Form I
Extractable Petroleum Hydrocarbons by GC/FID

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: **N/A** SDG: **N/A**
Client ID: **ME-2**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-02**
Associated Blank: **EW0624B1**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Sample Amount (ml)	Final Volume (ml)	Fraction	Date Analyzed	Dilution Factor	Analyst
06/18/02	06/20/02	06/24/02	1000	1	Aromatic	06/29/02	1	MLB
					Aliphatic	06/30/02	1	MLB

Extractable Petroleum Hydrocarbons (EPH)	Result
C_9-C_{18} Aliphatics [1]	30 U
C_{19}-C_{36} Aliphatics [1]	40 U
C_{11}-C_{22} Aromatics [1,2]	85 U
Unadjusted C_{11}-C_{22} Aromatics [1]	85 U

SA 7/22/02

Target PAH Analytes	Result
Naphthalene	5.0 U
2-Methylnaphthalene	5.0 U
Acenaphthylene	5.0 U
Acenaphthene	5.0 U
Fluorene	5.0 U
Phenanthrene	5.0 U
Anthracene	5.0 U
Fluoranthene	5.0 U
Pyrene	5.0 U
Benzo(a)anthracene	5.0 U
Chrysene	5.0 U
Benzo(b)fluoranthene	5.0 U
Benzo(k)fluoranthene	5.0 U
Benzo(a)pyrene	5.0 U
Indeno(1,2,3-cd)pyrene [3]	5.0 U
Dibenzo(a,h)anthracene [3]	5.0 U
Benzo(g,h,i)perylene	5.0 U

[1] = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.
[2] = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.
[3] = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	94	40-140
ortho-Terphenyl	83	40-140
Fractionation Surrogate		
Biphenyl	96	40-140
2-Fluorobiphenyl	94	40-140

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/01/02 18:49

Form I
Extractable Petroleum Hydrocarbons by GC/FID

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: N/A SDG: N/A
Client ID: **KME-2**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-03**
Associated Blank: **EW0624B1**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Sample Amount (ml)	Final Volume (ml)	Fraction	Date Analyzed	Dilution Factor	Analyst
06/18/02	06/20/02	06/24/02	950	1	Aromatic	06/29/02	1	MLB
					Aliphatic	06/30/02	1	MLB

SA 7/22/02

Extractable Petroleum Hydrocarbons (EPH)	Result
C_9-C_{18} Aliphatics [1]	32 U
C_{19}-C_{36} Aliphatics [1]	42 U
C_{11}-C_{22} Aromatics [1,2]	89 U
Unadjusted C_{11}-C_{22} Aromatics [1]	89 U

Target PAH Analytes	Result
Naphthalene	5.3 U
2-Methylnaphthalene	5.3 U
Acenaphthylene	5.3 U
Acenaphthene	5.3 U
Fluorene	5.3 U
Phenanthrene	5.3 U
Anthracene	5.3 U
Fluoranthene	5.3 U
Pyrene	5.3 U
Benzo(a)anthracene	5.3 U
Chrysene	5.3 U
Benzo(b)fluoranthene	5.3 U
Benzo(k)fluoranthene	5.3 U
Benzo(a)pyrene	5.3 U
Indeno(1,2,3-cd)pyrene [3]	5.3 U
Dibenzo(a,h)anthracene [3]	5.3 U
Benzo(g,h,i)perylene	5.3 U

[1] = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.
[2] = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.
[3] = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	110	40-140
ortho-Terphenyl	82	40-140
Fractionation Surrogate		
Biphenyl	92	40-140
2-Fluorobiphenyl	91	40-140

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/01/02 18:49

Form I
Extractable Petroleum Hydrocarbons by GC/FID

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: **N/A** SDG: **N/A**
Client ID: **ME-3**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-04**
Associated Blank: **EW0624B1**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Sample Amount (ml)	Final Volume (ml)	Fraction	Date Analyzed	Dilution Factor	Analyst
06/18/02	06/20/02	06/24/02	980	1	Aromatic	06/29/02	1	MLB
					Aliphatic	06/30/02	1	MLB

Extractable Petroleum Hydrocarbons (EPH)	Result
C_9-C_{18} Aliphatics [1]	31 U
C_{19}-C_{36} Aliphatics [1]	41 U
C_{11}-C_{22} Aromatics [1,2]	87 U
Unadjusted C_{11}-C_{22} Aromatics [1]	87 U

SA 7/22/02

Target PAH Analytes	Result
Naphthalene	5.1 U
2-Methylnaphthalene	5.1 U
Acenaphthylene	5.1 U
Acenaphthene	5.1 U
Fluorene	5.1 U
Phenanthrene	5.1 U
Anthracene	5.1 U
Fluoranthene	5.1 U
Pyrene	5.1 U
Benzo(a)anthracene	5.1 U
Chrysene	5.1 U
Benzo(b)fluoranthene	5.1 U
Benzo(k)fluoranthene	5.1 U
Benzo(a)pyrene	5.1 U
Indeno(1,2,3-cd)pyrene [3]	5.1 U
Dibenzo(a,h)anthracene [3]	5.1 U
Benzo(g,h,i)perylene	5.1 U

[1] = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.
[2] = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.
[3] = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	84	40-140
ortho-Terphenyl	82	40-140
Fractionation Surrogate		
Biphenyl	93	40-140
2-Fluorobiphenyl	91	40-140

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/01/02 18:49

Form I
Extractable Petroleum Hydrocarbons by GC/FID

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: N/A SDG: N/A
Client ID: ME-4
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-05**
Associated Blank: **EW0624B1**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Sample Amount (ml)	Final Volume (ml)	Fraction	Date Analyzed	Dilution Factor	Analyst
06/19/02	06/20/02	06/24/02	970	1	Aromatic	06/29/02	1	MLB
					Aliphatic	06/30/02	1	MLB

Extractable Petroleum Hydrocarbons (EPH)	Result
C_9-C_{18} Aliphatics [1]	31 U
C_{19}-C_{36} Aliphatics [1]	41 U
C_{11}-C_{22} Aromatics [1,2]	88 U
Unadjusted C_{11}-C_{22} Aromatics [1]	88 U

SH 7/22/02

Target PAH Analytes	Result
Naphthalene	5.2 U
2-Methylnaphthalene	5.2 U
Acenaphthylene	5.2 U
Acenaphthene	5.2 U
Fluorene	5.2 U
Phenanthrene	5.2 U
Anthracene	5.2 U
Fluoranthene	5.2 U
Pyrene	5.2 U
Benzo(a)anthracene	5.2 U
Chrysene	5.2 U
Benzo(b)fluoranthene	5.2 U
Benzo(k)fluoranthene	5.2 U
Benzo(a)pyrene	5.2 U
Indeno(1,2,3-cd)pyrene [3]	5.2 U
Dibenzo(a,h)anthracene [3]	5.2 U
Benzo(g,h,i)perylene	5.2 U

[1] = Range concentration excludes the concentration of any surrogate(s) and/or internal standards eluting in that range.
[2] = C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes.
[3] = Values reported reflect their sum.

Extraction Surrogate	% Recovery	Acceptance Range (%)
5-alpha Androstane	120	40-140
ortho-Terphenyl	82	40-140
Fractionation Surrogate		
Biphenyl	90	40-140
2-Fluorobiphenyl	88	40-140

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/01/02 18:50

Form I
Semi-Volatile Organics by GC/MS - SIM

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: **N/A** SDG: **N/A**
Client ID: **ME-1**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-01**
Associated Blank: **EW0624B1**
Concentration Units: **ng/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/18/02	06/20/02	06/24/02	07/04/02	1000	2	1	CWM

Parameter	Result
Naphthalene	230 ~~B~~ U
2-Methylnaphthalene	100 U
Acenaphthylene	100 U
Acenaphthene	100 U
Fluorene	100 U
Phenanthrene	100 U
Anthracene	100 U
Fluoranthene	100 U
Pyrene	100 U
Benz[a]anthracene	100 U
Chrysene	100 U
Benzo[b]fluoranthene	100 U
Benzo[k]fluoranthene	100 U
Benzo[a]pyrene	100 U
Indeno[1,2,3-cd]pyrene	100 U
Dibenz[a,h]anthracene	100 U
Benzo[g,h,i]perylene	100 U

SH 7/22/02

B - Found in associated blank as well as sample.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/09/02 15:04

Form I
Semi-Volatile Organics by GC/MS - SIM

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: **N/A** SDG: **N/A**
Client ID: **ME-2**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-02**
Associated Blank: **EW0624B1**
Concentration Units: **ng/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/18/02	06/20/02	06/24/02	07/04/02	1000	2	1	CWM

Parameter	Result
Naphthalene	**140** ~~B~~ U
2-Methylnaphthalene	100 U
Acenaphthylene	100 U
Acenaphthene	100 U
Fluorene	100 U
Phenanthrene	100 U
Anthracene	100 U
Fluoranthene	100 U
Pyrene	100 U
Benz[a]anthracene	100 U
Chrysene	100 U
Benzo[b]fluoranthene	100 U
Benzo[k]fluoranthene	100 U
Benzo[a]pyrene	100 U
Indeno[1,2,3-cd]pyrene	100 U
Dibenz[a,h]anthracene	100 U
Benzo[g,h,i]perylene	100 U

SH 7/22/02

B - Found in associated blank as well as sample.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288, whale@whgrp.com

Form I
Semi-Volatile Organics by GC/MS - SIM

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: **N/A** SDG: **N/A**
Client ID: **KME-2**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-03**
Associated Blank: **EW0624B1**
Concentration Units: **ng/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/18/02	06/20/02	06/24/02	07/04/02	950	2	1	CWM

Parameter	Result
Naphthalene	110 U
2-Methylnaphthalene	110 U
Acenaphthylene	110 U
Acenaphthene	110 U
Fluorene	110 U
Phenanthrene	110 U
Anthracene	110 U
Fluoranthene	110 U
Pyrene	110 U
Benz[a]anthracene	110 U
Chrysene	110 U
Benzo[b]fluoranthene	110 U
Benzo[k]fluoranthene	110 U
Benzo[a]pyrene	110 U
Indeno[1,2,3-cd]pyrene	110 U
Dibenz[a,h]anthracene	110 U
Benzo[g,h,i]perylene	110 U

SH 7/22/02

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/09/02 15:04

Form I
Semi-Volatile Organics by GC/MS - SIM

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: **N/A** SDG: **N/A**
Client ID: **ME-3**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-04**
Associated Blank: **EW0624B1**
Concentration Units: **ng/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/18/02	06/20/02	06/24/02	07/04/02	980	2	1	CWM

Parameter	Result
Naphthalene	150 ~~B~~ U
2-Methylnaphthalene	100 U
Acenaphthylene	100 U
Acenaphthene	100 U
Fluorene	100 U
Phenanthrene	100 U
Anthracene	100 U
Fluoranthene	100 U
Pyrene	100 U
Benz[a]anthracene	100 U
Chrysene	100 U
Benzo[b]fluoranthene	100 U
Benzo[k]fluoranthene	100 U
Benzo[a]pyrene	100 U
Indeno[1,2,3-cd]pyrene	100 U
Dibenz[a,h]anthracene	100 U
Benzo[g,h,i]perylene	100 U

SH 7/22/02

B - Found in associated blank as well as sample.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/09/02 15:04

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288, whale@whgrp.com

Form I
Semi-Volatile Organics by GC/MS - SIM

Client: **Metcalf & Eddy**
Project: **Mill Street - Brookfield**
Case: **N/A** SDG: **N/A**
Client ID: **ME-4**
Matrix: **Water**

Lab Code: **M-MA030**
ETR: **0206091**
Lab ID: **0206091-05**
Associated Blank: **EW0624B1**
Concentration Units: **ng/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/19/02	06/20/02	06/24/02	07/04/02	970	2	1	CWM

Parameter	Result	
Naphthalene	130	~~B~~ U
2-Methylnaphthalene	100	U
Acenaphthylene	100	U
Acenaphthene	100	U
Fluorene	100	U
Phenanthrene	100	U
Anthracene	100	U
Fluoranthene	100	U
Pyrene	100	U
Benz[a]anthracene	100	U
Chrysene	100	U
Benzo[b]fluoranthene	100	U
Benzo[k]fluoranthene	100	U
Benzo[a]pyrene	100	U
Indeno[1,2,3-cd]pyrene	100	U
Dibenz[a,h]anthracene	100	U
Benzo[g,h,i]perylene	100	U

SA 7/22/02

B - Found in associated blank as well as sample.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/09/02 15:04

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288, whale@whgrp.com

Attachment III

Data Validation Worksheets

EPA-NE
Data Validation Worksheet Cover Page - Page 1

Site Name Mill St., Brookfield, MA
Reference No. 200100.0006.00115

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Woods Hole Group
ETR ~~Case/Project~~ No. 0206091
SDG No. NA
No. of Samples/Matrix 6 | Aqueous

SOW/Method No. VPH/EPH MADEP Methods (PAH Sim)
Sampling Date(s) 6/18, 19/02
Shipping Date(s) 6/19/02
Date Rec'd by lab 6/20/02

pkg rec'd @ M+E 7/11/02

Traffic Report Sample Nos. ME-1, ME-2, KME-2, ME-3, ME-4 (VPH, EPH, SVOC-Sim)

