. DQO (QC Requirements)

Appendix D

Laboratory Case Narrative

CHEMTECH

SDG NARRATIVE

USEPA
SDG # MC0206
CASE # 31952
CONTRACT # 68-W0-0088
LAB CODE: CHEMED
CHEMTECH PROJECT #R3480

A. Number of Samples and Date of Receipt

17 Soil samples were delivered to the laboratory on 07/23/03 and 07/24/03.

B. Parameters

Test requested for Total Metals and Cyanide.

C. Cooler Temp
Indicator Bottle: **Presence**/Absence
Cooler Temp: 3°C (Sample Received Date: 07/23/03)
Cooler Temp: 4°C (Sample Received Date: 07/24/03)

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

E. Corrective Action taken for above:

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ILM04.1.

G. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate the presence of contamination. Laboratory Control sample was within control limits. Spike sample did met requirement except for Selenium and Silver. Duplicate sample did met requirements. Serial Dilution did met requirements except for few Elements.

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature _____ Name: Parveen Hasan

Date 8/12/03 Title: QA/QC

CHEMTECH

SDG NARRATIVE

USEPA
SDG # MC0228
CASE # 31952
CONTRACT # 68-W0-0088
LAB CODE: CHEMED
CHEMTECH PROJECT #R3481

A. Number of Samples and Date of Receipt

07 Water samples were delivered to the laboratory on 07/23/03 and 07/24/03.

B. Parameters

Test requested for Total Metals and Cyanide.

C. Cooler Temp
Indicator Bottle: **Presence**/Absence
Cooler Temp: 3°C (Sample Received Date: 07/23/03)
Cooler Temp: 4°C (Sample Received Date: 07/24/03)

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

E. Corrective Action taken for above:

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ILM04.1.

G. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate the presence of contamination. Laboratory Control sample was within control limits. Spike sample did met requirement except for the Silver. Duplicate sample did met requirements. Serial Dilution did met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature _____ Name: Parveen Hasan

Date 8/12/03 Title: QA/QC

CHEMTECH

SDG NARRATIVE

USEPA
SDG # MC01Y9
CASE # 31952
CONTRACT # 68-W0-0088
LAB CODE: CHEMED
CHEMTECH PROJECT #R3482

A. Number of Samples and Date of Receipt

07 Water samples were delivered to the laboratory on 07/23/03 and 07/24/03.

B. Parameters

Test requested for Dissolved Metals only.

C. Cooler Temp
Indicator Bottle: **Presence**/Absence
Cooler Temp: 3°C (Sample Received Date: 07/23/03)
Cooler Temp: 4°C (Sample Received Date: 07/24/03)

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

E. Corrective Action taken for above:

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ILM04.1.

G. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate the presence of contamination. Laboratory Control sample was within control limits. Spike sample did met requirement except for the Silver. Duplicate sample did met requirements. Serial Dilution did met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature _____ Name: Parveen Hasan

Date 8/12/03 Title: QA/QC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SCIENCE CENTER
701 MAPES ROAD
FORT MEADE, MD 20755-5350

DATE : September 25, 2003

SUBJECT: Region III Data QA Review

FROM : Fredrick Foreman
Region III ESAT RPO (3EA20)

TO : Lorie Baker
Regional Project Manager (3HS34)

Attached is the inorganic data validation report for the Elkton Farm site (Case #: 31952, SDG#: C0206, C0220) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2629.

Attachments

cc: Chris Hartman (MDE)

TO File #: 0011 TDF#: 0866

RECEIVED
OCT 0 2 2003
ERRP

ANALYTICAL SERVICES AND QUALITY ASSURANCE BRANCH

Lockheed Martin Information Technology
ESAT Region 3
US EPA Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Telephone 410-305-3037 Facsimile 410-305-3597

LOCKHEED MARTIN
We never forget who we're working for™

DATE: September 23, 2003

SUBJECT: Level M3 Organic Data Validation for 31952
SDG: C0206 and C0220
Site: Elkton Farm

FROM: Douglas Gardner
Organic Data Reviewer

Mahboobeh Mecanic
Senior Oversight Chemist

TO: Fredrick Foreman
ESAT Region 3 Project Officer

OVERVIEW

Case 31952, Sample Delivery Group (SDG) C0206 and C0220, consisted of nine (9) aqueous samples and seventeen (17) soil samples submitted to A4 Scientific, Inc. (A4) for volatile, semivolatile and/or pesticide/PCB analyses. The sample set included two (2) trip blanks, two (2) field blanks and two (2) field duplicate pairs. The trip blanks were analyzed solely for volatile compounds. Samples were analyzed according to Contract Laboratory Program (CLP) Statements of Work (SOW) OLM04.2 through Routine Analytical Services (RAS) program.

SUMMARY

Data were validated according to Region III Modifications to the National Functional Guidelines for Organic Data Review, Level M3. All samples were successfully analyzed for all target compounds except those qualified "R" as noted in "MAJOR PROBLEM" section.

MAJOR PROBLEM

- The Response Factor (RF) was less than 0.05 for 2,4-dinitrophenol in the semivolatile continuing calibrations dated 08/12/03 and 08/13/03. No positive results for 2,4-dinitrophenol were reported for any samples. Quantitation limit for 2,4-dinitrophenol in affected samples was rejected and qualified "R" on Data Summary Forms (DSFs) in Appendix B.

MINOR PROBLEMS

- Several compounds failed precision criteria [Percent Relative Standard Deviation (%RSD) and Percent Difference (% D)] in the volatile and semivolatile initial and/or continuing calibrations. Positive results were qualified "J", except when superseded by "B". Quantitation limits for compounds with a %D greater than fifty percent (>50%) were qualified "UJ", except when superseded by "R". See DSFs in Appendix B.

- Positive results for PCB compounds with percent differences (%D) greater than twenty-five percent (>25%) between the two analytical columns were qualified "J" on DSFs.

NOTES

- Concentrations of target compounds found in analyses of samples' associated trip, field, method and storage blanks are listed below. Only compounds used to qualify data are listed. Samples with concentrations of common laboratory contaminant acetone less than ten times (<10X) the highest blank concentration or with concentrations of other contaminants less than five times (<5X) blank concentration have been qualified "B". See Data Summary Forms (DSFs) in Appendix B.

Blank	Compound	Concentration		Affected Samples
Holding (C0206)	acetone*	6	B	C0210 thru C0219
	methyl acetate	0.8	J	C0215,C0216,C0218,C0219
	methylene chloride*	3	B	C0210 thru C0219
	2-butanone*	2	B	C0211,C0212,C0214 thru C0219
Holding (C0220)	2-butanone*	3	J	C0220,C0224,C0225,C0226, C0228 thru C0232
Method (VBLKG5)	acetone*	9	J	C0220,C0225,C0229
Method (VBLKG6)	acetone*	11		C0224,C0230
Field (C0230)	diethylphthalate*	2	J	C0224,C0225

* common laboratory contaminant

- Laboratory variances from 5.0 gram sample size for volatile analyses of soil samples are reflected in dilution factors shown on the DSFs.

- Semivolatile analyses of samples C0220, C0224, C0225, C0226 and C0228 as well as the Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample C0220 had the recovery of a single surrogate outside the lower QC limit. No data were qualified based on this single surrogate recovery outlier.

- Pesticide/PCB analysis of sample C0219 had the recovery of surrogate decachlorobiphenyl (DCB) outside the upper QC limit on two (2) different analytical columns. No positive results were reported in this sample and no data were qualified based on these surrogate recovery outliers.

- Due to inconsistent recoveries in the volatile MS/MSD analyses of sample C0220, the Relative Percent Difference (RPD) of spike compound 1,1-dichloroethene was outside the QC limit. No sample data were qualified based on this RPD outlier.

- Semivolatile MS analysis of sample C0210 had recoveries of 4-nitrophenol and pentachlorophenol above upper QC limits and semivolatile MSD analysis of sample C0210 had recovery of pentachlorophenol above the upper QC limit. Semivolatile MS/MSD analyses of sample C0220 had recovery of acenaphthene below the lower QC limit. No sample data were

qualified based on these recovery outliers.

- Pesticide/PCB MS/MSD analyses of sample C0210 had recoveries of all spike compounds below lower QC limits. MSD recoveries of gamma-BHC, heptachlor and aldrin were less than ten percent (<10%). Due to inconsistent recoveries in the Pesticide/PCB MS/MSD analyses of sample C0210, RPDs of spike compounds gamma-BHC, heptachlor and aldrin were outside QC limits. No data were qualified based on these MS/MSD recovery or RPD outliers.

- Pesticide/PCB MSD analysis of sample C0220 had recoveries of spike compounds gamma-BHC and aldrin below lower QC limits. Due to inconsistent recoveries in the Pesticide/PCB MS/MSD analyses of sample C0210, RPDs of spike compounds gamma-BHC, heptachlor and aldrin were outside QC limits. No data were qualified based on these MS/MSD recovery or RPD outliers.

- Non-spiked compounds, other than blank contaminants, were detected in the analysis of sample C0210 and/or the MS/MSD analyses of this sample. Only spiked compounds and blank contaminants were detected in the analysis of sample C0220 and/or MS/MSD analyses of this sample. The results and precision estimates are tabled below. Concentration units are µg/Kg.

Compound	C0210	C0210MS	C0210MSD	%RSD
4-methyl-2-pentanone	2 J	ND	ND	IN
2,4-dinitrophenol	ND	ND	75 J	IN
fluoranthene	88 J	83 J	67 J	14
benzo(a)anthracene	110 J	49 J	ND	77+
chrysene	70 J	76 J	62 J	10
benzo(b)fluoranthene	74 J	75 J	78 J	3
benzo(a)pyrene	48 J	45 J	45 J	4
indeno(1,2,3-cd)pyrene	ND	45 J	ND	IN
benzo(g,h,i)perylene	51 J	49 J	ND	4+

%RSD = Percent Relative Standard Deviation
+ = Relative Percent Difference

ND = Not detected
IN = Indeterminate

- Sample C0215 is a field duplicate of sample C0219. Sample C0224 is a field duplicate of sample C0225. For other than blank contaminants, results for these field duplicate pairs were comparable for those compounds detected above CRQLs.

- Tentatively identified compounds (TICs) were reviewed during data validation. The volatile analyses of samples C0224, C0225, C0229 and C0230 (SDG C0220) had TICs reported. The semivolatile analyses of all samples, except C0220, C0225 and C0230 (SDG C0220), had TICs reported. The semivolatile analyses of samples C0203, C0204, C0205, C0210 and C0217 had two TICs identified as the same compound per SOW specifications. The TIC identifications were corrected on the TIC Form Is by reviewer. TIC Form Is for samples with TICs reported are included in Appendix C.

- Compounds detected below Contract Required Quantitation Limits (CRQLs) were qualified "J", except when superseded by "B". See DSFs in Appendix B.

All data for Case 31952, SDGs C0206 and C0220, were reviewed in accordance with Region III Modifications to the National Functional Guidelines for Organic Data Review, September 1994.

ATTACHMENTS

1)	Appendix A	Glossary of Data Qualifier Terms
2)	Appendix B	Data Summary Forms
3)	Appendix C	Tentatively Identified Compounds
4)	Appendix D	Chain-of-Custody Records
5)	Appendix E	Laboratory Case Narrative

DCN:31952.wpd

Appendix A

Glossary of Data Qualifiers

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

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

NO CODE = Confirmed identification.