Trip Blank No. TB-01 (VPH only)
Equipment Blank No. none
Bottle Blank No. none
Field Duplicate Nos. ME-2 | KME-2 (VPH/EPH/SVOC-Sim)
PES Nos. none

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

Modified Tier II

The data were evaluated based upon the following parameters:

	VPH	EPH	SVOC
- Overall Evaluation of Data	OK	OK	OK
- Data Completeness (CSF Audit - Tier I)	OK	OK	OK
- Preservation & Technical Holding Times	NA	→	→
- GC/MS & GC/ECD Instrument Performance Check	NA	→	→
- Initial & Continuing Calibrations	OK	OK	OK
- Blanks			
- Surrogate Compounds	NA	→	→
- Internal Standards			
- Matrix Spike/Matrix Spike Duplicate			
- Field Duplicates			
- Sensitivity Check	OK	OK	OK
- PE Samples/Accuracy Check	NA	→	→
- Target Compound Identification	NA	→	→
- Compound Quantitation and Reported Quantitation Limits	OK	OK	OK
- TICs	NA	→	→
- Semivolatile and Pesticide/PCB Cleanup			
- System Performance			
Laboratory Duplicates	OK	OK	OK

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Sheila Hanney Company Name M+E, Inc Phone Number _____

Date Validation Started 7/17/02 Date Validation Completed 7/17/02

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VPH/EPH
~~VOA/SV~~ worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	OK
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	OK
VOA/SV-II	GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)	NA
VOA/SV-III	INITIAL CALIBRATION	VPH OK EPH:
VOA/SV-IV	CONTINUING CALIBRATION	VPH: EPH: OK
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	VPH: OK EPH: OK
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	
VOA-VI	VOA SURROGATE SPIKE RECOVERIES	OK
SV-VI	EPH ~~SV~~ SURROGATE SPIKE RECOVERIES	OK
VOA/SV-VII	INTERNAL STANDARD PERFORMANCE	NA
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	VPH: EPH: OK
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	VPH: OK EPH: OK
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	VPH: OK EPH: OK
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	NA
VOA/SV-Pest/PCB-XII	TARGET COMPOUND IDENTIFICATION	NA
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	NA
VOA/SV-XIV	TENTATIVELY IDENTIFIED COMPOUNDS	NA
VOA/SV-XV	SEMIVOLATILE CLEANUP	NA
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	OK
	Laboratory Duplicates	VPH: OK EPH: OK

SVOC-Sim
~~Pest/PCB~~ worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	OK
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	OK
Pest/PCB-IIA	GC/~~ECD~~ MS INSTRUMENT PERFORMANCE CHECK- ~~RESOLUTION~~ (Tuning)	OK
Pest/PCB-IIB	GC/ECD INSTRUMENT PERFORMANCE CHECK- RETENTION TIMES	NA
Pest/PCB-IIC	GC/ECD INSTRUMENT PERFORMANCE CHECK- ACCURACY CHECK OF INITIAL CALIBRATION	↓
Pest/PCB-IID	GC/ECD INSTRUMENT PERFORMANCE CHECK- PESTICIDE DEGRADATION	↓
Pest/PCB-III	INITIAL CALIBRATION	*
Pest/PCB-IV	CONTINUING CALIBRATION	*
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	*
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	NA
Pest/PCB-VI	SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT	NA
Pest/PCB-VII	PESTICIDE CLEANUP	NA
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	NA
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	OK
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	OK
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	NA
Pest/PCB-XII	COMPOUND IDENTIFICATION	↓
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	↓
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	OK
	Laboratory Duplicate	OK

I certify that all criteria were met for the worksheets checked above.

Signature: Sheila Harvey, M+E, Inc. Name: Sheila Harvey

Date: 7/17/02

EPA-NE - Data Validation Worksheet
VOA/SV-III

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

VPH: all individual cmpds RSD < 25% all criteria met

Date of ICAL	Instrument	Parameter	Matrix	Compound	% RSD	RRF	Samples Affected	Action
6/28/02		SVOC	Aq	Fluoranthene	32.6		ME-1, ME-2, ~~ME-2~~, ME-3	~~UJ (J)~~ SH
				pyrene	62.0		ME-4	
				Benzo(g,h,i)perylene	33.4			

No Action taken as linear regression used instead of calibration factor. Correlation Coefficients for all cmpds were 0.990

Comments:

Validator: Sherle Harvey

Date: 7/17/02

EPA-NE - Data Validation Worksheet
VOA/SV-IV

IV. CONTINUING CALIBRATION - List all analytes that are outside calibration criteria.

EPH - all criteria met

Date of ICAL	Date of CCAL	Instrument	Parameter	Matrix	Compound	%D	RRF	Samples Affected	Action
6/26/02	6/27/02	HP-PID	VPH	Ag	2,2,4-trimethylpentane	-29%	—		

Comments:

Validator: Sheila Harvey

Date: 7/17/02

12/96

EPA-NE - Data Validation Worksheet
VOA/SV-IV

SVOC-SIM

IV. CONTINUING CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Date of CCAL	Instrument	Parameter	Matrix	Compound	%D	RRF	Samples Affected	Action
6/28/02	7/3/02		SVOC	Ag	Pyrene	33.3		ME-1, ME-2, CME-2, ME-3, ME-4	UJ(ND)

Comments:

Validator: Sheila Hawes

Date: 7/17/02

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-A

V. BLANK ANALYSIS

List the blank contamination below: SVOC-SIM Concentration Level: low

Sampler: P. Odgers Company: M+E, Inc. Contacted: Yes No Date: _____

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)
6/24/02	7/3/02	SVOC/aq	Method (EW0624HB)		Naphthalene	320 ug/L

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)

Validator: Sherle Harvey Date: 7/17/02

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-B

3. **Blank Actions** - List the maximum concentrations of blank compounds.

Compound	Type of Blank	Date Blank Sampled/Originated	Max. Conc. (units)	Action Level (units) µg/L	Sample QL µg/L	Samples Affected	Action
Naphthalene	Method	6/24/02	320	1600	100	~~all~~ ME-1, ME-2	Qualify Rpt value "U"
						ME-3, ME-4	

Comments: _____

Validator: Sheila Denny

Date: 7/17/02

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-VIII

VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE - List all MS/MSD analytes that are outside method QC acceptance criteria.

EPH - all criteria met

Use a separate worksheet for each MS/MSD pair.

Sample # ME-1 Matrix Aqueous Concentration Level low

Parameter	Compound	MS %Rec	MSD %Rec	RPD	Method QC Limits		Concentration			% RSD	Action
					% Rec	RPD	Unspiked Sample	MS	MSD		
VPH	n-nonane	67	NA	NA	70-130	NA					UJ(ND) C_9-C_{12} aliphatic in the sample

Validator: Sheila Hawey Date: 7/17/02

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form. Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1.EPA Program: ~~TSCA CERCLA RCRA DW NPDES CAA~~
Other: Brownfields Targeted Site Assessment (BTSA)
Projected Date(s) of Sampling: 10 June through 21 June 2002
EPA Site Manager: Jim Byrne/James Chow
EPA Case Team Members: _____

Site Name: Mill Street Property
Site Location: Brookfield, MA
Assigned Site Latitude/Longitude: Unknown
CERCLA Site/Spill Identifier No._____(Include Operable Unit)
Phase: ~~ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA~~
(circle one) **Other:** BTSA

2.QAPjP Title and Revision Date: Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

Approved by: James Chow/Jim Byrne Date of Approval: April 2002
Title of Approving Official: EPA WAM Organization*: EPA
*If other than EPA, record date approval authority was delegated: _____

EPA Oversight Project (circle one) ~~Y~~ N Type of EPA Oversight (circle one) ~~PRP or FF~~ Other: NA
Confirmatory Analysis for Field Screening ~~Y~~ N If EPA Oversight or Confirmatory: % splits ___
Are comparability criteria document? ~~Y~~ N

3.						
a.	Matrix Code[1]	SO	SO	SO	SO	SO
b.	Parameter Code[2]	EPH	VPH	13116010	8082	ILM04.1MT
c.	Preservation Code[3]	5	5, 10 (MEOH)	5	5	5
d.	Analytical Services Mechanism	Sub*	Sub	Sub	Sub	RAS
e.	No. of Sample Locations	12	12	6	6	12
	Field QC:					
f.	Field Duplicate Pairs	1	1	1	1	1
g.	Equipment Blanks	0	0	0	0	0
h.	VOA Trip Blanks	0	3	0	0	0
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler
j.	Bottle Blanks					
k.	Other:					
l.	PES sent to Laboratory	0	0	0	0	0
	Laboratory QC:					
m.	Reagent Blank	1	1	1	1	1
n.	Duplicate	1	1	1		1
o.	Matrix Spike	1	1	1	1	1
p.	Matrix Spike Duplicate	1	1		1	
q.	Other:					

4. Site Information
Site Dimensions Unknown
List all potentially contaminated matrices soil, groundwater
Range of Depth to Groundwater 10-20 ft below ground surface
Soil Types: **Surface Subsurface** ~~Other~~: _____
Sediment Types: ~~Stream Pond Estuary Wetland Other:~~

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SO

5. Data Use (circle all that apply) ~~Site Investigation/Assessment~~ ~~PRP Determination~~ ~~Removal Actions~~
Nature and Extent of Contamination Human and/or Ecological Risk Assessment
Remediation Alternatives ~~Engineering Design~~ ~~Remedial Action~~
~~Post-Remedial Action (quarterly monitoring)~~ **Other:** BTSA

* Sub = Directly Subcontracted
ILM04.1MT= RAS Inorganics (total metals)
VPH = Massachusetts VPH,
EPH = Massachusetts EPH
13116010 = TCLP Metals
8082 = PCBs

EPA-NE - DQO SUMMARY FORM

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form. Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1.EPA Program: ~~TSCA CERCLA RCRA DW NPDES CAA~~
Other: Brownfields Targeted Site Assessment (BTSA)
Projected Date(s) of Sampling: 10 June through 21 June 2002
EPA Site Manager: Jim Byrne/James Chow
EPA Case Team Members:

Site Name: Mill Street Property
Site Location: Brookfield, MA
Assigned Site Latitude/Longitude: Unknown
CERCLA Site/Spill Identifier No. NA (Include Operable Unit)
Phase: ~~ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA~~
(circle one) **Other:** BTSA

2.QAPjP Title and Revision Date: Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

Approved by: James Chow/Jim Byrne Date of Approval: April 2002
Title of Approving Official: EPA WAM Organization*: EPA
*If other than EPA, record date approval authority was delegated:

EPA Oversight Project (circle one) ~~Y~~ N Type of EPA Oversight (circle one) ~~PRP or FF~~ Other: NA
Confirmatory Analysis for Field Screening ~~Y~~ N If EPA Oversight or Confirmatory: % splits ___
Are comparability criteria document? ~~Y~~ N

3.					
a.	Matrix Code[1]	GW	GW	GW	GW
b.	Parameter Code[2]	EPH	VPH	OLC03.2	ILM04.1MT
c.	Preservation Code[3]	5	1, 5	1, 5	2, 5
d.	Analytical Services Mechanism	Sub	Sub	RAS	RAS
e.	No. of Sample Locations	5	5	5	5
	Field QC:				
f.	Field Duplicate Pairs	1	1	1	1
g.	Equipment Blanks				
h.	VOA Trip Blanks		1	1	
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler
j.	Bottle Blanks	0	0	0	0
k.	Other:	0	0	0	0
l.	PES sent to Laboratory	0	0	0	0
	Laboratory QC:				
m	Reagent Blank	1	1	1	1
n.	Duplicate	1	1		1
o.	Matrix Spike	1	1	1	1
p.	Matrix Spike Duplicate	1	1	1	
q.	Other:				

4. Site Information
Site Dimensions 3 parcels
List all potentially contaminated matrices soil, groundwater
Range of Depth to Groundwater 5-25 ft below ground surface
Soil Types: **Surface Subsurface** ~~Other~~:
Sediment Types: ~~Stream Pond Estuary Wetland~~ Other:

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] GW

5. Data Use (circle all that apply) ~~Site Investigation/Assessment~~ ~~PRP Determination~~ ~~Removal Actions~~
Nature and Extent of Contamination Human and/or Ecological Risk Assessment
~~Remediation Alternatives~~ ~~Engineering Design~~ ~~Remedial Action~~
~~Post-Remedial Action (quarterly monitoring)~~ **Other:** BTSA

* Sub = Directly Subcontracted
OLC03.2 - RAS Low Concentration VOCs
ILM04.1MT= RAS Inorganics (total metals)
VPH = Massachusetts VPH
EPH = Massachusetts EPH

6. Summarize DQOs: To provide data for characterizing and assessing current environmental and site conditions as needed to support a preliminary evaluation of risks and remedial alternatives.

COCs	Action Levels	Analytical Method-Quantitation Limits
Refer to Field Task Work Plan for Mill Street Property, Brookfield, MA (BTSA), M&E, March 2002	Refer to Field Task Work Plan for Mill Street Property, Brookfield, MA (BTSA), M&E, March 2002	RAS Methods - As per applicable CLP SOW Subcontract Methods - per SOP with approved BTSA laboratories (Mitkem, Amro, or Woods Hole Group)

7. Sampling Method (circle technique) ~~Bailer~~ ~~Low flow pump (Region I method: Yes No)~~ ~~Peristaltic Pump~~ ~~Positive Displacement Pump~~ ~~Faucet or Spigot~~ ~~Other~~: _____ ~~Split Spoon~~ ~~Dredge~~ Trowel

Other: Geoprobe Macro-core

Sampling Procedure (SOP name, No., Rev. #, and date) Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

List Background Sample Locations _____

Circle: ~~GW-Grab,~~ SO-Composite, ~~LN-Grab, WT - Grab~~

"Hot spots" sampled: ~~Yes~~ No

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
See Section 3			

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analysis, Part II, III or IV
2. Other Approved Validation Criteria: Tier II-like validation memorandum

Validation Tier (circle one) I II III Partial Tier III: _____

Company/Organization Performing Data Validation Metcalf & Eddy, Inc. Prime ~~or Subcontractor~~ (circle one)

11. Company Name Metcalf & Eddy, Inc. Contract Number 68-W6-0042

Contract Name (e.g. START, RAC, etc.) RAC Work Assignment No. 106-SISI-01ZZ

Person Completing Form/Title Denise M. Laferte /Project Chemist Date of DQO Summary Form Completion 5/24/02

Matrix Codes[1] - Refer to Attachment B, Part i
Parameter Codes[2] - Refer to Attachment B, Part II

Preservation Codes[3]

1.	HCl to pH ≤ 2	7.	$K_2Cr_2O_7$
2.	HNO_3	8.	Freeze
3.	$NaHSO_4$	9.	Room Temperature (avoid excessive heat)
4.	H_2SO_4	10.	Other (Specify)
5.	Cool @ 4°C (± 2°)	N.	No preserved

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit

Metcalf & Eddy

30 Harvard Mill Square
Wakefield, MA 01880-5371
P.O. Box 4071
Wakefield, MA 01880-5371

Tel: 781-246-5200
Fax: 781-245-6293
www.m-e.com

036200100-0006-00115

August 2, 2002

Ms. Christine Clark
USEPA - New England
OEME - QA Unit
11 Technology Drive
North Chelmsford, Massachusetts 01863-2431

Re: Work Assignment No. 106-SIBZ-01ZZ
Case No. 30610, SDG No. A0BW5
Mitkem Corporation, Warwick, Rhode Island
Targeted Brownfields Site Assessment: Mill Street, Brookfield, Massachusetts
Modified Tier II Organic Data Validation

Low Concentration Volatile Organic Compounds	5/Aqueous/A0BW5, A0BW6, A0BW7, A0BW8, A0BX0 1/Aqueous Trip Blank/A0BX1 (Field Duplicate Pair/A0BW6 and A0BW7)

Dear Ms. Clark:

A modified Tier II data validation was performed by Metcalf & Eddy, Inc. (M&E) on the low concentration volatile organic compound (VOC) analytical data for five aqueous samples and one aqueous trip blank sample collected from the Mill Street Targeted Brownfields Assessment (TBA) site, located in Brookfield, Massachusetts by M&E field personnel on June 18 and 19, 2002. The samples were analyzed for metals under the Contract Laboratory Program Routine Analytical Services (RAS) using the EPA *Statement of Work for Analysis of Low Concentration Organics, OLCO3.2.* M&E evaluated the data using the Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses*, December 1996 criteria. All samples were received by the laboratory on June 20, 2002. The data package was received in the M&E office on July 15, 2002.

M&E reviewed the data in accordance with the EPA-approved Final Field Task Work Plan for the site, and the guidance received from EPA Work Assignment Manager, Mr. James Byrne, in a September 17, 1999 letter to former M&E Work Assignment Manager, Barb Wyskowski. The format of the validation memoranda underwent modification as of July 2001 at the request of the EPA Project Chemist, Alan Peterson, with the approval of Mr. Byrne. The data review included the following:

*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	•	Initial and Continuing Calibrations
	•	Blank Analysis Results
	•	Surrogate Recoveries
*	•	Internal Standards
*	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Field Duplicate Results
NA	•	Laboratory Fortified Blank (LFB) and/or Laboratory Control Sample (LCS)
NA	•	Accuracy Check/PE Samples
*	•	Compound Quantitation and Reported Quantitation Limits
NA	•	Tentatively Identified Compounds (TICs)
NA	•	Semivolatile and Pesticide/PCB Cleanup

*	-	All criteria were met for this parameter.
NA	-	Not Applicable

Note: Worksheets are not included for parameters that have met criteria or for criteria that are not applicable to the method and/or to Tier II data validation.

Initial and Continuing Calibrations

The following table summarizes the initial calibration (IC) and continuing calibration (CC) results that failed to meet the calibration criteria of percent relative standard deviation (%RSD) ≤ 30 and percent difference (%D) ≤ 25, respectively, and/or $RF_{avg} \geq 0.01$ for all compounds:

Instrument	V2
Calibration	CC 6/26/02
Compound	%D
acetone	38.1
bromomethane	33.6
chloroethane	27.5
1,1-dichloroethene	31.2
1,1,2-trichloro-1,2,2-trifluoroethane	32.5
methylene chloride	33.5

Instrument	V2
Calibration	CC 6/26/02
Compound	%D
trans-1,2-dichloroethene	32.1
methyl tert butyl ether	34.7
1,2-dichloroethane	29.1
1,1-dichloroethene-d_2 (surrogate)	25.5
1,2-dichloroethane-d_4 (surrogate)	34.2
Associated Samples:	A0BW5, A0BW6, A0BW7, A0BW8, A0BX0, and A0BX1

%D >25: Estimate positive (J) results and nondetect (UJ) results. A bias cannot be determined.

Blank Analysis Results

A review of laboratory blank analysis results indicates the presence of laboratory contamination for the compound listed below.

Compound	Max. Conc. Contaminant (µg/L)	BAL (µg/L)	Affected Samples/Action
methylene chloride	0.61	6.1	None. All sample results are nondetect.

Blank Actions:

* concentration ≤ BAL; report value on summary table as U.
* concentration > BAL; report value unqualified.

Surrogate Recoveries

The surrogate compound that did not meet the acceptable criterion is summarized in the following table.

Sample ID	Chloroethane-d_{14} %R (QC Limit: 60-126 %)	Action
A0BX0	59%	Estimate the positive (J) and nondetect (UJ) results in sample A0BX0. Sample results may be biased low.

The nondetect results for acetone, bromomethane, chloroethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, methylene chloride, trans-1,2-dichloroethene, methyl tert butyl ether, and 1,2-dichloroethane in sample A0BX0 were previously qualified as estimated (UJ) due to instrument variability. No further action is taken on these results due to low surrogate recovery.

Please contact Constance Lapite at (781) 224-6628 if you have any questions regarding this information.

Very truly yours,

METCALF & EDDY, Inc.

Sheila Harvey
Data Validator

Lisa Krowitz
Senior Reviewer

Constance Lapite
M&E RAC Lead Chemist

J:\ne\brwnflds\MillstreetBrookfield\dataval\A0BW5av.wpd

cc: Barbara Weir, Project Manager (memo only)
Denise Laferte, Project Chemist (entire package)
S. Harvey, Data Validator (entire package)
BTSA Mill Street Project File (WA No. 106-SIBZ-01ZZ)

Attachments: ORDA Form
Chain-of-Custody Forms
Validated Sample Result Summary Sheets (Form Is)
Data Validation Worksheets
CSF Audit (DC-2 Form)
DQO Summary Form

Attachment I

ORDA Form

REGION I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT (ORDA)*

CASE #: 30610

SITE NAME: Brownfields Targeted Site Assessment Site: Mill St. Brookfield, MA

LAB NAME: Mitkem Corporation

OF SAMPLES/MATRIX: 6/Aqueous

SDG #: A0BW5

VALIDATION CONTRACTOR: M+E, Inc.

SOW #/CONTRACT #: OLC03.2

VALIDATOR'S NAME: S. Harvey

EPA-NE DV TIER LEVEL: II

DATE DP REC'D BY EPA-NE: 7/12/02

TPO/PO: **ACTION ____ FYI ✓

DV COMPLETION DATE: 7/23/02

ANALYTICAL DATA QUALITY SUMMARY

	VOA	SV	Pest/PCB
1. Preservation and Contractual Holding Times	O	NA	NA
2. GC/MS / GC/ECD Instrument Performance Check	O		
3. Initial Calibration	O^1, Z^2	UKK 7/29/02	
4. Continuing Calibration	O^2, Z^2		
5. Blanks	O^3		
6. Surrogate Compounds	O^4		
7. Internal Standards	O		
8. Matrix Spike/Matrix Spike Duplicate	O		
9. Sensitivity Check	NA		
10. PE Samples-Accuracy Check	NA		
11. Target Compound Identification	NA		
12. Compound Quantitation and Reported QLs	O		
13. Tentatively Identified Compounds	NA		
14. Semivolatile Cleanup/Pesticide/PCB Cleanup	NA		
15. Data Completeness	O		
16. Overall Evaluation of Data	O	✓	✓

o = Data had no problems or were qualified due to minor contractual problems.
m = Data were qualified due to major contractual problems.
z = Data were rejected as unusable due major contractual problems.

ACTION ITEMS: (z items) Z^2: ~~Nondetect Acetone results in several sample rejected due to RRF < 0.05.~~ UKK 7/29/02
~~Z^2: Nondetect Acetone and 2-butanone results rejected due to RRF < 0.05.~~

AREAS OF CONCERN: (m items)

COMMENTS: O^1: Positive acetone results in several samples estimated due to RRF < 0.05.
O^2: Nondetect results for several compounds estimated due to continuing calibration % D > 25%.
O^3: Methylene Chloride detected in method blank. No samples affected because all results were nondetect.
O^4: The nondetect results in one sample estimated due to low surrogate recovery.

*This form assesses the analytical data quality in terms of contractual compliance only. It does not assess sampling errors and/or non-contractual analytical issues that affect data quality.

**Check "ACTION" only if contractual defects resulted in reduced payment/data rejection recommendations.

Validator: Sheila Harvey, M+E, Inc. Date: 7/23/02

INSTRUCTIONS ON REVERSE SIDE

Attachment II

Chain-of-Custody

United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

Case No. 30610

1. Project Code: 200100.0006.00114	2. Region No.: I	Sampling Co.: M&E	4. Date Shipped: 6/19/02	Carrier: Federal Express
Account Code	Sampler (Name): Philippa Odgers		Airbill Number: 8306 0505 8980	
Site Name: Mill Street Property	Sampler Signature: P. Odgers.		5. Ship To: Mitkem Corporation, 175 Metro Center Boulevard, Warwick, RI 02886	
City, State: Brookfield, MA	Site Spill ID	Op Unit	(401) 732-3400 ATTN: Agnes Ng	

3. Purpose**: Lead: [X] SF, [ ] PRP, [ ] ST, [ ] FED, [ ] BZ; Early Action: [ ] IA, [ ] PA, [ ] REM, [X] RI, [ ] SI, [ ] ESI; Long-Term Action: [ ] RIFS, [ ] RD, [ ] RA, [ ] O&M

6. Matrix (Enter in Column A): 1. Surface Water, 2. Ground Water, 3. Leachate, 4. Field QC, 5. Soil/Sediment, 6. PE-water, 7. PE-soil, 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl, 2. HNO3, 3. NaHSO4, 4. H2SO4, 5. Ice only, 6. CH3OH, 7. Other (specify in Column D), N. Not Preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med	C Sample Type: Comp./Grab	D Preservative (from Box 7) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	TA (circle one) PR* 7 14 21 BNA	TA (circle one) PR* 7 14 21 Pest/PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank, S = Field Spike, D = Field Duplicate, R = Rinsate, PE = Perform Eval.)
AQBW5	2	L	G	1	✓			179008-16	ME-1	6/18/02/1320	MAQ2D6	PO	MS/MSD
AQBW6	2	L	G	1	✓			179017-19	ME-2	6/18/02/1300	MAQ2D7	PO	—
AQBW7	2	L	G	1	✓			179020-22	ME-2	6/18/02/1310	MAQ2D8	PO	D (AQBW6)
AQBW8	2	L	G	1	✓			179023-25	ME-3	6/18/02/1810	MAQ2D9	PO	—
AQBX0	2	L	G	1	✓			179028-31 (PO)	ME-4	6/19/02/0900	MAQ2E1	PO	—
AQBX1	2	L	G	1	✓			179032-34	TB-02	6/19/02/0830		PO	—
EPA REQUIRED TEMP BLANK INCLUDED													

Shipment for Case Complete? (Y/N)	Page 1 of 1	VOA MS/MSD Required? Y/N Sample #: AQBW5	Additional Sampler Signatures
		BNA MS/MSD Required? Y/N Sample #:	Chain of Custody Seal Number(s)
		Pest/PCB MS/MSD Required? Y/N Sample #:	

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
P. Odgers.	6/19/02 1600	Fedex airbill no: 8306 0505 8980			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions
**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-001

296137

Attachment III

Validated Sample Result Summary Sheets

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW5

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1514

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

SRA 8/14/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	UJ
75-00-3	Chloroethane	0.50	UJ
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	UJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	UJ
67-64-1	Acetone	5.0	UJ
75-15-0	Carbon Disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene Chloride	0.50	UJ
156-60-5	trans-1,2-Dichloroethene	0.50	UJ
1634-04-4	Methyl tert-Butyl Ether	1.1	J
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW5

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1514

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-06-2	1,2-Dichloroethane	0.50	UJ
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW5