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

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

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

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

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

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

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

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

Appendix B

Data Summary Forms

DATA SUMMARY FORM: VOLATILES

C[illegible]#: 31952
S[illegible]
Lab. :

SDG : C0206
ELKTON FARM
A4

Number of Soil Samples : 10
Number of Water Samples : 0

Sample Number :		C0210		C0211		C0212		C0213		C0214	
Sampling Location :		E4S1		E4SS1		E4SS2		E4SS3		E4SS4	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/23/2003		07/23/2003		07/23/2003	
Time Sampled :		12:15		14:35		14:45		08:45		12:35	
%Moisture :		20		16		19		21		14	
Dilution Factor :		0.86		0.78		0.85		0.91		0.79	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	4	B	16	B	7	B	8	B	24	B
Carbon Disulfide	10										
Methyl Acetate	10										
Methylene Chloride	10	2	B	1	B	2	B	1	B	2	B
trans-1,2-Dichloroethene	10										
[illegible]ethyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
2-Butanone	10			4	B	3	B			3	B
Chloroform	10										
1,1,1-Trichloroethane	10										
Cyclohexane	10										
Carbon Tetrachloride	10										
Benzene	10										
1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10	2	J								
Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
Tetrachloroethene	10										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: VOLATILES

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :	C0210		C0211		C0212		C0213		C0214	
Sampling Location :	E4S1		E4SS1		E4SS2		E4SS3		E4SS4	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	07/23/2003		07/23/2003		07/23/2003		07/23/2003		07/23/2003	
Time Sampled :	12:15		14:35		14:45		08:45		12:35	
%Moisture :	20		16		19		21		14	
Dilution Factor :	0.86		0.78		0.85		0.91		0.79	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
Chlorobenzene	10										
Ethylbenzene	10										
Xylenes (total)	10									11	
Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
1,3-Dichlorobenzene	10										
1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: VOLATILES

#: 31952

Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0215		C0216		C0217		C0218		C0219	
Sampling Location :		E4SS5		E4SS6		E4SS7		E4SS8		E4SS9	
Field QC:		Duplicate(C0219)								Duplicate(C0215)	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/22/2003		07/22/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		13:00		09:00		10:10		11:45		13:15	
%Moisture :		19		17		13		12		18	
Dilution Factor :		0.85		0.88		0.86		0.77		0.81	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
Vinyl Chloride	10										
Bromomethane	10			0.5	J						
Chloroethane	10										
Trichlorofluoromethane	10										
1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	8	B	10	B	5	B	8	B	9	B
Carbon Disulfide	10										
Methyl Acetate	10	2	B	2	B			1	B	0.8	B
Methylene Chloride	10	6	B	8	B	1	B	6	B	4	B
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
2-Butanone	10	3	B	4	B	2	B	2	B	3	B
Chloroform	10										
1,1,1-Trichloroethane	10										
Cyclohexane	10										
Carbon Tetrachloride	10										
Benzene	10										
1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10							0.5	J		
Tetrachloroethene	10										

CRQL = Contract Required Quantitation Limit

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

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

DATA SUMMARY FORM: VOLATILES

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0215		C0216		C0217		C0218		C0219	
Sampling Location :		E4SS5		E4SS6		E4SS7		E4SS8		E4SS9	
Field QC:		Duplicate(C0219)								Duplicate(C0215)	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/22/2003		07/22/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		13:00		09:00		10:10		11:45		13:15	
%Moisture :		19		17		13		12		18	
Dilution Factor :		0.85		0.88		0.86		0.77		0.81	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
Chlorobenzene	10										
Ethylbenzene	10										
Xylenes (total)	10										
Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
1,3-Dichlorobenzene	10										
1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: VOLATILES

C[redacted]#: 31952
S[redacted]
Lab. :

SDG : C0220
ELKTON FARM
A4

Number of Soil Samples : 0
Number of Water Samples : 9

Sample Number :		C0220		C0224		C0225		C0226		C0228	
Sampling Location :		E4D1		E4GW4		E4GW5		E4GW6		E4GW8	
Field QC:				Duplicate(C0225)		Duplicate(C0224)					
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		07/22/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		11:30		13:35		13:30		09:55		09:10	
pH :		≤2		≤2		≤2		≤2		≤2	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10					3	J				
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	2	B	9	B	6	B				
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
[redacted]ethyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10	3	B	4	B	3	B	2	B	2	B
Chloroform	10										
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
*Carbon Tetrachloride	10										
*Benzene	10										
*1,2-Dichloroethane	10									2	J
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10									71	
*Tetrachloroethene	10										

CRQL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRQL * Dilution Factor)

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

DATA SUMMARY FORM: VOLATILES

Case #: 31952
Site :
Lab. :

SDG : C0220
ELKTON FARM
A4

Sample Number :	C0220		C0224		C0225		C0226		C0228	
Sampling Location :	E4D1		E4GW4		E4GW5		E4GW6		E4GW8	
Field QC:			Duplicate(C0225)		Duplicate(C0224)					
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	07/22/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :	11:30		13:35		13:30		09:55		09:10	
pH :	≤2		≤2		≤2		≤2		≤2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
*Chlorobenzene	10			3	J	3	J				
*Ethylbenzene	10			10		11					
Xylenes (total)	10										
*Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

To calculate sample quantitation limits: (CRQL * Dilution Factor)

DATA SUMMARY FORM: VOLATILES

Case #: 31952

Lab. :

SDG : C0220
ELKTON FARM
A4

Sample Number :		C0229		C0230		C0231		C0232			
Sampling Location :		E4GW9		E4GW10		E4GW11		E4GW12			
Field QC:		Field Blank		Field Blank		Trip Blank		Trip Blank			
Matrix :		Water		Water		Water		Water			
Units :		ug/L		ug/L		ug/L		ug/L			
Date Sampled :		07/22/2003		07/23/2003		07/22/2003		07/23/2003			
Time Sampled :		11:10		10:15		11:00		10:00			
pH :		≤2		≤2		≤2		≤2			
Dilution Factor :		1.0		1.0		1.0		1.0			
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	1	B	3	B						
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10	3	B	4	B	4	B	3	B		
Chloroform	10										
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
*Carbon Tetrachloride	10										
*Benzene	10										
*1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
*Tetrachloroethene	10										

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

To calculate sample quantitation limits: (CRQL * Dilution Factor)

DATA SUMMARY FORM: VOLATILES

Case #: 31952
Site :
Lab. :

SDG : C0220
ELKTON FARM
A4

Sample Number :		C0229		C0230		C0231		C0232			
Sampling Location :		E4GW9		E4GW10		E4GW11		E4GW12			
Field QC:		Field Blank		Field Blank		Trip Blank		Trip Blank			
Matrix :		Water		Water		Water		Water			
Units :		ug/L		ug/L		ug/L		ug/L			
Date Sampled :		07/22/2003		07/23/2003		07/22/2003		07/23/2003			
Time Sampled :		11:10		10:15		11:00		10:00			
pH :		≤2		≤2		≤2		≤2			
Dilution Factor :		1.0		1.0		1.0		1.0			
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
*Chlorobenzene	10										
*Ethylbenzene	10										
Xylenes (total)	10										
*Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

To calculate sample quantitation limits: (CRQL * Dilution Factor)

DATA SUMMARY FORM: BNA

[redacted]#: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Number of Soil Samples : 17
Number of Water Samples : 0

Sample Number :	C0203		C0204		C0205		C0206		C0207	
Sampling Location :	E4S2		E4S3		E4S4		E4S5		E4S6	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	07/23/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :	13:00		08:40		12:30		12:55		08:55	
%Moisture :	11		21		12		15		13	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330										
Phenol	330										
bis-(2-Chloroethyl) ether	330										
2-Chlorophenol	330										
2-Methylphenol	330										
2,2'-oxybis(1-Chloropropane)	330										
Acetophenone	330										
4-Methylphenol	330										
N-Nitroso-di-n-propylamine	330										
Hexachloroethane	330										
Nitrobenzene	330										
Isophorone	330										
2-Nitrophenol	330										
2,4-Dimethylphenol	330										
bis(2-Chloroethoxy)methane	330										
2,4-Dichlorophenol	330										
Naphthalene	330										
4-Chloroaniline	330										
Hexachlorobutadiene	330										
Caprolactam	330										
4-Chloro-3-methylphenol	330										
2-Methylnaphthalene	330								UJ		UJ
Hexachlorocyclopentadiene	330										
2,4,6-Trichlorophenol	330										
2,4,5-Trichlorophenol	830										
1,1'-Biphenyl	330										
2-Chloronaphthalene	330										
2-Nitroaniline	830										
Dimethylphthalate	330										
2,6-Dinitrotoluene	330							64	J		
Acenaphthylene	330										
3-Nitroaniline	830										

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

CRQL = Contract Required Quantitation Limit

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

DATA SUMMARY FORM: BNA

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0203		C0204		C0205		C0206		C0207	
Sampling Location :		E4S2		E4S3		E4S4		E4S5		E4S6	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		13:00		08:40		12:30		12:55		08:55	
%Moisture :		11		21		12		15		13	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330								R		R
2,4-Dinitrophenol	830										
4-Nitrophenol	830										
Dibenzofuran	330										
2,4-Dinitrotoluene	330										
Diethylphthalate	330										
Fluorene	330										
4-Chlorophenyl-phenyl ether	330										
4-Nitroaniline	830										
4,6-Dinitro-2-methylphenol	830										
N-Nitrosodiphenylamine	330										
4-Bromophenyl-phenylether	330										
Hexachlorobenzene	330										
Atrazine	330										
Pentachlorophenol	830							130	J		
Phenanthrene	330							44	J		
Anthracene	330										
Carbazole	330										
Di-n-butylphthalate	330										
Fluoranthene	330	40	J	67	J	46	J	270	J		
Pyrene	330	38	J	69	J	53	J	310	J		
Butylbenzylphthalate	330										
3,3'-Dichlorobenzidine	330										
Benzo(a)anthracene	330							140	J		
Chrysene	330			48	J	38	J	180	J		
bis(2-Ethylhexyl)phthalate	330									55	J
Di-n-octylphthalate	330										
Benzo(b)fluoranthene	330			70	J	42	J	140	J		
Benzo(k)fluoranthene	330							97	J		
Benzo(a)pyrene	330							140	J		
Indeno(1,2,3-cd)pyrene	330							91	J		
Dibenzo(a,h)anthracene	330										
Benzo(g,h,i)perylene	330							110	J		

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: BNA

#: 31952

Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :	C0208		C0209		C0210		C0211		C0212	
Sampling Location :	E4S7		E4S8		E4S1		E4SS1		E4SS2	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :	07/23/2003		07/22/2003		07/23/2003		07/23/2003		07/23/2003	
Time Sampled :	10:05		11:40		12:15		14:35		14:45	
%Moisture :	14		19		20		16		19	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330										
Phenol	330										
bis-(2-Chloroethyl) ether	330										
2-Chlorophenol	330										
2-Methylphenol	330										
2,2'-oxybis(1-Chloropropane)	330										
Acetophenone	330										
4-Methylphenol	330										
N-Nitroso-di-n-propylamine	330										
Hexachloroethane	330										
Nitrobenzene	330										
Isophorone	330										
2-Nitrophenol	330										
2,4-Dimethylphenol	330										
bis(2-Chloroethoxy)methane	330										
2,4-Dichlorophenol	330										
Naphthalene	330										
4-Chloroaniline	330										
Hexachlorobutadiene	330										
Caprolactam	330										
4-Chloro-3-methylphenol	330										
2-Methylnaphthalene	330										
Hexachlorocyclopentadiene	330										
2,4,6-Trichlorophenol	330										
2,4,5-Trichlorophenol	830										
1,1'-Biphenyl	330										
2-Chloronaphthalene	330										
2-Nitroaniline	830										
Dimethylphthalate	330										
2,6-Dinitrotoluene	330										
Acenaphthylene	330										
3-Nitroaniline	830										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: BNA

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0208		C0209		C0210		C0211		C0212	
Sampling Location :		E4S7		E4S8		E4S1		E4SS1		E4SS2	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/22/2003		07/23/2003		07/23/2003		07/23/2003	
Time Sampled :		10:05		11:40		12:15		14:35		14:45	
%Moisture :		14		19		20		16		19	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330										
2,4-Dinitrophenol	830		R				R		R		R
4-Nitrophenol	830										
Dibenzofuran	330										
2,4-Dinitrotoluene	330										
Diethylphthalate	330										
Fluorene	330										
4-Chlorophenyl-phenyl ether	330										
4-Nitroaniline	830										
4,6-Dinitro-2-methylphenol	830										
N-Nitrosodiphenylamine	330										
4-Bromophenyl-phenylether	330										
Hexachlorobenzene	330										
Atrazine	330										
Pentachlorophenol	830										
Phenanthrene	330										
Anthracene	330										
Carbazole	330										
Di-n-butylphthalate	330							97	J		
Fluoranthene	330					88	J				
Pyrene	330					110	J				
Butylbenzylphthalate	330			64	J						
3,3'-Dichlorobenzidine	330										
Benzo(a)anthracene	330										
Chrysene	330					70	J				
bis(2-Ethylhexyl)phthalate	330			660				89	J	76	J
Di-n-octylphthalate	330										
Benzo(b)fluoranthene	330					74	J				
Benzo(k)fluoranthene	330										
Benzo(a)pyrene	330					48	J				
Indeno(1,2,3-cd)pyrene	330										
Dibenzo(a,h)anthracene	330										
Benzo(g,h,i)perylene	330					51	J				

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

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

Revised 09/99

DATA SUMMARY FORM: BNA

Case #: 31952

Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0213		C0214		C0215		C0216		C0217	
Sampling Location :		E4SS3		E4SS4		E4SS5		E4SS6		E4SS7	
Field QC:						Duplicate(C0219)					
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/22/2003		07/22/2003		07/23/2003	
Time Sampled :		08:45		12:35		13:00		09:00		10:10	
%Moisture :		21		14		19		17		13	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330										
Phenol	330										
bis-(2-Chloroethyl) ether	330										
2-Chlorophenol	330										
2-Methylphenol	330										
2,2'-oxybis(1-Chloropropane)	330										
Acetophenone	330										
4-Methylphenol	330										
N-Nitroso-di-n-propylamine	330										
Hexachloroethane	330										
Nitrobenzene	330										
Isophorone	330										
2-Nitrophenol	330										
2,4-Dimethylphenol	330										
bis(2-Chloroethoxy)methane	330										
2,4-Dichlorophenol	330										
Naphthalene	330										
4-Chloroaniline	330										
Hexachlorobutadiene	330										
Caprolactam	330										
4-Chloro-3-methylphenol	330										
2-Methylnaphthalene	330						UJ		UJ		
Hexachlorocyclopentadiene	330										
2,4,6-Trichlorophenol	330										
2,4,5-Trichlorophenol	830										
1,1'-Biphenyl	330										
2-Chloronaphthalene	330										
2-Nitroaniline	830										
Dimethylphthalate	330										
2,6-Dinitrotoluene	330					46	J				
Acenaphthylene	330										
3-Nitroaniline	830										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: BNA

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0213		C0214		C0215		C0216		C0217	
Sampling Location :		E4SS3		E4SS4		E4SS5		E4SS6		E4SS7	
Field QC:						Duplicate(C0219)					
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/22/2003		07/22/2003		07/23/2003	
Time Sampled :		08:45		12:35		13:00		09:00		10:10	
%Moisture :		21		14		19		17		13	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330										
2,4-Dinitrophenol	830		R				R		R		R
4-Nitrophenol	830										
Dibenzofuran	330										
2,4-Dinitrotoluene	330										
Diethylphthalate	330										
Fluorene	330										
4-Chlorophenyl-phenyl ether	330										
4-Nitroaniline	830										
4,6-Dinitro-2-methylphenol	830										
N-Nitrosodiphenylamine	330										
4-Bromophenyl-phenylether	330										
Hexachlorobenzene	330										
Atrazine	330										
Pentachlorophenol	830					73	J				
Phenanthrene	330										
Anthracene	330										
Carbazole	330										
Di-n-butylphthalate	330					130	J				
Fluoranthene	330					160	J				
Pyrene	330										
Butylbenzylphthalate	330										
3,3'-Dichlorobenzidine	330					65	J				
Benzo(a)anthracene	330					85	J				
Chrysene	330			43	J			59	J	46	J
bis(2-Ethylhexyl)phthalate	330										
Di-n-octylphthalate	330					69	J				
Benzo(b)fluoranthene	330					42	J				
Benzo(k)fluoranthene	330					71	J				
Benzo(a)pyrene	330										
Indeno(1,2,3-cd)pyrene	330										
Dibenzo(a,h)anthracene	330					50	J				
Benzo(g,h,i)perylene	330										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: BNA

#: 31952
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0218		C0219							
Sampling Location :		E4SS8		E4SS9							
Field QC:				Duplicate(C0215)							
Matrix :		Soil		Soil							
Units :		ug/Kg		ug/Kg							
Date Sampled :		07/22/2003		07/22/2003							
Time Sampled :		11:45		13:15							
%Moisture :		12		18							
Dilution Factor :		1.0		1.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330										
Phenol	330										
bis-(2-Chloroethyl) ether	330										
2-Chlorophenol	330										
2-Methylphenol	330										
2,2'-oxybis(1-Chloropropane)	330										
Acetophenone	330										
4-Methylphenol	330										
N-Nitroso-di-n-propylamine	330										
Hexachloroethane	330										
Nitrobenzene	330										
Isophorone	330										
2-Nitrophenol	330										
2,4-Dimethylphenol	330										
bis(2-Chloroethoxy)methane	330										
2,4-Dichlorophenol	330										
Naphthalene	330										
4-Chloroaniline	330										
Hexachlorobutadiene	330										
Caprolactam	330										
4-Chloro-3-methylphenol	330										
2-Methylnaphthalene	330				UJ						
Hexachlorocyclopentadiene	330										
2,4,6-Trichlorophenol	330										
2,4,5-Trichlorophenol	830										
1,1'-Biphenyl	330										
2-Chloronaphthalene	330										
2-Nitroaniline	830										
Dimethylphthalate	330										
2,6-Dinitrotoluene	330										
Acenaphthylene	330			110	J						
3-Nitroaniline	830										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

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

Revised 09/99

DATA SUMMARY FORM: BNA

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0218		C0219							
Sampling Location :		E4SS8		E4SS9							
Field QC:				Duplicate(C0215)							
Matrix :		Soil		Soil							
Units :		ug/Kg		ug/Kg							
Date Sampled :		07/22/2003		07/22/2003							
Time Sampled :		11:45		13:15							
%Moisture :		12		18							
Dilution Factor :		1.0		1.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330										
2,4-Dinitrophenol	830				R						
4-Nitrophenol	830										
Dibenzofuran	330										
2,4-Dinitrotoluene	330										
Diethylphthalate	330										
Fluorene	330										
4-Chlorophenyl-phenyl ether	330										
4-Nitroaniline	830										
4,6-Dinitro-2-methylphenol	830										
N-Nitrosodiphenylamine	330										
4-Bromophenyl-phenylether	330										
Hexachlorobenzene	330										
Atrazine	330										
Pentachlorophenol	830										
Phenanthrene	330			200	J						
Anthracene	330			58	J						
Carbazole	330										
Di-n-butylphthalate	330										
Fluoranthene	330	48	J	370	J						
Pyrene	330			490							
Butylbenzylphthalate	330										
3,3'-Dichlorobenzidine	330										
Benzo(a)anthracene	330			200	J						
Chrysene	330			270	J						
bis(2-Ethylhexyl)phthalate	330	210	J								
Di-n-octylphthalate	330										
Benzo(b)fluoranthene	330			210	J						
Benzo(k)fluoranthene	330			110	J						
Benzo(a)pyrene	330			220	J						
Indeno(1,2,3-cd)pyrene	330			140	J						
Dibenzo(a,h)anthracene	330			48	J						
Benzo(g,h,i)perylene	330			170	J						

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: BNA

e #: 31952
:
Lab. :

SDG : C0220
ELKTON FARM
A4

Number of Soil Samples : 0
Number of Water Samples : 7

Sample Number :		C0220		C0224		C0225		C0226		C0228	
Sampling Location :		E4D1		E4GW4		E4GW5		E4GW6		E4GW8	
Field QC:				Duplicate(C0225)		Duplicate(C0224)					
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		07/22/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		11:30		13:35		13:30		09:55		09:10	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	10										
Phenol	10										
bis-(2-Chloroethyl) ether	10										
2-Chlorophenol	10										
2-Methylphenol	10										
2,2'-oxybis(1-Chloropropane)	10										
Acetophenone	10										
4-Methylphenol	10										
N-Nitroso-di-n-propylamine	10										
Hexachloroethane	10										
Nitrobenzene	10										
Isophorone	10										
2-Nitrophenol	10										
2,4-Dimethylphenol	10										
bis(2-Chloroethoxy)methane	10										
2,4-Dichlorophenol	10										
Naphthalene	10										
4-Chloroaniline	10										
Hexachlorobutadiene	10										
Caprolactam	10										
4-Chloro-3-methylphenol	10										
2-Methylnaphthalene	10			3	J						
Hexachlorocyclopentadiene	10										
2,4,6-Trichlorophenol	10										
2,4,5-Trichlorophenol	25										
1,1'-Biphenyl	10										
2-Chloronaphthalene	10										
2-Nitroaniline	25										
Dimethylphthalate	10										
2,6-Dinitrotoluene	10										
Acenaphthylene	10										
3-Nitroaniline	25										

CRQL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRQL * Dilution Factor)

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

DATA SUMMARY FORM: BNA

Case #: 31952
Site :
Lab. :