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1514

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

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

CAS NO.	COMPOUND		Q
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A0BW5

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1514

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW6

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1515

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8A 8/1/02

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

CAS NO.	COMPOUND		Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	UJ
75-00-3	Chloroethane	0.50	UJ
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	UJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	UJ
67-64-1	Acetone	10	J
75-15-0	Carbon Disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene Chloride	0.50	UJ
156-60-5	trans-1,2-Dichloroethene	0.50	UJ
1634-04-4	Methyl tert-Butyl Ether	0.50	UJ
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW6

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1515

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

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

CAS NO.	COMPOUND		Q
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW6

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1515

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A0BW6

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1515

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

Number TICs found: 0

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

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW7

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1516

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

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

CAS NO.	COMPOUND		Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	UJ
75-00-3	Chloroethane	0.50	UJ
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	UJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	UJ
67-64-1	Acetone	9.1	J
75-15-0	Carbon Disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene Chloride	0.50	UJ
156-60-5	trans-1,2-Dichloroethene	0.50	UJ
1634-04-4	Methyl tert-Butyl Ether	0.50	UJ
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW7

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1516

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW7

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1516

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A0BW7

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1516

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW8

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1517

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U J
75-00-3	Chloroethane	0.50	U J
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U J
67-64-1	Acetone	50	J
75-15-0	Carbon Disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U J
156-60-5	trans-1,2-Dichloroethene	0.50	U J
1634-04-4	Methyl tert-Butyl Ether	0.50	U J
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW8

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1517

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-06-2	1,2-Dichloroethane	0.50	U J
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BW8

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1517

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A0BW8

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1517

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BX0

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1518

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

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

CAS NO.	COMPOUND		Q
75-71-8	Dichlorodifluoromethane	0.50	U J
74-87-3	Chloromethane	0.50	U J
75-01-4	Vinyl Chloride	0.50	U J
74-83-9	Bromomethane	0.50	U J
75-00-3	Chloroethane	0.50	U J
75-69-4	Trichlorofluoromethane	0.50	U J
75-35-4	1,1-Dichloroethene	0.50	U J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U J
67-64-1	Acetone	5.0	U J
75-15-0	Carbon Disulfide	0.50	U J
79-20-9	Methyl Acetate	0.50	U J
75-09-2	Methylene Chloride	0.50	U J
156-60-5	trans-1,2-Dichloroethene	0.50	U J
1634-04-4	Methyl tert-Butyl Ether	0.50	U J
75-34-3	1,1-Dichloroethane	0.50	U J
156-59-2	cis-1,2-Dichloroethene	0.50	U J
78-93-3	2-Butanone	5.0	U J
74-97-5	Bromochloromethane	0.50	U J
67-66-3	Chloroform	0.50	U J
71-55-6	1,1,1-Trichloroethane	0.50	U J
110-82-7	Cyclohexane	0.50	U J
56-23-5	Carbon Tetrachloride	0.50	U J
71-43-2	Benzene	0.50	U J

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BX0

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1518

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

SA 8/1/02

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

CAS NO.	COMPOUND		Q
107-06-2	1,2-Dichloroethane	0.50	UJ
79-01-6	Trichloroethene	0.50	UJ
108-87-2	Methylcyclohexane	0.50	UJ
78-87-5	1,2-Dichloropropane	0.50	UJ
75-27-4	Bromodichloromethane	0.50	UJ
10061-01-5	cis-1,3-Dichloropropene	0.50	UJ
108-10-1	4-Methyl-2-Pentanone	5.0	UJ
108-88-3	Toluene	0.50	UJ
10061-02-6	trans-1,3-Dichloropropene	0.50	UJ
79-00-5	1,1,2-Trichloroethane	0.50	UJ
127-18-4	Tetrachloroethene	0.50	UJ
591-78-6	2-Hexanone	5.0	UJ
124-48-1	Dibromochloromethane	0.50	UJ
106-93-4	1,2-Dibromoethane	0.50	UJ
108-90-7	Chlorobenzene	0.50	UJ
100-41-4	Ethylbenzene	0.50	UJ
1330-20-7	Xylene (total)	0.50	UJ
100-42-5	Styrene	0.50	UJ
75-25-2	Bromoform	0.50	UJ
98-82-8	Isopropylbenzene	0.50	UJ
79-34-5	1,1,2,2-Tetrachloroethane	0.50	UJ
541-73-1	1,3-Dichlorobenzene	0.50	UJ
106-46-7	1,4-Dichlorobenzene	0.50	UJ
95-50-1	1,2-Dichlorobenzene	0.50	UJ
96-12-8	1,2-Dibromo-3-chloropropane	0.50	UJ

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BX0

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1518

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
120-82-1	1,2,4-Trichlorobenzene	0.50	U J
87-61-6	1,2,3-Trichlorobenzene	0.50	U J

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A0BX0

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1518

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

SH 8/1/02

Number TICs found: 0

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

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BX1

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1519

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

SA 8/1/02

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

CAS NO.	COMPOUND		Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	UJ
75-00-3	Chloroethane	0.50	UJ
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	UJ
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	UJ
67-64-1	Acetone	5.0	UJ
75-15-0	Carbon Disulfide	0.50	U
79-20-9	Methyl Acetate	0.50	U
75-09-2	Methylene Chloride	0.50	UJ
156-60-5	trans-1,2-Dichloroethene	0.50	UJ
1634-04-4	Methyl tert-Butyl Ether	0.50	UJ
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BX1

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1519

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

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

CAS NO.	COMPOUND		Q
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A0BX1

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1519

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

8/1/02

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A0BX1

Lab Name: MITKEM CORPORATION Contract: 68W01041

Lab Code: MITKEM Case No.: 30610 SAS No.: _____ SDG No.: A0BW5

Matrix: (soil/water) WATER Lab Sample ID: A0950-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: V2F1519

Level: (low/med) LOW Date Received: 06/20/02

% Moisture: not dec. _____ Date Analyzed: 06/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

SA 8/1/02

Number TICs found: 0

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

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

Attachment IV

Data Validation Worksheets

EPA-NE
Data Validation Worksheet Cover Page - Page 1

Site Name Hill Street, ~~Northampton~~, MA
Reference No. 20200.0006.00 Brookfield

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Mitkem Corporation
Case/Project No. 30610
SDG No. AØBW5
No. of Samples/Matrix 6 / Aqueous

SOW/Method No. ØLCØ3.2
Sampling Date(s) 6/18,19/02
Shipping Date(s) 6/19/02
Date Rec'd by lab 6/20/02

date pkg rec'd 7/15/02

Traffic Report Sample Nos. AØBW5, AØBW6, AØBW7, AØBW8, AØBXØ AØX1

Trip Blank No. AØBX1
Equipment Blank No. —
Bottle Blank No. —
Field Duplicate Nos. AØBW6/AØBW7
PES Nos. —

Cooler Temp. 5°C

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

Modified Tier II

The data were evaluated based upon the following parameters:

VOC		Vox
OK	- Overall Evaluation of Data	OK
OK	- Data Completeness (CSF Audit - Tier I)	NA
OK	- Preservation & Technical Holding Times	
OK	- GC/MS & GC/ECD Instrument Performance Check	
✓	- Initial & Continuing Calibrations	
✓	- Blanks	
✓	- Surrogate Compounds	
OK	- Internal Standards	
OK	- Matrix Spike/Matrix Spike Duplicate	
	- Field Duplicates	
	- Sensitivity Check	
	- PE Samples/Accuracy Check	
	- Target Compound Identification	
	- Compound Quantitation and Reported Quantitation Limits	
	- TICs	
	- Semivolatile and Pesticide/PCB Cleanup	
	- System Performance	

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Sheila Harvey Company Name MED Inc. Phone Number 781-246-5200

Date Validation Started 7/23/02 Date Validation Completed 7/23/02

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/~~SV~~ only worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	✓
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	✓
VOA/SV-II	GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)	✓
VOA/SV-III	INITIAL CALIBRATION	✓
VOA/SV-IV	CONTINUING CALIBRATION	✓
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	✓
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	—
VOA-VI	VOA SURROGATE SPIKE RECOVERIES	✓
SV-VI	SV SURROGATE SPIKE RECOVERIES	NA
VOA/SV-VII	INTERNAL STANDARD PERFORMANCE	✓
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	✓
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	✓
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	NA
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	✓
VOA/SV-Pest/PCB-XII	TARGET COMPOUND IDENTIFICATION	✓
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	✓
VOA/SV-XIV	TENTATIVELY IDENTIFIED COMPOUNDS	NA
VOA/SV-XV	SEMIVOLATILE CLEANUP	✓
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	✓

~~Pest/PCB worksheets:~~

~~VOA/SV-Pest/PCB~~	~~COMPLETE SDG FILE (CSF) AUDIT~~	
~~VOA/SV-Pest/PCB-I~~	~~PRESERVATION AND HOLDING TIMES~~	
~~Pest/PCB-IIA~~	~~GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION~~	
~~Pest/PCB-IIB~~	~~GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES~~	
~~Pest/PCB-IIC~~	~~GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION~~	
~~Pest/PCB-IID~~	~~GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION~~	
~~Pest/PCB-III~~	~~INITIAL CALIBRATION~~	
~~Pest/PCB-IV~~	~~CONTINUING CALIBRATION~~	
~~VOA/SV-Pest/PCB-V-A~~	~~BLANK ANALYSIS~~	
~~VOA/SV-Pest/PCB-V-B~~	~~BLANK ANALYSIS~~	
~~Pest/PCB-VI~~	~~SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT~~	
~~Pest/PCB-VII~~	~~PESTICIDE CLEANUP~~	
~~VOA/SV-Pest/PCB-VIII~~	~~MATRIX SPIKE/MATRIX SPIKE DUPLICATE~~	
~~VOA/SV-Pest/PCB-IX~~	~~FIELD DUPLICATE PRECISION~~	
~~VOA/SV-Pest/PCB-X~~	~~SENSITIVITY CHECK~~	
~~VOA/SV-Pest/PCB-XI~~	~~ACCURACY CHECK~~	
~~Pest/PCB-XII~~	~~COMPOUND IDENTIFICATION~~	
~~VOA/SV-Pest/PCB-XIII~~	~~SAMPLE QUANTITATION~~	
~~TABLE II-WORKSHEET~~	~~OVERALL EVALUATION OF DATA~~	

I certify that all criteria were met for the worksheets checked above.

Signature: Sheila Harvey, MTE, Inc Name: Sheila Harvey

Date: 7/1/02

EPA-NE - Data Validation Worksheet
VOA/SV-III

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

all acceptable
RRF > 0.01
WK 7/23/02

VOC all criteria met

Date of ICAL	Instrument	Parameter	Matrix	Compound	% RSD	RRF	Samples Affected	Action
6/16/02	V2	VOC	Aq	Acetone	—	0.0021	all	J(+)/R(ND)
				2-butanone	—	0.0463		J(+)/R(ND)
				2-Hexanone-d5	—	0.0473		none

Comments:

Validator: Sheila Carney

Date: 7/23/02

EPA-NE - Data Validation Worksheet
VOA/SV-IV

IV. **CONTINUING CALIBRATION** - List all analytes that are outside calibration criteria.

Date of ICAL	Date of CCAL	Instrument	Parameter	Matrix	Compound	%D	RRF	Samples Affected	Action
6/16/02	6/26/02	V2F1571	VOC	Aq	Acetone	38.1	~~0.021~~	LKK 7/29/02 CKK 7/29/02	J(+) ~~(ND)~~ UJ(ND) *
					2-Hexanone-d5	—	~~0.047~~		None
					Bromomethane	33.6	—		UJ(ND)
					Chloroethane	27.5	—	All	
					1,1-Dichloroethane	31.2	—		
					1,1,2-trichloro-1,2,2-tri-fluoroethane	32.5	—		
					Methylene chloride	~~35.1~~ 33.5	—		
					trans-1,2-dichloroethene	32.1	—		
					Methyl tert Butyl ether	34.7	—		J(+) UJ(ND) **
					1,2-dichloroethane	29.1	—		UJ(ND)
					1,1-dichloroethene-d2	35.5	—		none
					1,2-dichloroethane d5	34.2	—		none

Comments:
* J(+) acetone results in samples A0BW6 and A0BW7. ~~All others ND and are rejected (R)~~ LKK 7/29/02
** J(+) methyl tert butyl ether result in sample A0BW5. All others ND and are estimated (UJ).

Validator: Sheila Harvey

Date: 7/23/02

12/96

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-A

V. BLANK ANALYSIS

List the blank contamination below.

Concentration Level: Low

Sampler: P Odgers Company: MHE, Inc.

Contacted: Yes No Date:

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units) ug/L
—	6/26/02	VOC/Aq	VHBLKZN (Method)	DB-624	Methylene Chloride	0.52
	6/26/02	VOC/Aq	VBLKZN (Method)	DB-624	Methylene chloride	0.61

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

A ØBX1 - all criteria met

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)

Validator: Sheila Harvey Date: 7/23/02

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-V-B

3. **Blank Actions** - List the maximum concentrations of blank compounds.