SDG : C0220
ELKTON FARM
A4

Sample Number :		C0220		C0224		C0225		C0226		C0228	
Sampling Location :		E4D1		E4GW4		E4GW5		E4GW6		E4GW8	
Field QC:				Duplicate(C0225)		Duplicate(C0224)					
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		07/22/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		11:30		13:35		13:30		09:55		09:10	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	10										
2,4-Dinitrophenol	25		R		R				R		R
4-Nitrophenol	25										
Dibenzofuran	10										
2,4-Dinitrotoluene	10										
Diethylphthalate	10			12	B	1	B				
Fluorene	10										
4-Chlorophenyl-phenyl ether	10										
4-Nitroaniline	25										
4,6-Dinitro-2-methylphenol	25										
N-Nitrosodiphenylamine	10										
4-Bromophenyl-phenylether	10										
*Hexachlorobenzene	10										
Atrazine	10										
*Pentachlorophenol	25										
Phenanthrene	10										
Anthracene	10										
Carbazole	10										
Di-n-butylphthalate	10										
Fluoranthene	10										
Pyrene	10										
Butylbenzylphthalate	10										
3,3'-Dichlorobenzidine	10										
Benzo(a)anthracene	10										
Chrysene	10										
bis(2-Ethylhexyl)phthalate	10										
Di-n-octylphthalate	10										
Benzo(b)fluoranthene	10										
Benzo(k)fluoranthene	10										
Benzo(a)pyrene	10										
Indeno(1,2,3-cd)pyrene	10										
Dibenzo(a,h)anthracene	10										
Benzo(g,h,i)perylene	10										

CRQL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRQL * Dilution Factor)

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

DATA SUMMARY FORM: BNA

e #: 31952

Lab. :

SDG : C0220
ELKTON FARM
A4

Sample Number :		C0229		C0230							
Sampling Location :		E4GW9		E4GW10							
Field QC:		Field Blank		Field Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		07/22/2003		07/23/2003							
Time Sampled :		11:10		10:15							
Dilution Factor :		1.0		1.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	10										
Phenol	10										
bis-(2-Chloroethyl) ether	10										
2-Chlorophenol	10										
2-Methylphenol	10										
2,2'-oxybis(1-Chloropropane)	10										
Acetophenone	10										
4-Methylphenol	10										
N-Nitroso-di-n-propylamine	10										
Hexachloroethane	10										
Nitrobenzene	10										
Isophorone	10										
2-Nitrophenol	10										
2,4-Dimethylphenol	10										
is(2-Chloroethoxy)methane	10										
2,4-Dichlorophenol	10										
Naphthalene	10										
4-Chloroaniline	10										
Hexachlorobutadiene	10										
Caprolactam	10										
4-Chloro-3-methylphenol	10										
2-Methylnaphthalene	10										
Hexachlorocyclopentadiene	10										
2,4,6-Trichlorophenol	10										
2,4,5-Trichlorophenol	25										
1,1'-Biphenyl	10										
2-Chloronaphthalene	10										
2-Nitroaniline	25										
Dimethylphthalate	10										
2,6-Dinitrotoluene	10										
Acenaphthylene	10										
3-Nitroaniline	25										

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

To calculate sample quantitation limits: (CRQL * Dilution Factor)

DATA SUMMARY FORM: BNA

Case #: 31952
Site :
Lab. :

SDG : C0220
ELKTON FARM
A4

Sample Number :		C0229		C0230							
Sampling Location :		E4GW9		E4GW10							
Field QC:		Field Blank		Field Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		07/22/2003		07/23/2003							
Time Sampled :		11:10		10:15							
Dilution Factor :		1.0		1.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	10										
2,4-Dinitrophenol	25		R		R						
4-Nitrophenol	25										
Dibenzofuran	10										
2,4-Dinitrotoluene	10										
Diethylphthalate	10	5	J	2	J						
Fluorene	10										
4-Chlorophenyl-phenyl ether	10										
4-Nitroaniline	25										
4,6-Dinitro-2-methylphenol	25										
N-Nitrosodiphenylamine	10										
4-Bromophenyl-phenylether	10										
*Hexachlorobenzene	10										
Atrazine	10										
*Pentachlorophenol	25										
Phenanthrene	10										
Anthracene	10										
Carbazole	10										
Di-n-butylphthalate	10	1	J								
Fluoranthene	10										
Pyrene	10										
Butylbenzylphthalate	10										
3,3'-Dichlorobenzidine	10										
Benzo(a)anthracene	10										
Chrysene	10										
bis(2-Ethylhexyl)phthalate	10										
Di-n-octylphthalate	10										
Benzo(b)fluoranthene	10										
Benzo(k)fluoranthene	10										
Benzo(a)pyrene	10										
Indeno(1,2,3-cd)pyrene	10										
Dibenzo(a,h)anthracene	10										
Benzo(g,h,i)perylene	10										

CRQL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRQL * Dilution Factor)

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS
Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

#: 31952

Lab. :

SDG : C0206
ELKTON FARM
A4

Number of Soil Samples : 17
Number of Water Samples : 0

Sample Number :		C0203		C0204		C0205		C0206		C0207	
Sampling Location :		E4S2		E4S3		E4S4		E4S5		E4S6	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		13:00		08:40		12:30		12:55		08:55	
%Moisture :		11		21		12		15		13	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7										
beta-BHC	1.7										
delta-BHC	1.7										
gamma-BHC (Lindane)	1.7										
Heptachlor	1.7										
Aldrin	1.7										
Heptachlor epoxide	1.7										
Endosulfan I	1.7										
Dieldrin	3.3									0.92	J
4,4'-DDE	3.3			3.1	J						
Endrin	3.3										
Endosulfan II	3.3										
4,4'-DDD	3.3										
Endosulfan sulfate	3.3									0.49	J
4,4'-DDT	3.3	0.70	J	22							
Methoxychlor	17										
Endrin ketone	3.3										
Endrin aldehyde	3.3										
alpha-Chlordane	1.7										
gamma-Chlordane	1.7										
Toxaphene	170										
Aroclor-1016	33										
Aroclor-1221	67										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										

SEE NARRATIVE FOR CODE DEFINITIONS

CRQL = Contract Required Quantitation Limit

Revised 09/99

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

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0208		C0209		C0210		C0211		C0212	
Sampling Location :		E4S7		E4S8		E4S1		E4SS1		E4SS2	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/22/2003		07/23/2003		07/23/2003		07/23/2003	
Time Sampled :		10:05		11:40		12:15		14:35		14:45	
%Moisture :		14		19		20		16		19	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7										
beta-BHC	1.7										
delta-BHC	1.7										
gamma-BHC (Lindane)	1.7										
Heptachlor	1.7										
Aldrin	1.7										
Heptachlor epoxide	1.7										
Endosulfan I	1.7										
Dieldrin	3.3										
4,4'-DDE	3.3										
Endrin	3.3										
Endosulfan II	3.3										
4,4'-DDD	3.3										
Endosulfan sulfate	3.3										
4,4'-DDT	3.3										
Methoxychlor	17										
Endrin ketone	3.3										
Endrin aldehyde	3.3										
alpha-Chlordane	1.7										
gamma-Chlordane	1.7										
Toxaphene	170										
Aroclor-1016	33										
Aroclor-1221	67										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										

CRQL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100

SEE NARRATIVE FOR CODE DEFINITIONS
Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 31952
SDG : C0206
ELKTON FARM
Lab. : A4

Sample Number :		C0213		C0214		C0215		C0216		C0217	
Sampling Location :		E4SS3		E4SS4		E4SS5		E4SS6		E4SS7	
Field QC:						Duplicate(C0219)					
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Date Sampled :		07/23/2003		07/23/2003		07/22/2003		07/22/2003		07/23/2003	
Time Sampled :		08:45		12:35		13:00		09:00		10:10	
%Moisture :		21		14		19		17		13	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7										
beta-BHC	1.7										
delta-BHC	1.7										
gamma-BHC (Lindane)	1.7										
Heptachlor	1.7										
Aldrin	1.7										
Heptachlor epoxide	1.7										
Endosulfan I	1.7										
Dieldrin	3.3										
4,4'-DDE	3.3										
Endrin	3.3										
Endosulfan II	3.3										
4,4'-DDD	3.3										
Endosulfan sulfate	3.3										
4,4'-DDT	3.3										
Methoxychlor	17										
Endrin ketone	3.3										
Endrin aldehyde	3.3										
alpha-Chlordane	1.7										
gamma-Chlordane	1.7										
Toxaphene	170										
Aroclor-1016	33										
Aroclor-1221	67										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										

CRQL = Contract Required Quantitation Limit

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

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 31952
Site :
Lab. :

SDG : C0206
ELKTON FARM
A4

Sample Number :		C0218		C0219							
Sampling Location :		E4SS8		E4SS9							
Field QC:				Duplicate(C0215)							
Matrix :		Soil		Soil							
Units :		ug/Kg		ug/Kg							
Date Sampled :		07/22/2003		07/22/2003							
Time Sampled :		11:45		13:15							
%Moisture :		12		18							
Dilution Factor :		1.0		1.0							
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7										
beta-BHC	1.7										
delta-BHC	1.7										
gamma-BHC (Lindane)	1.7										
Heptachlor	1.7										
Aldrin	1.7										
Heptachlor epoxide	1.7										
Endosulfan I	1.7										
Dieldrin	3.3										
4,4'-DDE	3.3										
Endrin	3.3										
Endosulfan II	3.3										
4,4'-DDD	3.3										
Endosulfan sulfate	3.3										
4,4'-DDT	3.3										
Methoxychlor	17										
Endrin ketone	3.3										
Endrin aldehyde	3.3										
alpha-Chlordane	1.7										
gamma-Chlordane	1.7										
Toxaphene	170										
Aroclor-1016	33										
Aroclor-1221	67										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										

CRQL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100

SEE NARRATIVE FOR CODE DEFINITIONS
Revised 09/99

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 31952

Lab. :

SDG : C0220
ELKTON FARM
A4

Number of Soil Samples : 0
Number of Water Samples : 7

Sample Number :		C0220		C0224		C0225		C0226		C0228	
Sampling Location :		E4D1		E4GW4		E4GW5		E4GW6		E4GW8	
Field QC:				Duplicate(C0225)		Duplicate(C0224)					
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		07/22/2003		07/23/2003		07/23/2003		07/22/2003		07/22/2003	
Time Sampled :		11:30		13:35		13:30		09:55		09:10	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	0.050										
beta-BHC	0.050										
delta-BHC	0.050										
*gamma-BHC (Lindane)	0.050										
*Heptachlor	0.050										
Aldrin	0.050										
Heptachlor epoxide	0.050										
Endosulfan I	0.050										
Dieldrin	0.10										
4,4'-DDE	0.10										
*Endrin	0.10										
Endosulfan II	0.10										
4,4'-DDD	0.10										
Endosulfan sulfate	0.10										
4,4'-DDT	0.10										
Methoxychlor	0.50										
Endrin ketone	0.10										
Endrin aldehyde	0.10										
alpha-Chlordane	0.050										
gamma-Chlordane	0.050										
*Toxaphene	5.0										
*Aroclor-1016	1.0										
*Aroclor-1221	2.0										
*Aroclor-1232	1.0										
*Aroclor-1242	1.0										
*Aroclor-1248	1.0										
*Aroclor-1254	1.0										
*Aroclor-1260	1.0										

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

To calculate sample quantitation limits: (CRQL * Dilution Factor)

DATA SUMMARY FORM: PESTICIDES AND PCBS

Case #: 31952
Site :
Lab. :

SDG : C0220
ELKTON FARM
A4

Sample Number :		C0229		C0230							
Sampling Location :		E4GW9		E4GW10							
Field QC:		Field Blank		Field Blank							
Matrix :		Water		Water							
Units :		ug/L		ug/L							
Date Sampled :		07/22/2003		07/23/2003							
Time Sampled :		11:10		10:15							
Dilution Factor :		1.0		1.0							
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	0.050										
beta-BHC	0.050										
delta-BHC	0.050										
*gamma-BHC (Lindane)	0.050										
*Heptachlor	0.050										
Aldrin	0.050										
Heptachlor epoxide	0.050										
Endosulfan I	0.050										
Dieldrin	0.10										
4,4'-DDE	0.10										
*Endrin	0.10										
Endosulfan II	0.10										
4,4'-DDD	0.10										
Endosulfan sulfate	0.10										
4,4'-DDT	0.10										
*Methoxychlor	0.50										
Endrin ketone	0.10										
Endrin aldehyde	0.10										
alpha-Chlordane	0.050										
gamma-Chlordane	0.050										
*Toxaphene	5.0										
*Aroclor-1016	1.0										
*Aroclor-1221	2.0										
*Aroclor-1232	1.0										
*Aroclor-1242	1.0										
*Aroclor-1248	1.0										
*Aroclor-1254	1.0										
*Aroclor-1260	1.0										

CRQL = Contract Required Quantitation Limit
To calculate sample quantitation limits: (CRQL * Dilution Factor)

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 09/99

Appendix C

Tentatively Identified Compounds

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
C0224

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3547.003

Sample wt/Vol: 5.0 (g/mL) ML Lab File ID: F0932

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: not dec. _____ Date Analyzed: 07/27/03

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000620-14-4	Benzene, 1-ethyl-3-methyl-	12.46	5	JN
2.	000108-67-8	Benzene, 1,3,5-trimethyl-	12.94	10	JN
3.	000099-87-6	Benzene, 1-methyl-4-(1-methy	13.61	5	JN
4.	000091-57-6	Naphthalene, 2-methyl-	15.04	6	JN
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
C0225

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3547.001

Sample wt/Vol: 5.0 (g/mL) ML Lab File ID: F0927

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: not dec. _____ Date Analyzed: 07/26/03

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000622-96-8	Benzene, 1-ethyl-4-methyl-	12.46	5	JN
2. 000108-67-8	Benzene, 1,3,5-trimethyl-	12.94	10	JN
3. 000141-93-5	Benzene, 1,3-diethyl-	13.61	6	JN
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0229

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3535.004

Sample wt/Vol: 5.0 (g/mL) ML Lab File ID: F0925

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: not dec. _____ Date Analyzed: 07/26/03

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	12.32	7	J
2.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0230

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3547.004

Sample wt/Vol: 5.0 (g/mL) ML Lab File ID: F0933

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: not dec. _____ Date Analyzed: 07/27/03

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000098-08-8	Benzene, (trifluoromethyl)-	7.10	6	JN
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0203

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5709

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 11 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3 Extraction: (Type) SONC

Number TICS found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.42	150	J
2.		UNKNOWN	5.89	88	J
3.		UNKNOWN	13.10	140	J
4.		UNKNOWN	13.16	350	J
5.		UNKNOWN	14.16	98	J
6.	1000144-57-9	16-Heptadecenal	17.54	160	JN
7.	000629-92-5	Nonadecane	17.87	100	JN
8.	067860-04-2	Oxirane, heptadecyl-	18.80	160	JN
9.	000638-67-5	Tricosane	19.08	240	JN
10.		UNKNOWN	19.85	92	J
11.	~~000629-92-5~~	~~Nonadecane~~	20.11	99	JN
12.		UNKNOWN	21.55	86	J
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(11) UnKnown

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0204

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.002

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D5710

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 21 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.7 Extraction: (Type) SONC

Number TICS found: 22 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000079-34-5	Ethane, 1,1,2,2-tetrachloro-	5.41	340	JN
2.		UNKNOWN	5.88	200	J
3.		UNKNOWN	12.43	150	J
4.		UNKNOWN	13.06	100	J
5.	000143-07-7	Dodecanoic acid	13.16	190	JN
6.	000544-76-3	Hexadecane	15.92	95	JN
7.	000629-78-7	Heptadecane	16.82	110	JN
8.		UNKNOWN	17.11	310	J
9.	000638-66-4	Octadecanal	17.54	440	JN
10.	000630-03-5	Nonacosane	17.87	180	JN
11.	000297-03-0	Cyclotetracosane	18.24	740	JN
12.	007390-81-0	Oxirane, hexadecyl-	18.80	240	JN
13.	000629-97-0	Docosane	19.08	480	JN
14.		UNKNOWN	19.21	120	J
15.		UNKNOWN	19.45	360	J
16.	1000155-82-2	Bicyclo[10.8.0]eicosane, (Z)	19.84	230	JN
17.	~~000629-97-0~~	~~Docosane~~	20.12	250	JN
18.		UNKNOWN	20.29	90	J
19.		UNKNOWN	20.33	100	J
20.	001058-61-3	Stigmast-4-en-3-one	21.55	330	JN
21.		UNKNOWN	21.63	93	J
22.	000559-74-0	Friedelin	22.30	140	JN
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(17) 7-hexyltridecane
(CAS No. 007225-66-3)

FORM I SV-TIC

OLM04.2

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0205

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.003

Sample wt/vol: 30.3 (g/mL) G Lab File ID: D5711

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 12 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.3 Extraction: (Type) SONC

Number TICS found: 23 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.41	140	J
2.		UNKNOWN	5.89	130	J
3.		UNKNOWN	8.44	84	J
4.		UNKNOWN	13.16	150	J
5.		UNKNOWN	15.67	180	J
6.	000629-97-0	Docosane	16.82	93	JN
7.	023609-46-3	Cyclooctane, 1,2-diethyl-	17.10	260	JN
8.	000112-84-5	Erucylamide	17.30	190	JN
9.	007390-81-0	Oxirane, hexadecyl-	17.54	340	JN
10.	000630-03-5	Nonacosane	17.87	640	JN
11.	007206-25-9	9-Octadecene, (E)-	18.24	290	JN
12.		UNKNOWN	18.50	99	J
13.	~~007390-81-0~~	~~Oxirane, hexadecyl-~~ UNKNOWN	18.80	380	JN
14.	000630-04-6	Hentriacontane	19.09	900	JN
15.		UNKNOWN	19.21	130	J
16.		UNKNOWN	19.31	120	J
17.	067860-04-2	Oxirane, heptadecyl-	19.84	400	JN
18.	1000131-18-5	13-Methylheptacosane	20.12	270	JN
19.	014021-23-9	D-Friedoolean-14-ene, 3-meth	20.17	170	JN
20.	075207-54-4	2-Pentacosanone	20.29	120	JN
21.	014811-95-1	1,19-Eicosadiene	21.07	270	JN
22.	001058-61-3	Stigmast-4-en-3-one	21.55	170	JN
23.		UNKNOWN	22.29	270	J
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FORM I SV-TIC OLM04.2

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0206

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3534.001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5696

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: 15 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6 Extraction: (Type) SONC

Number TICS found: 13 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000079-34-5	Ethane, 1,1,2,2-tetrachloro-	5.41	140	JN
2.		UNKNOWN	13.18	85	J
3.	003674-66-6	Phenanthrene, 2,5-dimethyl-	13.82	92	JN
4.	000238-84-6	11H-Benzo[a]fluorene	14.84	110	JN
5.	003351-28-8	Chrysene, 1-methyl-	16.64	86	JN
6.		UNKNOWN	17.56	160	J
7.		UNKNOWN	17.87	140	J
8.	000198-55-0	Perylene	18.11	110	JN
9.	000638-66-4	Octadecanal	18.80	110	JN
10.	000630-02-4	Octacosane	19.08	280	JN
11.	1000155-85-0	Bicyclo[10.8.0]eicosane, (E)	19.84	110	JN
12.	000544-76-3	Hexadecane	20.11	97	JN
13.	000559-74-0	Friedelin	22.32	1800	JN
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0207

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3534.004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D5699

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: 13 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1 Extraction: (Type) SONC

Number TICS found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.41	100	J
2.	000544-76-3	Hexadecane	10.87	91	JN
3.	000629-50-5	Tridecane	11.53	120	JN
4.	001921-70-6	Pentadecane, 2,6,10,14-tetra	11.57	120	JN
5.	000593-45-3	Octadecane	12.17	92	JN
6.	000629-59-4	Tetradecane	12.78	97	JN
7.	1000130-69-4	Tetracosanal	17.54	94	JN
8.	000629-94-7	Heneicosane	19.08	110	JN
9.		UNKNOWN	20.33	120	J
10.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0208

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D5718

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 14 Decanted:(Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5 Extraction: (Type) SONC

Number TICS found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000079-34-5	Ethane, 1,1,2,2-tetrachloro-	5.41	110	JN
2.		UNKNOWN	5.89	130	J
3.		UNKNOWN	10.03	91	J
4.		UNKNOWN	10.98	120	J
5.		UNKNOWN	14.34	120	J
6.		UNKNOWN	16.99	94	J
7.		UNKNOWN	18.21	110	J
8.		UNKNOWN	20.74	100	J
9.	000559-74-0	Friedelin	22.30	2000	JN
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0209

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3534.006

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D5707

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: 19 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.1 Extraction: (Type) SONC

Number TICS found: 21 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000079-34-5	Ethane, 1,1,2,2-tetrachloro-	5.42	200	JN
2.		UNKNOWN	5.89	98	J
3.	013877-93-5	Bicyclo[7.2.0]undec-4-ene, 4	9.75	630	JN
4.		UNKNOWN	10.87	200	J
5.		UNKNOWN	10.95	83	J
6.		UNKNOWN	11.22	150	J
7.		UNKNOWN	11.69	290	J
8.		UNKNOWN	11.73	130	J
9.		UNKNOWN	11.98	84	J
10.		UNKNOWN	13.10	170	J
11.	000057-10-3	n-Hexadecanoic acid	13.16	670	JN
12.	1000190-13-7	Octadec-9-enoic acid	14.16	740	JN
13.	000122-69-0	Cinnamyl cinnamate	15.66	1100	JN
14.		UNKNOWN	15.86	240	J
15.		UNKNOWN	17.00	110	J
16.	000112-84-5	Erucylamide	17.30	280	JN
17.		UNKNOWN	19.09	91	J
18.		UNKNOWN	20.17	94	J
19.		UNKNOWN	20.70	230	J
20.		UNKNOWN	21.73	94	J
21.		UNKNOWN	22.28	360	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0210

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.005

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5719

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 20 Decanted:(Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4 Extraction: (Type) SONC

Number TICS found: 30 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000079-34-5	Ethane, 1,1,2,2-tetrachloro-	5.41	130	JN
2.		UNKNOWN	12.42	210	J
3.		UNKNOWN	12.47	95	J
4.		UNKNOWN	13.06	250	J
5.	000057-10-3	n-Hexadecanoic acid	13.16	350	JN
6.		UNKNOWN	14.15	87	J
7.	074685-33-9	3-Eicosene, (E)-	16.02	150	JN
8.	000593-49-7	Heptacosane	16.82	170	JN
9.	1000130-79-8	13-Tertadecen-1-ol acetate	16.95	300	JN
10.		UNKNOWN	17.30	190	J
11.	007320-37-8	Oxirane, tetradecyl-	17.54	830	JN
12.	000593-45-3	Octadecane	17.87	850	JN
13.	074685-30-6	5-Eicosene, (E)-	18.01	1400	JN
14.	013287-24-6	Nonadecane, 9-methyl-	18.50	130	JN
15.	007390-81-0	Oxirane, hexadecyl-	18.80	640	JN
16.	000630-06-8	Hexatriacontane	19.08	1600	JN
17.	001599-67-3	1-Docosene	19.23	990	JN
18.		UNKNOWN	19.31	230	J
19.		UNKNOWN	19.57	280	J
20.	1000155-85-0	Bicyclo[10.8.0]eicosane, (E)	19.84	670	JN
21.		UNKNOWN	20.08	110	J
22.	~~000593-49-7~~	~~Heptacosane~~ UNK ALKANE	20.12	700	JN
23.	000083-48-7	Stigmasterol	20.34	1100	JN
24.	1000214-20-7	Stigmasterol, 22,23-dihydro-	20.68	2000	JN
25.		UNKNOWN	20.91	220	J
26.		UNKNOWN	20.96	120	J
27.	074962-98-4	2-Tridecen-1-ol, (E)-	21.06	700	JN
28.	001058-61-3	Stigmast-4-en-3-one	21.54	910	JN
29.		UNKNOWN	21.63	210	J
30.		UNKNOWN	22.30	350	J