Compound	Type of Blank	Date Blank Sampled/Originated	Max. Conc. (units)	Action Level (units)	Sample QL	Samples Affected	Action
Methylene Chloride	Method	6/26/02	0.61 µg/L	6.1 µg/L	0.50	all	none. all SR ND

Comments: _____

Validator: Sheila Varney

Date: 7/23/02

EPA-NE - Data Validation Worksheet
VOA-VI

VI. VOA SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

Method	Volatile Method QC Acceptance Criteria				
	~~Toluene d_8~~ Chloroethane-d_5	BFB	DCE-d_4	Other:	
OLM03.2	Water ~~88-110~~ 60-120 / Soil 84-138	Water 86-115 / Soil 59-113	Water 76-114 / Soil 70-121		
OLC02.1	NA	80-120	NA		
Other:					
Sample Number/Matrix	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	**Action**
AØBXØ/AG	54%				J(+)/UJ(ND)*
* Nondetect bromomethane, chloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, methylene chloride, trans-1,2-dichloroethene, methyl tert butyl ether, and 1,2-dichloroethane previously qualified as estimated (UJ) due to IC/CC nonconformances. Therefore, NFA					
The nondetect Acetone and 2-butanone results previously rejected due to poor instrument sensitivity					

Validator: Sheila Haney

Date: 7/23/02

Attachment VI

CSF Completeness Evidence Audit (DC-2)

CSF Complete MB/7/11/02

Evidence Audit Photocopy Pg 1 of 4

DFN: 0206018-OA
Mill Street Property BTSA

LOW CONCENTRATION WATER ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

Brookfield, MA

LABORATORY NAME Mitkim Corporation
CITY/STATE Warwick, RI
CASE NO. 30610 SDG NO. A0BU5 SDG NOS. TO FOLLOW
CLIENT NO.
CONTRACT NO. 68-W-01-041
SOW NO. OLC03.2

Received JUL 11 2002 OEME Chelmsford

All documents delivered in the Complete SDG File must be original documents where possible.

	PAGE NOs FROM	TO	CHECK LAB	EPA
1. Inventory Sheet (Form DC-2) (Do Not Number)				OH, MHE/loc. 7/23/02
2. SDG Case Narrative	1	3	✓	
3. SDG Cover Sheet/Traffic Report	4	5	✓	
4. Volatiles Data				
a. QC Summary				
Deuterated Monitoring Compound Recovery (Form II LCV)	6	7	✓	
Matrix Spike/Matrix Spike Duplicate Recovery (Form III LCV) (if Region requests)	8	8	✓	
Method Blank Summary (Form IV LCV)	9	9	✓	
GC/MS Instrument Performance Check (Form V LCV)	10	11	✓	
Internal Standard Area and RT Summary (Form VIII LCV)	12	13	✓	
b. Sample Data				
TCL Results - (Form I LCV-1, LCV-2)			✓	
Tentatively Identified Compounds (Form I LCV-TIC)			✓	
Reconstructed Total Ion Chromatograms (RIC) for each sample	14	65	✓	
For each sample:				
Raw Spectra and background-subtracted mass spectra of target compounds identified			✓	
Quantitation reports			✓	
Mass Spectra of all reported TICs with three best library matches			✓	
c. Standards Data (All Instruments)	66	96		
Initial Calibration Data (Form VI LCV-1, LCV-2, LCV-3)			✓	
RICs and Quantitation Reports for all Standards			✓	
Continuing Calibration Data (Form VII LCV-1, LCV-2, LCV-3)			✓	
RICs and Quantitation Reports for all Standards			✓	
d. Raw QC Data			✓	
BFB	97	102	✓	
Blank Data	103	120	✓	
Matrix Spike/Matrix Spike Duplicate Data (if Region requests)	121	132	✓	

Evidence Audit Photocopy
Pg 2 of 4

LOW CONCENTRATION WATER ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET (Con't)

CASE NO. 30610 SDG NO. A0BW5 SDG NOS. TO FOLLOW _____
_____ _____ CLIENT NO. _____

	PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK EPA
				SAL, HHE, Inc 7/23/02
5. Semivolatiles Data				
a. QC Summary				
Deuterated Monitoring Compound (Form II LCSV)	N/A	N/A	NA	
MS/MSD Summary (Form III LCSV) (if Region requests)				
Method Blank Summary (Form IV LCSV)				
GC/MS Instrument Performance Check (Form V LCSV)				
Internal Standard Area and RT Summary (Form VIII LCSV)				
b. Sample Data				
TCL Results - (Form I LCSV-1, LCSV-2)				
Tentatively Identified Compounds (Form I LCSV-TIC)				
Reconstructed Total Ion Chromatograms (RIC) for each sample				
For each sample:				
Raw Spectra and background-subtracted mass spectra of target compounds				
Quantitation reports				
Mass Spectra of TICs with three best library matches				
c. Standards Data (All Instruments)				
Initial Calibration Data (Form VI LCSV-1, LCSV-2, LCSV-3)				
RICs and Quantitation Reports for all Standards				
Continuing Calibration Data (Form VII LCSV-1, LCSV-2, LCSV-3)				
RICs and Quantitation Reports for all Standards				
d. Raw QC Data				
DFTPP				
Blank Data				
Matrix Spike/Matrix Spike Duplicate Data (if Region requests)				
6. Pesticides Data				
a. QC Summary				
Surrogate Percent Recovery Summary (Form II LCP)				
MS/MSD Duplicate Summary (Form III LCP-1) (if Region requests)				
Laboratory Control Sample Recovery (Form III LCP-2)				
Method Blank Summary (Form IV LCP)				
b. Sample Data				
TCL Results - Organic Analysis Data Sheet (Form I LCP)				
Chromatograms (Primary Column)				
Chromatograms from second GC column confirmation				
GC Integration report or data system printout				
Manual work sheets				

Evidence Audit Photocopy
Pg 3 & 4

LOW CONCENTRATION WATER ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET (Con't)

CASE NO. 30610 SDG NO. 40B115 SDG NOS. TO FOLLOW _____

_____ _____ CLIENT NO. _____

	PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK EPA
6. Pesticides Data (Con't)				
c. Standards Data	N/A	N/A		SW, MTG, Inc. 7/23/02
Initial Calibration of Single Component Analytes (Form VI LCP-1 and LCP-2)			NA	
Initial Calibration of Multicomponent Analytes (Form VI LCP-3)				
Analyte Resolution Summary (Form VI LCP-4)				
Performance Evaluation Mixture (Form VI LCP-5)				
Individual Standard Mixture A (Form VI LCP-6)				
Individual Standard Mixture B (Form VI LCP-7)				
Calibration Verification Summary (Form VII LCP-1)				
Calibration Verification Summary (Form VII LCP-2)				
Analytical Sequence (Form VIII LCP)				
Florisil Cartridge Check (Form IX LCP)				
Pesticide Identification Summary for Single Component Analytes (Form X LCP-1)				
Pesticide Identification Summary for Multicomponent Analytes (Form X LCP-2)				
Chromatograms and data system printouts				
A printout of retention times and corresponding peak areas or peak heights				
d. Raw QC Data				
Blank Data				
Matrix Spike/Matrix Spike Duplicate Data (if Region requests)				
Laboratory Control Sample Data				
e. Raw Florisil Data				
7. Miscellaneous Data				
Original preparation and analysis forms or copies of preparation and analysis logbook pages	133	134	✓	
Internal sample and sample extract transfer chain-of-custody records	135	135	✓	
Screening records	N/A	N/A	NA	
All instrument output, including strip charts from screening activities (describe or list)				

Evidence Audit Photocopy
Pg 424

LOW CONCENTRATION WATER ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET (Con't)

CASE NO. 30610 SDG NO. AOBW5 SDG NOS. TO FOLLOW _____

_____ _____ CLIENT NO. _____

	PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK EPA
8. EPA Shipping/Receiving Documents				
Airbills (No. of shipments 1)	136	136	✓	M+E, Inc 7/23/02
Chain-of-Custody Records	137	138	✓	
Sample Tags (in plastic bag)			✓	
Sample Log-in Sheet (Lab & DC1)	139	140	✓	
Miscellaneous Shipping/Receiving Records (describe or list)				
	N/A	N/A	NA	
9. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)				
10. Other Records (describe or list)				
Telephone Communication Log				
E-MAIL	141	144	✓	
	N/A	N/A	NA	✓

11. Comments: _____

Completed by: (CLP Lab) Joy Boudreau (Signature) Joy Boudreau/Document Control Officer (Printed Name/Title) 7/10/02 (Date)

Verified by: (CLP Lab) Agnes Ng (Signature) Agnes Ng/CLP Project Manager (Printed Name/Title) 7/10/02

Audited by: (EPA) Sheila Harvey M+E, Inc. (Signature) Sheila Harvey/Chemist (Printed Name/Title) 7/23/02 (Date)

Attachment VII

DQO Summary Form

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form. Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1.EPA Program: ~~TSCA CERCLA RCRA DW NPDES CAA~~
Other: Brownfields Targeted Site Assessment (BTSA)
Projected Date(s) of Sampling: 10 June through 21 June 2002
EPA Site Manager: Jim Byrne/James Chow
EPA Case Team Members: _____

Site Name: Mill Street Property
Site Location: Brookfield, MA
Assigned Site Latitude/Longitude: Unknown
CERCLA Site/Spill Identifier No._____(Include Operable Unit)
Phase: ~~ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA~~
(circle one) **Other:** BTSA

2.QAPjP Title and Revision Date: Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

Approved by: James Chow/Jim Byrne Date of Approval: April 2002
Title of Approving Official: EPA WAM Organization*: EPA
*If other than EPA, record date approval authority was delegated: _____

EPA Oversight Project (circle one) ~~Y~~ N
Confirmatory Analysis for Field Screening ~~Y~~ N
Are comparability criteria document? ~~Y~~ N

Type of EPA Oversight (circle one) ~~PRP or FF~~ Other: NA
If EPA Oversight or Confirmatory: % splits ___

3.						
a.	Matrix Code[1]	SO	SO	SO	SO	SO
b.	Parameter Code[2]	EPH	VPH	13116010	8082	ILM04.1MT
c.	Preservation Code[3]	5	5, 10 (MEOH)	5	5	5
d.	Analytical Services Mechanism	Sub*	Sub	Sub	Sub	RAS
e.	No. of Sample Locations	12	12	6	6	12
	Field QC:					
f.	Field Duplicate Pairs	1	1	1	1	1
g.	Equipment Blanks	0	0	0	0	0
h.	VOA Trip Blanks	0	3	0	0	0
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler
j.	Bottle Blanks					
k.	Other:					
l.	PES sent to Laboratory	0	0	0	0	0
	Laboratory QC:					
m.	Reagent Blank	1	1	1	1	1
n.	Duplicate	1	1	1		1
o.	Matrix Spike	1	1	1	1	1
p.	Matrix Spike Duplicate	1	1		1	
q.	Other:					

4. Site Information
Site Dimensions Unknown
List all potentially contaminated matrices soil, groundwater
Range of Depth to Groundwater 10-20 ft below ground surface
Soil Types: **Surface Subsurface** ~~Other~~: _____
Sediment Types: ~~Stream Pond Estuary Wetland Other:~~

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SO

5. Data Use (circle all that apply) ~~Site Investigation/Assessment~~ ~~PRP Determination~~ ~~Removal Actions~~
Nature and Extent of Contamination Human and/or Ecological Risk Assessment
Remediation Alternatives ~~Engineering Design~~ ~~Remedial Action~~
~~Post-Remedial Action (quarterly monitoring)~~ **Other:** BTSA

* Sub = Directly Subcontracted
ILM04.1MT= RAS Inorganics (total metals)
VPH = Massachusetts VPH,
EPH = Massachusetts EPH
13116010 = TCLP Metals
8082 = PCBs

EPA-NE - DQO SUMMARY FORM

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form. Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1.EPA Program: ~~TSCA CERCLA RCRA DW NPDES CAA~~
Other: Brownfields Targeted Site Assessment (BTSA)
Projected Date(s) of Sampling: 10 June through 21 June 2002
EPA Site Manager: Jim Byrne/James Chow
EPA Case Team Members:

Site Name: Mill Street Property
Site Location: Brookfield, MA
Assigned Site Latitude/Longitude: Unknown
CERCLA Site/Spill Identifier No. NA (Include Operable Unit)
Phase: ~~ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA~~
(circle one) **Other:** BTSA

2.QAPjP Title and Revision Date: Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

Approved by: James Chow/Jim Byrne Date of Approval: April 2002
Title of Approving Official: EPA WAM Organization*: EPA
*If other than EPA, record date approval authority was delegated:

EPA Oversight Project (circle one) ~~Y~~ N
Confirmatory Analysis for Field Screening ~~Y~~ N
Are comparability criteria document? ~~Y~~ N

Type of EPA Oversight (circle one) ~~PRP or FF~~ Other: NA
If EPA Oversight or Confirmatory: % splits ___

3.					
a.	Matrix Code[1]	GW	GW	GW	GW
b.	Parameter Code[2]	EPH	VPH	OLC03.2	ILM04.1MT
c.	Preservation Code[3]	5	1, 5	1, 5	2, 5
d.	Analytical Services Mechanism	Sub	Sub	RAS	RAS
e.	No. of Sample Locations	5	5	5	5
	Field QC:				
f.	Field Duplicate Pairs	1	1	1	1
g.	Equipment Blanks				
h.	VOA Trip Blanks		1	1	
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler
j.	Bottle Blanks	0	0	0	0
k.	Other:	0	0	0	0
l.	PES sent to Laboratory	0	0	0	0
	Laboratory QC:				
m	Reagent Blank	1	1	1	1
n.	Duplicate	1	1		1
o.	Matrix Spike	1	1	1	1
p.	Matrix Spike Duplicate	1	1	1	
q.	Other:				

4. Site Information
Site Dimensions 3 parcels
List all potentially contaminated matrices soil, groundwater
Range of Depth to Groundwater 5-25 ft below ground surface
Soil Types: **Surface Subsurface** ~~Other~~:
Sediment Types: ~~Stream Pond Estuary Wetland~~ Other:

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] GW

5. Data Use (circle all that apply) ~~Site Investigation/Assessment~~ ~~PRP Determination~~ ~~Removal Actions~~
Nature and Extent of Contamination Human and/or Ecological Risk Assessment
~~Remediation Alternatives~~ ~~Engineering Design~~ ~~Remedial Action~~
~~Post-Remedial Action (quarterly monitoring)~~
Other: BTSA

* Sub = Directly Subcontracted
OLC03.2 - RAS Low Concentration VOCs
ILM04.1MT= RAS Inorganics (total metals)
VPH = Massachusetts VPH
EPH = Massachusetts EPH

6. Summarize DQOs: To provide data for characterizing and assessing current environmental and site conditions as needed to support a preliminary evaluation of risks and remedial alternatives.