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0211

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.006

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D5722

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 16 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/14/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6 Extraction: (Type) SONC

Number TICS found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000629-50-5	Tridecane	17.87	82	JN
2.	000629-92-5	Nonadecane	19.08	94	JN
3.		UNKNOWN	21.08	190	J
4.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0212

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W0302

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5723

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 19 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/14/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.0 Extraction: (Type) SONC

Number TICS found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000301-02-0	9-Octadecenamide, (Z)-	15.34	260	JN
2.	000112-84-5	Erucylamide	17.30	180	JN
3.		UNKNOWN	18.50	110	J
4.	000544-76-3	Hexadecane	19.07	130	JN
5.	000593-45-3	Octadecane	19.56	130	JN
6.	000629-78-7	Heptadecane	20.10	120	JN
7.	000112-95-8	Eicosane	20.70	95	JN
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0213

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.008

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5724

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 21 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/14/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4 Extraction: (Type) SONC

Number TICS found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.41	98	J
2.		UNKNOWN	8.43	89	J
3.		UNKNOWN	17.00	130	J
4.	000629-92-5	Nonadecane	17.86	96	JN
5.		UNKNOWN	18.11	87	J
6.		UNKNOWN	18.80	94	J
7.		UNKNOWN	19.08	120	J
8.		UNKNOWN	20.33	120	J
9.		UNKNOWN	22.28	110	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0214

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.009

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5955

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 14 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/23/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.8 Extraction: (Type) SONC

Number TICS found: 11 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	7.52	80	J
2.	000057-10-3	n-Hexadecanoic acid	12.16	190	JN
3.	010544-50-0	Cyclic octaatomic sulfur	12.77	200	JN
4.	001725-04-8	Oxacyclotetradecan-2-one	13.16	170	JN
5.		UNKNOWN	14.60	290	J
6.		UNKNOWN	16.64	160	J
7.		UNKNOWN	17.31	89	J
8.		UNKNOWN	17.59	170	J
9.		UNKNOWN	18.67	160	J
10.		UNKNOWN	18.82	110	J
11.		UNKNOWN	19.55	160	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0215

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3534.002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5697

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: 19 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9 Extraction: (Type) SONC

Number TICS found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000079-34-5	Ethane, 1,1,2,2-tetrachloro-	5.41	210	JN
2.		UNKNOWN	22.30	180	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0216

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3534.005

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5700

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: 17 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.7 Extraction: (Type) SONC

Number TICS found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.42	120	J
2.	001599-67-3	1-Docosene	17.16	340	JN
3.	000593-49-7	Heptacosane	19.08	140	JN
4.		UNKNOWN	20.33	84	J
5.	000559-74-0	Friedelin	22.28	410	JN
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0217

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3548.010

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5726

Level: (low/med) LOW Date Received: 07/24/03

% Moisture: 13 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/14/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.8 Extraction: (Type) SONC

Number TICS found: 15 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.41	89	J
2.	000629-78-7	Heptadecane	16.82	82	JN
3.	1000130-97-9	E-15-Heptadecenal	16.99	310	JN
4.	000112-84-5	Erucylamide	17.30	370	JN
5.	007320-37-8	Oxirane, tetradecyl-	17.54	230	JN
6.	~~000593-45-3~~	~~Octadecane~~	17.86	190	JN
7.		UNKNOWN	18.13	170	J
8.	053057-53-7	1,21-Docosadiene	18.79	250	JN
9.	000593-45-3	Octadecane	19.08	180	JN
10.		UNKNOWN	19.31	150	J
11.	077899-10-6	(Z)14-Tricosenyl formate	19.83	320	JN
12.		UNKNOWN	20.75	420	J
13.		UNKNOWN	21.06	250	J
14.	000058-22-0	Testosterone	21.53	230	JN
15.	000559-74-0	Friedelin	22.30	1400	JN
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0218

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3534.007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D5708

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: 12 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.0 Extraction: (Type) SONC

Number TICS found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.89	100	J
2.	UNKNOWN	13.16	150	J
3.	UNKNOWN	13.23	82	J
4.	UNKNOWN	15.67	150	J
5. 000593-45-3	Octadecane	19.08	88	JN
6.	UNKNOWN	21.55	110	J
7.	UNKNOWN	22.30	120	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0219

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0206

Matrix: (soil/water) SOIL Lab Sample ID: 3534.003

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D5698

Level: (low/med) LOW Date Received: 07/23/03

% Moisture: 18 Decanted: (Y/N) N Date Extracted: 08/01/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 08/13/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.7 Extraction: (Type) SONC

Number TICS found: 17 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	000079-34-5	Ethane, 1,1,2,2-tetrachloro-	5.41	160	JN
2.	000610-48-0	Anthracene, 1-methyl-	13.01	140	JN
3.	000613-12-7	Anthracene, 2-methyl-	13.05	120	JN
4.		UNKNOWN	13.18	190	J
5.		UNKNOWN	13.45	83	J
6.	001576-67-6	Phenanthrene, 3,6-dimethyl-	13.71	140	JN
7.	000781-43-1	9,10-Dimethylanthracene	13.82	200	JN
8.		UNKNOWN	13.86	130	J
9.		UNKNOWN	13.95	130	J
10.		UNKNOWN	14.14	94	J
11.	000238-84-6	11H-Benzo[a]fluorene	14.83	170	JN
12.		UNKNOWN	15.74	110	J
13.		UNKNOWN	16.64	120	J
14.		UNKNOWN	16.83	120	J
15.	000198-55-0	Perylene	18.10	150	JN
16.		UNKNOWN	19.09	160	J
17.		UNKNOWN	22.30	270	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0224

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3547.003

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: D5631

Level: (low/med) LOW Date Received: 07/24/2003

% Moisture: ____ Decanted: (Y/N) N Date Extracted: 07/27/2003

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/12/2003

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.0 Extraction: (Type SEPF

Number TICS found: 13 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.21	5	J
2.	UNKNOWN	5.96	4	J
3.	UNKNOWN	6.46	5	J
4.	UNKNOWN	6.76	4	J
5.	UNKNOWN	6.96	3	J
6.	UNKNOWN	7.01	2	J
7.	UNKNOWN	7.24	2	J
8.	UNKNOWN	7.49	3	J
9.	UNKNOWN	8.95	5	J
10.	UNKNOWN	9.66	2	J
11. 000581-40-8	Naphthalene, 2,3-dimethyl-	9.76	3	JN
12. 000134-62-3	Diethyltoluamide	10.85	3	JN
13.	UNKNOWN	16.21	2	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0226

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3535.002

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: D5677

Level: (low/med) LOW Date Received: 07/23/2003

% Moisture: ____ Decanted: (Y/N) N Date Extracted: 07/27/2003

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/12/2003

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.7 Extraction: (Type) SEPF

Number TICS found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	12.11	2	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0228

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3535.003

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: D5678

Level: (low/med) LOW Date Received: 07/23/2003

% Moisture: ____ Decanted:(Y/N) N Date Extracted: 07/27/2003

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/12/2003

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.1 Extraction: (Type) SEPF

Number TICS found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	14.13	3	J
2.	UNKNOWN	15.01	89	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C0229

Lab Name: A4 SCIENTIFIC, INC. Contract: 68W03027

Lab Code: A4 Case No.: 31952 SAS No.: _____ SDG No.: C0220

Matrix: (soil/water) WATER Lab Sample ID: 3535.004

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: D5679

Level: (low/med) LOW Date Received: 07/23/2003

% Moisture: ____ Decanted: (Y/N) N Date Extracted: 07/27/2003

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/12/2003

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.6 Extraction: (Type) SEPF

Number TICS found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	18.25	7	J
2.	UNKNOWN	20.77	130	J
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Appendix D

Chain-of-Custody Records

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 31952 **R**
DAS No:

Region:	3
Project Code:	
Account Code:	02T03N50102D037ZLA00
CERCLIS ID:	MDD985407196
Spill ID:	037Z
Site Name/State:	Elkton Farm July/MD
Project Leader:	Alex Cox
Action:	Expanded Site Investigation/RI
Sampling Co:	MDE

Date Shipped:	7/23/2003
Carrier Name:	FedEx
Airbill:	840878239423
Shipped to:	A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277

Chain of Custody Record

Sampler Signature:

	Relinquished By	(Date / Time)	Received By	(Date / Time)
1				
2				
3				
4				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
C0203	Surface Soil (0"-12")/ Andy Zarine	L/G	BNA/PEST (21)	1900 (Ice Only) (1)	E4S2	S: 7/23/2003	13:00	MC0203	–
C0204	Surface Soil (0"-12")/ Dixon Wood	L/G	BNA/PEST (21)	1902 (Ice Only) (1)	E4S3	S: 7/23/2003	8:40	MC0204	–
C0205	Surface Soil (0"-12")/ Scott Morgan	L/G	BNA/PEST (21)	1904 (Ice Only) (1)	E4S4	S: 7/23/2003	12:30	MC0205	–
C0208	Surface Soil (0"-12")/ Dixon Wood	L/G	BNA/PEST (21)	1910 (Ice Only) (1)	E4S7	S: 7/23/2003	10:05	MC0208	–
C0224	Ground Water/ Dixon Wood	L/G	PWS 7/24/03 ~~BNA (21),~~ PEST (21), VOA_ (21)	1990 (Ice Only), ~~1991 (Ice Only),~~ PWS 7/24/03 1992 (HCL), 1993 (HCL) (4)	E4GW4	S: 7/23/2003	13:35	MC0224	–
C0230	Ground Water/ Peggy Smith	L/G	BNA (21), PEST (21), VOA_ (21)	2026 (Ice Only), 2027 (Ice Only), 2028 (HCL), 2029 (HCL) (4)	E4GW10	S: 7/23/2003	10:15	MC0230	Field Blank

293031 — 12345
JUL 2003
RECEIVED

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
			Shipment Iced? _____

Analysis Key: Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G

BNA = CLP TCL Semivolatiles, BNA/PEST = CLP TCL Semivolatiles and Pesticides/PC, PEST = CLP TCL Pesticide/PCBs, VOA_ = CLP TCL Volatiles (AQUEOUS)

REGION COPY

TR Number: 3-592370820-072303-0001

PR provide[illegible]liminary results. Requests for preliminary results will increase analytical costs.
Send Cop[illegible]Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Ph[illegible]03/264-9348 Fax 703/264-9222

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 31952
DAS No:
R

Region:	3	Date Shipped:	7/23/2003
Project Code:		Carrier Name:	FedEx
Account Code:	02T03N50102D037ZLA00	Airbill:	840878239423
CERCLIS ID:	MDD985407196	Shipped to:	A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277
Spill ID:	037Z		
Site Name/State:	Elkton Farm July/MD		
Project Leader:	Alex Cox		
Action:	Expanded Site Investigation/RI		
Sampling Co:	MDE		

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
C0225	Ground Water/ Dixon Wood	L/G	BNA (21), PEST (21), VOA_ (21)	1996 (Ice Only), 1997 (Ice Only), 1998 (HCL), 1999 (HCL) (4)	E4GW5	S: 7/23/2003	13:30	MC0225	DUP OF E4GW4
C0232	Ground Water/ Peggy Smith	L/G	VOA_ (21)	2033 (HCL), 2034 (HCL) (2)	E4GW12	S: 7/23/2003	10:00		Trip Blank
C0224	Ground Water	L/G	BNA	1991 (ice only)	E4GW4	7/23/03	1335	MC0224	

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

BNA = CLP TCL Semivolatiles, PEST = CLP TCL Pesticide/PCBs, VOA_ = CLP TCL Volatiles (AQUEOUS)

REGION COPY

TR Number: 3-592370820-072303-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

EPA USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 31952 R
DAS No:

Region:	3	Date Shipped:	7/23/2003
Project Code:		Carrier Name:	FedEx
Account Code:	02T03N50102D037ZLA00	Airbill:	840878239423
CERCLIS ID:	MDD985407196	Shipped to:	A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277
Spill ID:	037Z		
Site Name/State:	Elkton Farm July/MD		
Project Leader:	Alex Cox		
Action:	Expanded Site Investigation/RI		
Sampling Co:	MDE		

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
C0210	Surface Soil (0"-12")/ Andy Zarins	L/G	BNA/PEST (21), VOA (21)	1914 (Ice Only), 1915 (Ice Only), 1916 (Ice Only), 1917 (Ice Only), 1918 (Ice Only) (5)	E4S1	S: 7/23/2003	12:15	MC0210	MS/MSD
C0211	Subsurface Soil (>12")/ Andy Zarins	L/G	BNA/PEST (21), VOA (21)	1920 (Ice Only), 1921 (Ice Only), 1922 (Ice Only) (3)	E4SS1	S: 7/23/2003	14:35	MC0211	–
C0212	Subsurface Soil (>12")/ Andy Zarins	L/G	BNA/PEST (21), VOA (21)	1924 (Ice Only), 1925 (Ice Only), 1926 (Ice Only) (3)	E4SS2	S: 7/23/2003	14:45	MC0212	–
C0213	Subsurface Soil (>12")/ Dixon Wood	L/G	BNA/PEST (21), VOA (21)	1928 (Ice Only), 1929 (Ice Only), 1930 (Ice Only) (3)	E4SS3	S: 7/23/2003	8:45	MC0213	–
C0214	Subsurface Soil (>12")/ Scott Morgan	L/G	BNA/PEST (21), VOA (21)	1932 (Ice Only), 1933 (Ice Only), 1934 (Ice Only) (3)	E4SS4	S: 7/23/2003	12:35	MC0214	–
C0217	Subsurface Soil (>12")/ Dixon Wood	L/G	BNA/PEST (21), VOA (21)	1944 (Ice Only), 1945 (Ice Only), 1946 (Ice Only) (3)	E4SS7	S: 7/23/2003	10:10	MC0217	–

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: C0210	Additional Sampler Signature(s):	Chain of Custody Seal Number:
			Shipment Iced? _____
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	

BNA/PEST = CLP TCL Semivolatiles and Pesticides/PC, VOA = CLP TCL Volatiles (SOLIDS)

REGION COPY

TR Number: 3-592370820-072303-0003

PR provide[illegible]liminary results. Requests for preliminary results will increase analytical costs.
Send Cop[illegible] Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Ph[illegible]703/264-9348 Fax 703/264-9222

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 31952 R
DAS No:

Region:	3	Date Shipped:	7/22/2003
Project Code:		Carrier Name:	FedEx
Account Code:	0ZT03N50102D037ZLA00	Airbill:	840878239294
CERCLIS ID:	MDD985407196	Shipped to:	A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277
Spill ID:	037Z		
Site Name/State:	Elkton Farm July/MD		
Project Leader:	Alex Cox		
Action:	Expanded Site Investigation/RI		
Sampling Co:	MDE		

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
2			
3			
4			

Sampler Signature:

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C0206	Surface Soil (0"-12")/ Scott Morgan	L/G	BNA/PEST (21)	1906 (Ice Only) (1)	E4S5	S: 7/22/2003 12:55	MC0206	—
C0207	Surface Soil (0"-12")/ Alex Cox	L/G	BNA/PEST (21)	1908 (Ice Only) (1)	E4S6	S: 7/22/2003 8:55	MC0207	—
C0209	Surface Soil (0"-12")/ Alex Cox	L/G	BNA/PEST (21)	1912 (Ice Only) (1)	E4S9	S: 7/22/2003 11:40	MC0209	—
C0215	Subsurface Soil (>12")/ Scott Morgan	L/G	BNA/PEST (21), VOA (21)	1936 (Ice Only), 1937 (Ice Only), 1938 (Ice Only) (3)	E4SS5	S: 7/22/2003 13:00	MC0215	—
C0216	Subsurface Soil (>12")/ Alex Cox	L/G	BNA/PEST (21), VOA (21)	1940 (Ice Only), 1941 (Ice Only), 1942 (Ice Only) (3)	E4SS6	S: 7/22/2003 9:00	MC0216	—
C0218	Subsurface Soil (>12")/ Alex Cox	L/G	BNA/PEST (21), VOA (21)	1948 (Ice Only), 1949 (Ice Only), 1950 (Ice Only) (3)	E4SS8	S: 7/22/2003 11:45	MC0218	—
C0219	Subsurface Soil (>12")/ Scott Morgan	L/G	BNA/PEST (21), VOA (21)	1952 (Ice Only), 1953 (Ice Only), 1954 (Ice Only) (3)	E4SS9	S: 7/22/2003 13:15	MC0219	Field Duplicate of E4SS5
C0220	Ground Water/ Dixon Wood	L/G	BNA (21), PEST (21), VOA (21)	1955 (HCL), 1956 (HCL), 1957 (HCL), 1958 (HCL), 1959 (HCL), 1960 (HCL), 1961 (Ice Only), 1962 (Ice Only), 1963 (Ice Only), 1964 (Ice Only), 1965 (Ice Only), 1966 (Ice Only) (12)	E4D1	S: 7/22/2003 11:30	MC0220	MS/MSD

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: C0220	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?

BNA = CLP TCL Semivolatiles, BNA/PEST = CLP TCL Semivolatiles and Pesticides/PC, PEST = CLP TCL Pesticide/PCBs, VOA = CLP TCL Volatiles (SOLIDS), VOA_ = CLP TCL Volatiles (AQUEOUS)

REGION COPY

TR Number: 3-592370820-072203-0002

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Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9048 Fax 703/264-9222

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 31952 R
DAS No:

Region:	3	Date Shipped:	7/22/2003
Project Code:		Carrier Name:	FedEx
Account Code:	02T03N50102D037ZLA00	Airbill:	840878239294
CERCLIS ID:	MDD985407196	Shipped to:	A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277
Spill ID:	037Z		
Site Name/State:	Elkton Farm July/MD		
Project Leader:	Alex Cox		
Action:	Expanded Site Investigation/RI		
Sampling Co:	MDE		

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1			
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4			

Sampler Signature:

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
C0226	Ground Water/ Scott Morgan	L/G	BNA (21), PEST (21), VOA_ (21)	2002 (Ice Only), 2003 (Ice Only), 2004 (HCL), 2005 (HCL) (4)	E4GW8	S: 7/22/2003	9:55	MC0226	–
C0228	Ground Water/ Dixon Wood	L/G	BNA (21), PEST (21), VOA_ (21)	2014 (Ice Only), 2015 (Ice Only), 2016 (HCL), 2017 (HCL) (4)	E4GW9	S: 7/22/2003	9:10	MC0228	–
C0229	Ground Water/ Peggy Smith	L/G	BNA (21), PEST (21), VOA_ (21)	2020 (Ice Only), 2021 (Ice Only), 2022 (HCL), 2023 (HCL) (4)	E4GW9	S: 7/22/2003	11:10	MC0229	Field Blank
C0231	Ground Water/ Peggy Smith	L/G	VOA_ (21)	2031 (HCL), 2032 (HCL) (2)	E4GW11	S: 7/22/2003	11:00		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: C0220	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?

BNA = CLP TCL Semivolatiles, BNA/PEST = CLP TCL Semivolatiles and Pesticides/PC, PEST = CLP TCL Pesticide/PCBs, VOA = CLP TCL Volatiles (SOLIDS), VOA_ = CLP TCL Volatiles (AQUEOUS)

TR Number: 3-592370820-072203-0002

REGION COPY

PR provide preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA 20191-3400 Phone 703/264-9348 Fax 703/264-9222

U.S. EPA Region III Sample Scheduling Request Form

RAS CASE No: CT1872 31952	DAS No:	NSF No:
Date: 7/14/03	Data Validation Level: M3, IM2	EPA Lab Reply:
Site Name: Elkton Farm		Cost:
Address: 183 Zeitler Road	City: Elkton	State: MD
Latitude:	Longitude:	Anal +Val Data TAT:42 Days
Program: CERCLA	CERCLIS No: MDD985407196	Activity: SI
Account No: 03T03N50102D037ZLA00	Operable Unit:	Spill ID:
Preparer: Peggy Smith	RPM/PO: Lorie Baker	Site Leader: Alex Cox
Phone: 410-537-3493	Phone: 215-814-3355	Phone: 410-537-3493
FAX: 410-537-3472	FAX:	FAX: 410-537-3472
E-mail: chartman@mde.state.md.us	E-mail:	E-mail: acox@mde.state.md.us
EPA CO:	Contract Type: / Prime: MDE	Sub:
Lab Assignment Date:	Analytical TAT: 21 Days	Ship Date From: 7/21/03
Organic Lab:		Ship Date To: 7/25/03
Inorganic Lab:		Carrier:

SAMPLES	METHOD	PARAMETER	MATRIX
13	OLM04.3	TCL	AQ
11	ILM05.2	ICP-AES TAL +HG +CN	AQ
11	ILM05.2	ICP-AES TAL (DM) +HG	AQ
17	ILM05.2	ICP-AES TAL +HG +CN	SOIL
17	OLM04.3	TCL (ENCORE)	SOIL

NOTE: Data validation levels M3 & IM2 require justification. QC field samples must be included as part of total number of samples.

1. Special Instructions: ~~SEVEN (7) SOIL SAMPLES NO VOC ANALYSIS.~~ PLEASE SEND THE ELECTRONIC DATA ASAP.
2. Objectives / Project Plan ID / Permit ID:
3. Program / Project / Permit Reporting Limits
4. DQO (QC Requirements)

Appendix E

Laboratory Case Narrative

A4 SCIENTIFIC, INC.

1544 Sawdust Road, Suite 505 • The Woodlands, TX 77380 • Phone (281) 292-5277

Contract #: 68W03027	Case #: 31952	SDG #: C0206

SDG NARRATIVE

SAMPLE RECEIPT & LOGIN

The following samples were received on the dates listed against them. The samples were logged in for analysis as listed.