COCs	Action Levels	Analytical Method-Quantitation Limits
Refer to Field Task Work Plan for Mill Street Property, Brookfield, MA (BTSA), M&E, March 2002	Refer to Field Task Work Plan for Mill Street Property, Brookfield, MA (BTSA), M&E, March 2002	RAS Methods - As per applicable CLP SOW Subcontract Methods - per SOP with approved BTSA laboratories (Mitkem, Amro, or Woods Hole Group)

7. Sampling Method (circle technique) ~~Bailer~~ ~~Low flow pump (Region I method: Yes No)~~ ~~Peristaltic Pump~~ ~~Positive Displacement Pump~~ ~~Faucet or Spigot~~ ~~Other~~: _____ ~~Split Spoon~~ ~~Dredge~~ Trowel

Other: Geoprobe Macro-core

Sampling Procedure (SOP name, No., Rev. #, and date) Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

List Background Sample Locations _____

Circle: ~~GW-Grab,~~ SO-Composite, ~~LN-Grab, WT - Grab~~

"Hot spots" sampled: ~~Yes~~ No

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
See Section 3			

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analysis, Part II, III or IV
2. Other Approved Validation Criteria: Tier II-like validation memorandum

Validation Tier (circle one) I II III Partial Tier III: _____

Company/Organization Performing Data Validation Metcalf & Eddy, Inc. Prime ~~or Subcontractor~~ (circle one)

11. Company Name Metcalf & Eddy, Inc. Contract Number 68-W6-0042

Contract Name (e.g. START, RAC, etc.) RAC Work Assignment No. 106-SISI-01ZZ

Person Completing Form/Title Denise M. Laferte /Project Chemist Date of DQO Summary Form Completion 5/24/02

Matrix Codes[1] - Refer to Attachment B, Part i

Parameter Codes[2] - Refer to Attachment B, Part II

Preservation Codes[3]

1.	HCl to pH ≤ 2	7.	$K_2Cr_2O_7$
2.	HNO_3	8.	Freeze
3.	$NaHSO_4$	9.	Room Temperature (avoid excessive heat)
4.	H_2SO_4	10.	Other (Specify)
5.	Cool @ 4°C (± 2°)	N.	No preserved

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit

Metcalf & Eddy

30 Harvard Mill Square
Wakefield, MA 01880-5371
P.O. Box 4071
Wakefield, MA 01880-5371

Tel: 781-246-5200
Fax: 781-245-6293
www.m-e.com

036200100.0006.00115

July 23, 2002

Ms. Christine Clark
USEPA - New England
OEME - QA Unit
11 Technology Drive
North Chelmsford, Massachusetts 01863-2431

Re: Work Assignment No. 106-SIBZ-01ZZ
Case No. 30610, SDG No. MA02D6
DataChem Laboratories, Salt Lake City, Utah
Targeted Brownfields Site Assessment: Mill Street, Brookfield, Massachusetts
Modified Tier II Inorganic Data Validation

Metals: 6/Aqueous/ MA02D6, MA02D7, MA02D8, MA02D9, MA02E0, MA02E1 (Field Duplicates/MA02D7 and MA02D8)

Dear Ms. Clark:

A modified Tier II data validation was performed by Metcalf & Eddy, Inc. (M&E) on the inorganic analytical data for six aqueous samples collected from the Mill Street Targeted Brownfields Assessment (TBA) site, located in Brookfield, Massachusetts by M&E field personnel on June 18 and 19, 2002. The samples were analyzed for metals under the Contract Laboratory Program Routine Analytical Services (RAS) using the EPA *Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration, ILM04.1.* M&E evaluated the data using the *Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Inorganics Analyses*, June 13, 1988 criteria, and incorporated new organic data validation guidance from *Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses*, December 1996 criteria, as deemed appropriate. All samples were received by the laboratory on June 20, 2002. The data package was received in the M&E office on July 15 , 2002.

M&E reviewed the data in accordance with the EPA-approved Final Field Task Work Plan for the site, and the guidance received from EPA Work Assignment Manager, Mr. James Byrne, in a September 17, 1999 letter to former M&E Work Assignment Manager, Barb Wyskowski. The format of the validation memoranda underwent modification as of July 2001 at the request of the EPA Project Chemist, Alan Peterson, with the approval of Mr. Byrne. The data review included the following:

*	•	Data Completeness
*	•	Holding Times
*	•	Instrument Calibration
	•	Blank Analysis Results
*	•	Inductively Coupled Plasma (ICP) Interference Check Sample Results
*	•	Matrix Spike (MS) Recoveries
*	•	Laboratory Duplicate Sample Results
*	•	Field Duplicate Sample Results
*	•	Laboratory Control Sample (LCS) Results
NA	•	Furnace Atomic Absorption Results
*	•	ICP Serial Dilution Results
*	•	Instrument Detection Limits (IDL)
	•	Sample Quantitation Results
NA	•	Performance Evaluation Sample

*	=	All criteria met for this parameter
NA	=	Not applicable and/or no information was provided by the laboratory

Note: Worksheets are not included for parameters that have met criteria or for criteria that are not applicable to the method and/or to Tier II data validation.

Blank Analysis Results

A review of laboratory blank analysis results indicates the presence of laboratory contamination for the analytes listed below. Positive sample results reported with concentrations less than the blank action level (BAL) for that compound are considered to be false positive results.

Analyte	Max. Conc. Contaminant (µg/L)	BAL (µg/L)	Affected Samples/Action
Aluminum	82.4	412	Qualify the reported value as nondetect (U) in samples MA02D6, MA02D9, and MA02E0.
Barium	1.7	8.5	None. All sample results >BAL.
Beryllium	1.5	7.5	None. All sample results are nondetect.
Cadmium	0.3	1.5	None. All sample results are nondetect.
Calcium	70.8	354	None. All sample results >BAL.

Analyte	Max. Conc. Contaminant (µg/L)	BAL (µg/L)	Affected Samples/Action
Copper	5.0	25	None. All sample results are nondetect.
Iron	36.0	180	Qualify the reported value as nondetect (U) in samples MA02D6 and MA02E0.
Magnesium	78.6 -30.0	393	None. All sample results >BAL.
Manganese	2.1	10.5	None. All sample results >BAL.
Sodium	-78.3	-391.5	None. All sample results >BAL.
Vanadium	3.3	16.5	None. All sample results are nondetect.

Blank Actions:

* concentration ≤ BAL; report value on summary table as U.
* concentration > negative BAL, report value unqualified.
* concentration > BAL; report value unqualified.

Sample Quantitation Results

The following table summarizes the positive sample results and the blank-qualified sample results that are less than two times the IDL and were not previously qualified as estimated (J) due to quality control parameters discussed above. The listed results are qualified as estimated (J) due to uncertainty in the quantitation near the IDL:

Analyte	Affected Samples
Zinc	MA02D9; MA02D8

Please contact Constance Lapite at (781) 224-6628 if you have any questions regarding this information.

Very truly yours,

METCALF & EDDY, Inc.

Elizabeth DeCola
Initial Data Validator

Sheila Harvey
Senior Reviewer

Constance Lapite
M&E RAC Lead Chemist

cc: Barbara Weir, Project Manager (memo only)
Denise Laferte, Project Chemist (entire package)
E. DeCola, Data Validator (entire package)
BTSA Mill Street Project File (WA No. 106-SIBZ-01ZZ)

Attachments:
IRDA Form
Chain-of-Custody Forms
Validated Sample Result Summary Sheets (Form Is)
Data Validation Worksheets
Copies of Telephone Logs/Communication Forms (not applicable)
CSF Audit (DC-2 Form)

J:\ne\brwnflds\MillstreetBrookfield\dataval\MA02D6metals

Attachment I

IRDA Form

Region I
Inorganic Data Review Worksheets

Region I

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 30610 SITE Brownfield Target Site Assessment Mill St property, Brookfield, MA

LABORATORY DataChem NO OF SAMPLES/MATRIX 6/ Aq.

SDG # ~~SD~~ MA02D6 REVIEWER(IFNOT ESD) M+E, Inc.

SOW # ILM04.1 REVIEWER'S NAME Elizabeth Dellea

DPO:ACTION _____ FYI X COMPLETION DATE 7/17/02

DATA ASSESSMENT SUMMARY

		ICP	AA	HG	CYANIDE
1.	HOLDING TIMES	O	NA	O	NA
2.	CALIBRATIONS	O		O	
3.	BLANKS	O[1]		O	
4.	ICS	O		O	
5.	LCS	O		O	
6.	DUPLICATE ANALYSIS	O		O	
7.	MATRIX SPIKE	O		O	
8.	MSA	NA		NA	
9.	SERIAL DILUTION	O		O	
10.	SAMPLE VERIFICATION	O[2]		O	
11.	OTHER QC	NA		NA	
12.	OVERALL ASSESSMENT	O	✓	O	✓

O = Data had no problems, or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS: O[1]: Aluminum + Iron were qualified as U ~~(conditio~~ due to blank contamination in 3 samples. O[2]: Zinc was estimated in 2 samples due to uncertainty near the IDL.

AREAS OF CONCERN: _____

NOTABLE PERFORMANCE: _____

Attachment II

Chain-of-Custody

EPA United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analysis)

Case No. 30610

1. Project Code: 200100.6.114	2. Account Code:	3. Region No.: I	Sampling Co.: M&E	5. Date Shipped: 6/19/02	Carrier: Federal Express
Regional Information		Sampler (Name): Philippa Odgers		Airbill Number: 8306 0505 8627	
Non-Superfund Program		Sampler Signature: PO Odgers.		6. Ship To: Datachem Laboratories (DATAC) 960 West LeVoy Drive Salt Lake City, UT 84123 ATTN: Roxanne Olson (801)266-7700	
Site Name: Mill Street Property		4. Purpose* Lead: [X] SF [ ] PRP [ ] ST [ ] FED; Early Action: [ ] CLEM [ ] PA [ ] REM [X] RI [ ] SI [ ] ESI; Long-Term Action: [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD			
City, State: Brookfield, MA	Site Spill ID				

7. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)

8. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaOH 4. H_2SO_4 5. $K_2CR_2O_7$ 6. Ice only 7. Other (specify in Column D) N. Not Preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 7) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 8) Other:	E — RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low Only: NO_2/NO_3	Fluoride	High Only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform Eval. — = Not a QC Sample)
MA02D5	2	L	G	2		X						179001. 179002	ME-1	6/18/02/1320	AQBW5	PO	MS/MSD
MA02D4	2	L	G	2		X						179003	ME-2	6/18/02/1300	AQBW6	PO	
MA02D8	2	L	G	2		X						179004	RME-2	6/18/02/1310	AQBW7	PO	D(MA02D7)
MA02D9	2	L	G	2		X						179005	ME-3	6/18/02/1810	AQBW8	PO	
MA02E0	2	L	G	2		X						179006	ME-5	6/18/02/1745		PO	
MA02E1	2	L	G	2		X						179007	ME-4	~~AQB~~ (PKO) 6/19/02/0900	AQBXQ	PO	
												EPA REQUIRED TEMP BLANK INCLUDED					

Shipment for Case Complete? (Y/N)	Page 1 of 1	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
		MA02D6		

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
PO Odgers.	6/19/02 1600	FedEx Airbill no. 8306 0505 8627			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

Distribution: Green - Region Copy; White - Lab Copy for Return to Region; Pink - CLASS Copy; Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1 (8/99)

See Reverse for Additional Standard Instructions
*See Reverse for Purpose Code Definitions