EPA SAMPLE #	LAB SAMPLE #	DATE /TIME RECEIVED	AIRBILL NO.	VOA	BNA	PEST	REMARKS
C0203	3548.001	07/24/03 10:11	840878239423		X	X	
C0204	3548.002	07/24/03 10:11	840878239423		X	X	
C0205	3548.003	07/24/03 10:11	840878239423		X	X	
C0206	3534.001	07/23/03 10:00	840878239294		X	X	
C0207	3534.004	07/23/03 10:00	840878239294		X	X	
C0208	3548.004	07/24/03 10:11	840878239423		X	X	
C0209	3534.006	07/23/03 10:00	840878239294		X	X	
C0210	3548.005	07/24/03 10:11	840878239423	X	X	X	ENCORE, MS/MSD
C0211	3548.006	07/24/03 10:11	840878239423	X	X	X	ENCORE
C0212	3548.007	07/24/03 10:11	840878239423	X	X	X	ENCORE
C0213	3548.008	07/24/03 10:11	840878239423	X	X	X	ENCORE
C0214	3548.009	07/24/03 10:11	840878239423	X	X	X	ENCORE
C0215	3534.002	07/23/03 10:00	840878239294	X	X	X	ENCORE
C0216	3534.005	07/23/03 10:00	840878239294	X	X	X	ENCORE
C0217	3548.010	07/24/03 10:11	840878239423	X	X	X	ENCORE
C0218	3534.007	07/23/03 10:00	840878239294	X	X	X	ENCORE
C0219	3534.003	07/23/03 10:00	840878239294	X	X	X	ENCORE

The cooler temperature was between 2°C to 3°C. No other discrepancies or issues were noted during sample receipt and login.

VOLATILES

Samples were analyzed using instrument **C-5973**.

Instrument **C-5973** consisted of an Agilent 5973 GC/MS with a 25-meter long DB-624 (Agilent cat# 128-1324) column having a 0.2mm ID and 1.12µm film thickness, an OI Analytical Purge and Trap Model 4560 with an Archon autosampler. The trap used is a K trap (Supelco Cat # 24940-U; VOCARB 3000) having 10cm of Carbopack B, 6cm of Carboxen 1000, and 1cm of Carboxen 1001.

MS/MSD was performed for the sample C0210.

Manual integrations were performed for the following samples for the compounds listed against them.

VSTD10085 – Bromomethane
VSTD20099 – Bromomethane
VSTD20007 – Bromomethane
VSTD10007 – Bromomethane
VSTD05007 -- Trichlorofluoromethane

C01

A4 SCIENTIFIC, INC.
1544 Sawdust Road, Suite 505 • The Woodlands, TX 77380 • Phone (281) 292-5277

Contract #: 68W03027	Case #: 31952	SDG #: C0206

SDG NARRATIVE

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

SEMI-VOLATILES

Soil samples were extracted using the sonication method on 08/01/2003. No problems were encountered during extraction. GPC cleanup was performed on all soil samples and the associated Blanks, MS, and MSD.

All samples were analyzed on a HP5973 GC-MS using a 30-meter HP-5MS column (Agilent cat#19091S-433) having a 0.25mm ID and a 0.25μm film thickness. A 2μL injection was used.

Manual integrations were performed for the following samples for the compounds listed against them.

SSTD0501C – Benzo[k]fluoranthene
SSTD1601C – Caprolactam
C0206 – Benzo[k]fluoranthene
C0206 – Benzo(b)fluoranthene
C0215 – Benzo[k]fluoranthene
C0215 – Benzo(b)fluoranthene
C0219 – Benzo[k]fluoranthene
C0219 – Benzo(b)fluoranthene
SSTD0501H – 4-Nitrophenol
SSTD1601H – 4-Nitrophenol
SSTD1201H – 4-Nitrophenol
SSTD0801H – 4-Nitrophenol
SSTD0201H – 4-Nitrophenol
SSTD0201H – Phenol
C0204 – Benzo(b)fluoranthene
C0205 – Benzo(b)fluoranthene
C0210 – Benzo(b)fluoranthene
C0210MS – Benzo(b)fluoranthene
C0210MSD – Benzo(b)fluoranthene
SSTD0202A – Indeno(1,2,3-cd)pyrene

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

PESTICIDES

Soil samples were extracted using the sonication method on 08/01/2003. No problems were encountered during extraction. GPC cleanup was performed on all soil samples and the associated Blanks, MS, and MSD.

Samples were analyzed using instrument **C-6890**.

Instrument C-6890 consisted of a dual inlet, dual ECD Agilent 6890 GC/ECD instrument with the following two columns manufactured by Restek. A 1μL injection was used on each column

CC2

A4 SCIENTIFIC, INC.

1544 Sawdust Road, Suite 505 • The Woodlands, TX 77380 • Phone (281) 292-5277

Contract #: 68W03027	Case #: 31952	SDG #: C0206

SDG NARRATIVE

Coulmn 1= RTX-PEST: Cat # 11140, 30m long, 0.53mm ID, 0.5µm film thickness (Instrument ID: C-6890A).
Column 2 = RTX-PEST2: Cat # 111340, 30m long, 0.53mm ID, 0.42µm film thickness (instrument ID: C-6890B)

A 1µL injection was used on each column.

Manual integrations were performed for the following compounds for the samples listed against them.

COMPOUND	*EPA SAMPLE ID (Inst=C-6890A)*	*EPA SAMPLE ID (Inst=C-6890B)*
Tetrachloro-m-xylene	AR12210K, C0206, C0215, C0219, C0207, C0216, C0209, C0203, C0204, C0205, PIBLK0L, C0210, C0210MS, C0210MSD, C0211, C0212, C0213, C0214	AR12212K, C0206, C0215, C0219, C0207, C0216, C0209, C0204, PIBLK2L, C0210MS, C0210MSD, C0211, C0212, C0214
Alpha-BHC	INDAM0K	
4,4'-DDD	PEM0M	PEM2M
4,4'-DDT		INDAM2K, C0207, C0203
Endrin Aldehyde	PEM0M	
Decachlorobiphenyl	INDAM0K, PIBLK0K, C0210, C0210MS, C0210MSD, C0211, C0214	C0210, C0210MS, C0210MSD, C0211, C0214
4,4'-DDE	C0207, C0204	

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and in the computer readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature:

Sumana Reddy / QC coordinator
Signature and Title

8/28/03
Date of Signature

A4 SCIENTIFIC, INC.

1544 Sawdust Road, Suite 505 • The Woodlands, TX 77380 • Phone (281) 292-5277

Contract #: 68W03027	Case #: 31952	SDG #: C0220

SDG NARRATIVE

SAMPLE RECEIPT & LOGIN

The following samples were received on the dates listed against them. The samples were logged in for analysis as listed.

EPA SAMPLE #	LAB SAMPLE #	DATE /TIME RECEIVED	AIRBILL NO.	VOA	BNA	PEST	REMARKS
C0220	3535.001	07/23/03 10:00	840878239294	X	X	X	MS/MSD
C0224	3547.003	07/24/03 10:11	840878239423	X	X	X	
C0225	3547.001	07/24/03 10:11	840878239423	X	X	X	
C0226	3535.002	07/23/03 10:00	840878239294	X	X	X	
C0228	3535.003	07/23/03 10:00	840878239294	X	X	X	
C0229	3535.004	07/23/03 10:00	840878239294	X	X	X	
C0230	3547.004	07/24/03 10:11	840878239423	X	X	X	
C0231	3535.005	07/23/03 10:00	840878239294	X			
C0232	3547.002	07/24/03 10:11	840878239423	X			

The cooler temperature was between 2°C to 3°C. No other discrepancies or issues were noted during sample receipt and login.

VOLATILES

Samples were analyzed using instrument **F-5973**.

Instrument **F-5973** consisted of an Agilent 5973 GC/MS with a 25-meter long DB-624 (Agilent cat# 128-1324) column having a 0.2mm ID and 1.12µm film thickness, a Tekmar Purge and Trap Model LSC2000 with an Archon autosampler. The trap used was a K trap (Supelco Cat # 21066-U; VOCARB 3000) having 10cm of Carbopack B, 6cm of Carboxen 1000, and 1cm Carboxen 1001.

All VOA samples had the pH characteristic verified. The reading is listed below.

EPA SAMPLE #	LAB SAMPLE #	Ph
C0220	3535.001	≤2
C0223	3547.003	≤2
C0225	3547.001	≤2
C0226	3535.002	≤2
C0228	3535.003	≤2
C0229	3535.004	≤2
C0230	3547.004	≤2
C0231	3535.005	≤2
C0232	3547.002	≤2

MS/MSD was performed for the sample C0220.

Manual integrations were performed for the following samples for the compounds listed against them.

VSTD200G2 – Bromomethane
VSTD100G2 – Bromomethane
C0225 – Xylene (total)

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Contract #: 68W03027	Case #: 31952	SDG #: C0220

SDG NARRATIVE

C0224 – Xylene (total)

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

SEMI-VOLATILES

Water samples were extracted using the required continuous liquid-liquid extraction method on 07/27/2003. No problems were encountered during extraction.

All samples were analyzed on a HP5973 GC-MS using a 30-meter HP-5MS column (Agilent cat#19091S-433) having a 0.25mm ID and a 0.25µm film thickness. A 2µL injection was used.

Manual integrations were performed for the following samples for the compounds listed against them.

SSTD0501C – Benzo[k]fluoranthene
SSTD1601C – Caprolactam
SSTD0501H – 4-Nitrophenol
SSTD1601H – 4-Nitrophenol
SSTD1601H – Benzo[k]fluoranthene
SSTD1201H – 4-Nitrophenol
SSTD0801H – 4-Nitrophenol
SSTD0201H – Phenol
SSTD0201H – Caprolactam

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

PESTICIDES

Water samples were extracted using separatory funnel extraction method on 07/27/2003. No problems were encountered during extraction.

Samples were analyzed using instrument **C-6890**.

Instrument C-6890 consisted of a dual inlet, dual ECD Agilent 6890 GC/ECD instrument with the following two columns manufactured by Restek. A 1µL injection was used on each column

Coulmn 1= RTX-PEST: Cat # 11140, 30m iong, 0.53mm ID, 0.5µm film thickness (Instrument ID: C-6890A).
Column 2 = RTX-PEST2: Cat # 111340, 30m long, 0.53mm ID, 0.42µm film thickness (instrument ID: C-6890B)

A 1µL injection was used on each column.

Manual integrations were performed for the following compounds for the samples listed against them.

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Contract #: 68W03027	Case #: 31952	SDG #: C0220

SDG NARRATIVE

COMPOUND	*EPA SAMPLE ID (Inst=C-6890A)*	*EPA SAMPLE ID (Inst=C-6890B)*
Tetrachloro-m-xylene	AR12210A, AR12210F, AR12320A, AR12320A, AR12420A, C0229, C0225, C0230, C0224	AR12212F, C0225, C0224
4,4'-DDT	INDAM0H	
Decachlorobiphenyl	AR12320A, INDAL0A, PIBLK0I, PIBLK0J, PEM0I	AR12322A, INDAL2A, PIBLK2I, PEM2I

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and in the computer readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature:

G. Whitney / QC Coordinator
Signature and Title

08/25/03
Date of Signature

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