200272

A21-012-13 REV

Attachment III

Validated Sample Result Summary Sheets

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

MA02D6

Lab Name: DATACHEM LABORATORIES Contract: 68-W0-0087

Lab Code: DATAC Case No.: 30610 SAS No.: SDG No.: MA02D6

Matrix (soil/water): WATER Lab Sample ID: 02C01397

Level (low/med): LOW Date Received: 06/20/02

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

EAD 7/23/02

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	101	~~B~~	U	PM
7440-36-0	Antimony	38.2	U		PM
7440-38-2	Arsenic	2.1	U		PM
7440-39-3	Barium	64.5	B		PM
7440-41-7	Beryllium	0.33	U		PM
7440-43-9	Cadmium	0.22	U		PM
7440-70-2	Calcium	134000			PM
7440-47-3	Chromium	2.2	U		PM
7440-48-4	Cobalt	5.6	U		PM
7440-50-8	Copper	4.1	U		PM
7439-89-6	Iron	107	~~B~~	U	PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	17200			PM
7439-96-5	Manganese	140			PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.2	U		PM
7440-09-7	Potassium	28800			PM
7782-49-2	Selenium	1.8	U		PM
7440-22-4	Silver	3.7	U		PM
7440-23-5	Sodium	138000			PM
7440-28-0	Thallium	3.4	U		PM
7440-62-2	Vanadium	3.7	U		PM
7440-66-6	Zinc	3.6	U		PM
	Cyanide				NR

olor Before: COLORLESS Clarity Before: CLEAR Texture:

olor After: COLORLESS Clarity After: CLEAR Artifacts:

omments:

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

MA02D7

Lab Name: DATACHEM LABORATORIES Contract: 68-W0-0087

Lab Code: DATAC Case No.: 30610 SAS No.: SDG No.: MA02D6

Matrix (soil/water): WATER Lab Sample ID: 02C01398

Level (low/med): LOW Date Received: 06/20/02

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

EAD 7/23/02

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	616			PM
7440-36-0	Antimony	38.2	U		PM
7440-38-2	Arsenic	2.1	U		PM
7440-39-3	Barium	84.3	~~B~~		PM
7440-41-7	Beryllium	0.33	U		PM
7440-43-9	Cadmium	0.22	U		PM
7440-70-2	Calcium	21500			PM
7440-47-3	Chromium	2.2	U		PM
7440-48-4	Cobalt	5.6	U		PM
7440-50-8	Copper	4.1	U		PM
7439-89-6	Iron	619			PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	3340	~~B~~		PM
7439-96-5	Manganese	381			PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.2	U		PM
7440-09-7	Potassium	4630	~~B~~		PM
7782-49-2	Selenium	1.8	U		PM
7440-22-4	Silver	3.7	U		PM
7440-23-5	Sodium	122000			PM
7440-28-0	Thallium	3.4	U		PM
7440-62-2	Vanadium	3.7	U		PM
7440-66-6	Zinc	3.6	U		PM
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

MA02D8

Lab Name: DATACHEM LABORATORIES Contract: 68-W0-0087

Lab Code: DATAC Case No.: 30610 SAS No.: SDG No.: MA02D6

Matrix (soil/water): WATER Lab Sample ID: 02C01399

Level (low/med): LOW Date Received: 06/20/02

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

SXD 7/23/02

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	574			PM
7440-36-0	Antimony	38.2	U		PM
7440-38-2	Arsenic	2.1	U		PM
7440-39-3	Barium	85.5	~~B~~		PM
7440-41-7	Beryllium	0.33	U		PM
7440-43-9	Cadmium	0.22	U		PM
7440-70-2	Calcium	21700			PM
7440-47-3	Chromium	2.2	U		PM
7440-48-4	Cobalt	5.6	U		PM
7440-50-8	Copper	4.1	U		PM
7439-89-6	Iron	614			PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	3360	~~B~~		PM
7439-96-5	Manganese	382			PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.2	U		PM
7440-09-7	Potassium	4350	~~B~~		PM
7782-49-2	Selenium	1.8	U		PM
7440-22-4	Silver	3.7	U		PM
7440-23-5	Sodium	123000			PM
7440-28-0	Thallium	3.4	U		PM
7440-62-2	Vanadium	3.7	U		PM
7440-66-6	Zinc	6.0	~~B~~ J		PM
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

MA02D9

Lab Name: DATACHEM LABORATORIES Contract: 68-W0-0087

Lab Code: DATAC Case No.: 30610 SAS No.: SDG No.: MA02D6

Matrix (soil/water): WATER Lab Sample ID: 02C01400

Level (low/med): LOW Date Received: 06/20/02

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

SD 7/23/02

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	38.1	~~B~~	U	PM
7440-36-0	Antimony	38.2	U		PM
7440-38-2	Arsenic	2.1	U		PM
7440-39-3	Barium	20.3	~~B~~		PM
7440-41-7	Beryllium	0.33	U		PM
7440-43-9	Cadmium	0.22	U		PM
7440-70-2	Calcium	9220			PM
7440-47-3	Chromium	2.2	U		PM
7440-48-4	Cobalt	5.6	U		PM
7440-50-8	Copper	4.1	U		PM
7439-89-6	Iron	416			PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	2660	~~B~~		PM
7439-96-5	Manganese	672			PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.2	U		PM
7440-09-7	Potassium	3720	~~B~~		PM
7782-49-2	Selenium	1.8	U		PM
7440-22-4	Silver	3.7	U		PM
7440-23-5	Sodium	7230			PM
7440-28-0	Thallium	3.4	U		PM
7440-62-2	Vanadium	3.7	U		PM
7440-66-6	Zinc	5.6	~~B~~	J	PM
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

MA02E0

Lab Name: DATACHEM LABORATORIES Contract: 68-W0-0087

Lab Code: DATAC Case No.: 30610 SAS No.: SDG No.: MA02D6

Matrix (soil/water): WATER Lab Sample ID: 02C01401

Level (low/med): LOW Date Received: 06/20/02

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

EAD 7/23/02

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.4	~~B~~	U	PM
7440-36-0	Antimony	38.2	U		PM
7440-38-2	Arsenic	2.1	U		PM
7440-39-3	Barium	9.3	~~B~~		PM
7440-41-7	Beryllium	0.33	U		PM
7440-43-9	Cadmium	0.22	U		PM
7440-70-2	Calcium	16600			PM
7440-47-3	Chromium	2.2	U		PM
7440-48-4	Cobalt	5.6	U		PM
7440-50-8	Copper	4.1	U		PM
7439-89-6	Iron	98.5	~~B~~	U	PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	4130	~~B~~		PM
7439-96-5	Manganese	24.1			PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.2	U		PM
7440-09-7	Potassium	1950	~~B~~		PM
7782-49-2	Selenium	1.8	U		PM
7440-22-4	Silver	3.7	U		PM
7440-23-5	Sodium	10900			PM
7440-28-0	Thallium	3.4	U		PM
7440-62-2	Vanadium	3.7	U		PM
7440-66-6	Zinc	3.6	U		PM
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

MA02E1

Lab Name: DATACHEM LABORATORIES Contract: 68-W0-0087

Lab Code: DATAC Case No.: 30610 SAS No.: SDG No.: MA02D6

Matrix (soil/water): WATER Lab Sample ID: 02C01402

Level (low/med): LOW Date Received: 06/20/02

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

EAD 7/23/02

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19.4	U		PM
7440-36-0	Antimony	38.2	U		PM
7440-38-2	Arsenic	2.1	U		PM
7440-39-3	Barium	20.7	B		PM
7440-41-7	Beryllium	0.33	U		PM
7440-43-9	Cadmium	0.22	U		PM
7440-70-2	Calcium	14100	J		PM
7440-47-3	Chromium	2.2	U		PM
7440-48-4	Cobalt	15.5	B		PM
7440-50-8	Copper	4.1	U		PM
7439-89-6	Iron	7.0	U		PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	4480	B		PM
7439-96-5	Manganese	189			PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	10.2	U		PM
7440-09-7	Potassium	2320	B		PM
7782-49-2	Selenium	1.8	U		PM
7440-22-4	Silver	3.7	U		PM
7440-23-5	Sodium	29100			PM
7440-28-0	Thallium	3.4	U		PM
7440-62-2	Vanadium	3.7	U		PM
7440-66-6	Zinc	3.6	U		PM
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Attachment IV

Data Validation Worksheets

BTSA: Brownfield Target Site Assessment

Region I
Data Review Worksheet

Site Name: Mill St. Property
Reference Number: 200100.0006.00115

REGION I REVIEW OF INORGANIC
CONTRACT LABORATORY DATA PACKAGE

The hardcopied (laboratory name) Data Chem Laboratories data package received at Region I has been reviewed and the quality assurance and performance data summarized. The data review included:

Case No.	30610	SAS No.	—	Sampling Date (s)	6/18+6/19/2002
SDG No.	MA02D6	Matrix	Aq.	Shipping Date (s)	6/19/2002
No. of Samples	6			Date(s) rec'd by lab	6/20/2002

Traffic Report Numbers: MA02D6; MA02D7; MA02D8; MA02D9; MA02E0; MA02E1

Trip Blank No.:
Equipment Blank Number:
Field Duplicate Numbers: MA02D7 + MA02D8

SOW No. ILM04.1 requires that specific analytical work be done and that associated reports be provided by the laboratory to the Regions, EMSL-LV, and SMO. The general criteria used to determine the performance were based on an examination of:

- -Data Completeness
- -Holding Times
- -Calibrations
- -Blanks
- -ICP Interference Check Results
- -Matrix Spike Recoveries
- -Laboratory Duplicates
- -Field Duplicates
- -Lab Control Sample Results
- -Furnace AA results
- -ICP Serial Dilution Results
- -Detection Limit Results
- -Sample Quantitation

Overall Comments:

Definitions and Qualifiers:

A - Acceptable data
J - Approximate data due to quality control criteria
R - Reject data due to quality control criteria
U - Analyte not detected

Reviewer: Elizabeth DeCola Date: 7/17/02

Region I
Inorganic Data Review Worksheets

IV A. BLANK ANALYSIS RESULTS (Sections 1-3)

List the blank contamination in sections 1 and 2 below. A separate worksheet should be used for soil and water blanks.

1. Laboratory Blanks

Matrix: Aq. not 2x IDL

DATE:	ICB/CCB#	PREP BL	ANALYTE	CONC./UNITS
			~~Potassium~~	~~372.6~~ SW 7/17/02
	CCB		Aluminum	82.4
	CCB		Barium	1.7
	CCB		Beryllium	1.5
	CCB		Cadmium	.3
	CCB		Calcium	70.8 ; ~~25.8 (prep blank~~ SW
	CCB		Copper	5.0 7/17/02
	CCB		Iron	36.0
	CCB		Manganese	~~28.6~~ 2.1
	CCB		Magnesium	78.6 ; ~~30.0~~ SW 7/17/02
	CCB		~~Silver~~	~~4.2~~ SW 7/17/02
	CCB		Vanadium	3.3

2. Equipment/Trip Blanks

DATE:	EQUIP BL #	ANALYTE	CONC./UNITS
	Prep D	Sodium	-78.3 (prep blank)

3. Frequency Requirements

A. Was a preparation blank analyzed for each matrix, for every 20 samples, and for each digestion batch? **Yes or No**

B. Was a calibration blank run at the beginning of the run, and every 10 samples or every 2 hours whichever is more frequent? **Yes or No**

If no, the data may be affected. Use professional judgment to determine the severity of the effect and qualify the data accordingly. Discuss any actions below, and list the samples affected:

Region I
Inorganic Data Review Worksheets

IV B. BLANK ANALYSIS RESULTS (Section 4)

4. Blank Actions

The Action Level for any analyte is equal to 5X the highest concentration of that analyte found in any blank. (Use 5X the absolute value for any negative blank results). The Action Level for samples which have been concentrated or diluted should be multiplied by the concentration/dilution factor. No positive result should be reported unless the concentration of the analyte in the sample exceeds the Action Level (AL) for that analyte. Specific actions are as follows:

1. When the concentration is greater than the IDL, but less than the Action Level, report the sample concentration detected with a U.

2. When the sample concentration is greater than the Action Level, report the sample concentration unqualified.

SA 7/17/02

Matrix: Soil

ELEMENT	MAX. CONC. /UNITS µg/L	AL /UNITS µg/L
Al	62.4	412
Ba	1.7	8.5
Be	1.5	7.5
Cd	.3	1.5
Ca	70.8	354
Cu	5.0	25
Fe	36.0	180
Mn	2.1	10.5
Mg	78.6	393
~~(9) Silver~~	~~-4.2~~	~~21~~
Vn	3.3	16.5
(9) Sodium	-78.3	-391.5

Matrix: Soil

ELEMENT	MAX. CONC/ UNITS µg/L	AL/ UNIT µg/L
~~(9) potassium~~	~~372.6~~	~~1863~~
~~Ca~~	~~25.8~~	~~129~~
~~Mg~~	~~30.0~~	~~150~~

NOTE: Blanks analyzed during a soil case must be converted to mg/kg in order to compare them with the sample results.

$$\text{conc. in ug/l} \times \frac{\text{Volume diluted to (200ml)}}{\text{Weight digested (1gram)}} \times \frac{1\text{L}}{1000\text{ml}} \times \frac{1000\text{g}}{1\text{kg}} \times \frac{1\text{mg}}{1000\text{ug}} = \text{mg/kg}$$

Multiplying this result by 5 to arrive at the Action Level gives a final result in mg/kg which can then be compared to sample results

Al MA02D6; MA02D9; MA02E0 / ~~5X~~ U (positive)
Ba: None
Be:
(SA) Cd:
Ca: ~~5X~~
Cu:
Fe MA02D6; MA02E0 / ~~5X~~ U (+)
Mn: None
Mg:
~~Silver~~

Vn: None
Na: ~~MA02D6, MA02D7, MA02D8, MA02D9, MA02E0, MA02E2~~ None
~~K~~
~~K: None~~

Region I
Inorganic Data Review Worksheets

XIII. SAMPLE QUANTITATION (continued)

List the positive sample results that were reported at concentrations less than 2xIDL and have not already been qualified. The positive results have been estimated (J) due to uncertainty in the quantitation near the IDL.

Analyte	Samples Affected
Zinc	MA02D8; MA02D9

Attachment V

Copies of Telephone Logs/Communications Forms
(NOT APPLICABLE)

Attachment VI

CSF Completeness Evidence Audit (DC-2)

FULL INORGANIC COMPLETE SDG FILE (CSF) INVENTORY SHEET

Laboratory Name:	DataChem Laboratories, Inc.	City/State:	Salt Lake City, Utah
Case No.:	30610	SDG No.:	MA02D6
SDG #s to Follow:	N/A	SAS No.:	N/A
Contract No.:	68-WO-0087	SOW No.:	ILM04.1

All documents delivered in the Complete SDG File must be original documents where possible. (Reference Exhibit B, Section II F and Section III U.)

CSF Complete MB 7/11/02

DPN# 0206018-IA
Mill Street Property
Brookfield, MA

Received
JUL 11 2002
OEME Chelmsford

		Page Nos. From	Page Nos. To	(Please Check:) Lab	~~Region~~ M+E
1.	Inventory Sheet (DC-2) (Do not number)			✓	✓
2.	Cover Page / Case Narrative	1	2	✓	✓
3.	Inorganic Analysis Data Sheet (Form 1-IN)	3	8	✓	✓
4.	Initial & Continuing Calibration Verification (Form IIA-IN)	9	10	✓	✓
5.	CRDL Standards For AA and ICP (Form IIB-IN)	11	11	✓	✓
6.	Blanks (Form III-IN)	12	13	✓	✓
7.	ICP Interference Check Sample (Form IV-IN)	14	15	✓	✓
8.	Spike Sample Recovery (Form VA-IN)	16	16	✓	✓
9.	Post Digest Spike Sample Recovery (Form VB-IN)	17	17	✓	✓
10.	Duplicates (Form VI-IN)	18	18	✓	✓
11.	Laboratory Control Sample (Form VII-IN)	19	19	✓	✓
12.	Standard Addition Results (Form VIII-IN)	20	20	✓	✓
13.	ICP Serial Dilutions (Form IX-IN)	21	21	✓	✓
14.	Instrument Detection Limits (Form X-IN)	22	26	✓	✓
15.	ICP Interelement Correction Factors (Form XIA-IN)	27	29	✓	✓
16.	ICP Interelement Correction Factors (Form XIB-IN)	30	33	✓	✓
17.	ICP Linear Ranges (Form XII-IN)	34	36	✓	✓
18.	Preparation Log (Form XIII-IN)	37	38	✓	✓
19.	Analysis Run Log (Form XIV-IN)	39	41	✓	✓
20.	ICP Raw Data	42	111	✓	✓
21.	Furnace AA Raw Data	NA		✓	✓
22.	Mercury Raw Data	112	118	✓	✓
23.	Cyanide Raw Data	NA		✓	✓
24.	Preparation Logs Raw Data (See Prep Records)	NA		✓	✓
25.	Solids Determination Log	NA		✓	✓

	Page Nos. From	To	(Please Check:) Lab	~~Region~~ M+E
26. Traffic Report	119	119	✓	✓
27. EPA Shipping/Receiving Documents				
Airbill (No. of Shipments 1)	See Comments			
Chain-of-Custody Records (See Traffic Reports)	NA		✓	✓
Sample Tags	120	121	✓	✓
Sample Log-In Sheet (Lab & DC1)	122	122	✓	✓
SDG Cover Sheet	123	123	✓	✓
28. Misc. Shipping/Receiving Records (list all individual records)				
Telephone Logs	NA		✓	✓
DCL Cooler Reciept Checklist	124	124	✓	✓
Sample Work Order	125	125	✓	✓
29. Internal Lab Sample Transfer Records & Tracking Sheets (describe or list)				
DCL Chain-of-Custody Records	126	126	✓	✓
DCL Non-Conformance Reports	NA		✓	✓
30. Internal Original Sample Prep & Analysis Records (describe or list)				
Prep Records	127	147	✓	✓
Analysis Records	148	190	✓	✓
Description (See Preparation Logs)	NA		✓	✓
31. Other Records (describe or list)				
	NA		✓	✓
	NA		✓	✓
	NA		✓	✓

32. Comments: Airbill is attached to CRIR

Completed by: Heather Taysom (Signature) — Heather Taysom/Document Control (Printed Name/Title) — 10-Jul-02 (Date)
(CLP Lab)

Verified by: Jeff Ward (Signature) — Jeff Ward/Inorganics Manager (Printed Name/Title) — 10-Jul-02 (Date)
(CLP Lab)

Audited by: [illegible] (Signature) — Elizabeth DeCola/Chemist (Printed Name/Title) — July 15, 2002 (Date)
~~(EPA)~~ M+E

Attachment VII

DQO Summary Form

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form. Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1.EPA Program: ~~TSCA CERCLA RCRA DW NPDES CAA~~
Other: Brownfields Targeted Site Assessment (BTSA)
Projected Date(s) of Sampling: 10 June through 21 June 2002
EPA Site Manager: Jim Byrne/James Chow
EPA Case Team Members: _____

Site Name: Mill Street Property
Site Location: Brookfield, MA
Assigned Site Latitude/Longitude: Unknown
CERCLA Site/Spill Identifier No._____(Include Operable Unit)
Phase: ~~ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA~~
(circle one) Other: BTSA

2.QAPjP Title and Revision Date: Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

Approved by: James Chow/Jim Byrne Date of Approval: April 2002
Title of Approving Official: EPA WAM Organization*: EPA
*If other than EPA, record date approval authority was delegated: _____

EPA Oversight Project (circle one) ~~Y~~ N Type of EPA Oversight (circle one) ~~PRP or FF~~ Other: NA
Confirmatory Analysis for Field Screening ~~Y~~ N If EPA Oversight or Confirmatory: % splits ___
Are comparability criteria document? ~~Y~~ N

3.							
	a.	Matrix Code[1]	SO	SO	SO	SO	SO
	b.	Parameter Code[2]	EPH	VPH	13116010	8082	ILM04.1MT
	c.	Preservation Code[3]	5	5, 10 (MEOH)	5	5	5
	d.	Analytical Services Mechanism	Sub*	Sub	Sub	Sub	RAS
	e.	No. of Sample Locations	12	12	6	6	12
		Field QC:					
	f.	Field Duplicate Pairs	1	1	1	1	1
	g.	Equipment Blanks	0	0	0	0	0
	h.	VOA Trip Blanks	0	3	0	0	0
	i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler
	j.	Bottle Blanks					
	k.	Other:					
	l.	PES sent to Laboratory	0	0	0	0	0
		Laboratory QC:					
	m.	Reagent Blank	1	1	1	1	1
	n.	Duplicate	1	1	1		1
	o.	Matrix Spike	1	1	1	1	1
	p.	Matrix Spike Duplicate	1	1		1	
	q.	Other:					

4. Site Information
Site Dimensions Unknown
List all potentially contaminated matrices soil, groundwater
Range of Depth to Groundwater 10-20 ft below ground surface
Soil Types: **Surface Subsurface** ~~Other:~~ _____
Sediment Types: ~~Stream Pond Estuary Wetland Other:~~

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] SO

5. Data Use (circle all that apply) ~~Site Investigation/Assessment~~ ~~PRP Determination~~ ~~Removal Actions~~
Nature and Extent of Contamination Human and/or Ecological Risk Assessment
Remediation Alternatives ~~Engineering Design~~ ~~Remedial Action~~
~~Post-Remedial Action (quarterly monitoring)~~ Other: BTSA

* Sub = Directly Subcontracted
ILM04.1MT= RAS Inorganics (total metals)
VPH = Massachusetts VPH,
EPH = Massachusetts EPH
13116010 = TCLP Metals
8082 = PCBs

EPA-NE - DQO SUMMARY FORM

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form. Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1.EPA Program: ~~TSCA CERCLA RCRA DW NPDES CAA~~
Other: Brownfields Targeted Site Assessment (BTSA)
Projected Date(s) of Sampling: 10 June through 21 June 2002
EPA Site Manager: Jim Byrne/James Chow
EPA Case Team Members:

Site Name: Mill Street Property
Site Location: Brookfield, MA
Assigned Site Latitude/Longitude: Unknown
CERCLA Site/Spill Identifier No. NA (Include Operable Unit)
Phase: ~~ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA~~
(circle one) **Other:** BTSA

2.QAPjP Title and Revision Date: Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

Approved by: James Chow/Jim Byrne Date of Approval: April 2002
Title of Approving Official: EPA WAM Organization*: EPA
*If other than EPA, record date approval authority was delegated:

EPA Oversight Project (circle one) ~~Y~~ N
Confirmatory Analysis for Field Screening ~~Y~~ N
Are comparability criteria document? ~~Y~~ N

Type of EPA Oversight (circle one) ~~PRP or FF~~ Other: NA
If EPA Oversight or Confirmatory: % splits ___

3.					
a.	Matrix Code[1]	GW	GW	GW	GW
b.	Parameter Code[2]	EPH	VPH	OLC03.2	ILM04.1MT
c.	Preservation Code[3]	5	1, 5	1, 5	2, 5
d.	Analytical Services Mechanism	Sub	Sub	RAS	RAS
e.	No. of Sample Locations	5	5	5	5
	Field QC:				
f.	Field Duplicate Pairs	1	1	1	1
g.	Equipment Blanks				
h.	VOA Trip Blanks		1	1	
i.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler
j.	Bottle Blanks	0	0	0	0
k.	Other:	0	0	0	0
l.	PES sent to Laboratory	0	0	0	0
	Laboratory QC:				
m	Reagent Blank	1	1	1	1
n.	Duplicate	1	1		1
o.	Matrix Spike	1	1	1	1
p.	Matrix Spike Duplicate	1	1	1	
q.	Other:				

4. Site Information
Site Dimensions 3 parcels
List all potentially contaminated matrices soil, groundwater
Range of Depth to Groundwater 5-25 ft below ground surface
Soil Types: **Surface Subsurface** ~~Other~~:
Sediment Types: ~~Stream Pond Estuary Wetland~~ Other:

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1] GW

5. Data Use (circle all that apply) ~~Site Investigation/Assessment~~ ~~PRP Determination~~ ~~Removal Actions~~
Nature and Extent of Contamination Human and/or Ecological Risk Assessment
~~Remediation Alternatives~~ ~~Engineering Design~~ ~~Remedial Action~~
~~Post-Remedial Action (quarterly monitoring)~~ **Other:** BTSA

* Sub = Directly Subcontracted
OLC03.2 - RAS Low Concentration VOCs
ILM04.1MT= RAS Inorganics (total metals)
VPH = Massachusetts VPH
EPH = Massachusetts EPH

6. Summarize DQOs: To provide data for characterizing and assessing current environmental and site conditions as needed to support a preliminary evaluation of risks and remedial alternatives.

COCs	Action Levels	Analytical Method-Quantitation Limits
Refer to Field Task Work Plan for Mill Street Property, Brookfield, MA (BTSA), M&E, March 2002	Refer to Field Task Work Plan for Mill Street Property, Brookfield, MA (BTSA), M&E, March 2002	RAS Methods - As per applicable CLP SOW Subcontract Methods - per SOP with approved BTSA laboratories (Mitkem, Amro, or Woods Hole Group)

7. Sampling Method (circle technique) ~~Bailer~~ ~~Low flow pump (Region I method: Yes No)~~ ~~Peristaltic Pump~~ ~~Positive Displacement Pump~~ ~~Faucet or Spigot~~ ~~Other~~: _____ ~~Split Spoon~~ ~~Dredge~~ Trowel

Other: Geoprobe Macro-core

Sampling Procedure (SOP name, No., Rev. #, and date) Generic Sampling and Analysis Plan for Brownfield Targeted Site Assessments (M&E, June 1999) and Field Task Work Plan for Mill Street Property, Brookfield, MA (M&E, April 2002)

List Background Sample Locations _____

Circle: ~~GW-Grab,~~ SO-Composite, ~~LN-Grab, WT - Grab~~

"Hot spots" sampled: ~~Yes~~ No

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
See Section 3			

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analysis, Part II, III or IV
2. Other Approved Validation Criteria: Tier II-like validation memorandum

Validation Tier (circle one) I II III Partial Tier III: _____

Company/Organization Performing Data Validation Metcalf & Eddy, Inc. Prime ~~or Subcontractor~~ (circle one)

11. Company Name Metcalf & Eddy, Inc. Contract Number 68-W6-0042

Contract Name (e.g. START, RAC, etc.) RAC Work Assignment No. 106-SISI-01ZZ

Person Completing Form/Title Denise M. Laferte /Project Chemist Date of DQO Summary Form Completion 5/24/02

Matrix Codes[1] - Refer to Attachment B, Part i
Parameter Codes[2] - Refer to Attachment B, Part II

Preservation Codes[3]

1.	HCl to pH ≤ 2	7.	$K_2Cr_2O_7$
2.	HNO_3	8.	Freeze
3.	$NaHSO_4$	9.	Room Temperature (avoid excessive heat)
4.	H_2SO_4	10.	Other (Specify)
5.	Cool @ 4°C (± 2°)	N.	No preserved

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit

APPENDIX I

LIMITATIONS