CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701VO1
Task Order 313150006907
SDG No. PF001
No. of Analyses 20

Laboratory Ceimic
Reviewer D. Buckheister
Analysis/Method Volatile

Date: 7/20/01
Reviewer's Signature

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	Samples with low internal standards were not reanalyzed. LAB gave verbal reason of holding time constraints.
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were assigned for the following:
Holding Times	Cooler temperature at receipt
GC/MS Tune/Inst. Perform	Initial calibration %RSD outliers
Calibrations	Continuing calibration %D outliers
Blanks	Blank spike recoveries above QC limits
Surrogates	Surrogate recoveries above QC limits
Matrix Spike/Dup LCS	Internal standard areas below QC limits
Field QC	Dilutions
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]

Laboratory is non compliant w/ Method 8260B

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
SHALLOW GROUNDWATER

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: PF001

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, Shallow Groundwater
SDG#:	PF001
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	Volatile
QC Level:	III
No. of Samples:	20
No. of Reanalyses/Dilutions:	4
Reviewer:	D. Buckheister
Date of Review:	July 11, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC *Project Procedures Manual* data validation procedure for volatile organics (*DVP-2, Rev. 2*), the *National Functional Guidelines For Organic Data Review* (2/94), and *SW-846, Method 8260B*, Revision 2 (12/96). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab ID	Matrix	COC Method
PZ006GW01S01	PF001	010355-01	water	8260B
PZ006GW03S01	PF002	010355-02	water	8260B
PZ000QW01T01	PF003	010355-03	water	8260B
PZ006GW04S01	PF004	010355-04	water	8260B
PZ006GW04S01	PF004DL	010355-04DL	water	8260B
PZ006GW05S01	PF005	010355-05	water	8260B
PZ016GW05S01	PF006	010355-06	water	8260B
PZ016GW05S01	PF006DL	010355-06DL	water	8260B
PZ016GW06S01	PF007	010355-07	water	8260B
PZ016GW04S01	PF007DL	010355-07DL	water	8260B
PZ016GW07S01	PF008	010355-08	water	8260B
PZ016GW07S01	PF008DL	010355-08DL	water	8260B
PZ018GW03S01	PF009	010355-09	water	8260B
PZ010GW04S01	PF010	010355-10	water	8260B
PZ010GW05S01	PF011	010355-11	water	8260B
PZ010GW06S01	PF012	010355-12	water	8260B
PZ010GW07S01	PF013	010355-13	water	8260B
PZ002GW02S01	PF014	010355-14	water	8260B
PZ002GW02D01	PF015	010355-15	water	8260B
PZ002GW03S01	PF016	010355-16	water	8260B
PZ002GW04S01	PF017	010355-17	water	8260B
PZ002GW05S01	PF018	010355-18	water	8260B
PZ002GW06S01	PF019	010355-19	water	8260B
PZ002GW07S01	PF020	010355-20	water	8260B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The laboratory sample receipt checklist noted that the samples PF001, PF002, PF003, PF004, PF005, PF006, PF007, PF008, and PF009 were received at 6°C, within the temperature limits of 4°C ± 2°C. The cooler containing samples PF010, PF011, PF012, PF013, PF014, PF015, PF016, PF017, PF018, PF019, and PF020 was opened two days after it was received, and a temperature of 18°C was recorded; therefore target compounds were qualified as estimated, "J" for detects and "UJ" for nondetects, in the aforementioned samples. Although the sample receiving checklists indicated that the sample pH values were not checked at the laboratory, the COCs noted that the samples were properly preserved. One bottle for sample PF015 was broken upon arrival; however, sufficient volume remained for sample analysis. The sample receipt checklists also noted all other samples were received in good condition with no broken vials. No other problems were noted regarding sample handling and transport. No further qualifications were required.

2.1.2 Chain of Custody

The COCs were signed by both field and laboratory personnel. All samples were accounted for on the COCs. No information regarding sample condition upon receipt was recorded on the COCs; however, the laboratory sample receipt checklist noted that there were no custody seals on one of the two coolers, and the other cooler was received with custody seals intact. No qualifications were required.

2.1.3 Holding Times

The samples in the SDG were analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

All tunes met the ion abundance criteria which were specified in USEPA SW-846 Method 8260B, and all samples were analyzed within 12 hours of the BFB injection times. No qualifications were required.

2.3 CALIBRATION

2.3.1 Initial Calibration

There were two initial calibrations associated with this SDG, dated 05/03/01 and 05/08/01. For the initial calibration analyzed on 05/03/01, all average RRFs were greater than 0.05, and %RSDs were less

than 15% for all target compounds except the following: dichlorodifluoromethane, chloromethane, vinyl chloride, bromomethane, chloroethane, trichlorofluoromethane, methylene chloride, 2-butanone, trans-1,3-dichloropropene, bromoform, and 1,2-dibromo-3-chloropropane. Results for the aforementioned target compounds were qualified as estimated, "UJ" for nondetects and "J" for detects, in samples PF001, PF002, PF004, PF005, PF006, PF007, and PF008. Sample PF003 was identified as a field QC sample, and as such was not qualified for the initial calibration %RSD outliers. The aforementioned compounds were rejected in associated samples PF004DL, PF006DL, PF007DL, and PF008DL, and were not further qualified (see section 2.11).

For the initial calibration analyzed on 05/08/01, all average RRFs were greater than 0.05 and %RSDs were less than 15% for all target compounds except the following: chloromethane, vinyl chloride, bromomethane, trichlorofluoromethane, acetone, 1,1-dichloroethene, methylene chloride, trans-1,2-dichloroethene, 1,1,1-trichlorethane, carbon tetrachloride, tetrachloroethene, chlorobenzene, m,p-xylenes, 1,3,5-trimethylbenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, and 1,2-dichlorobenzene. Results for the aforementioned target compounds were qualified as estimated, "UJ" for nondetects and "J" for detects, in samples PF009, PF010, PF011, PF012, PF013, PF014, PF015, PF016, PF017, PF018, PF019, and PF020. No further qualifications were required.

2.3.2 Continuing Calibration

There were three continuing calibrations associated with the samples in this SDG, dated 05/07/01, 05/08/01, and 05/09/01. All RRFs were greater than 0.05 in all three continuing calibrations, and %Ds were less than 20% in all three continuing calibrations, with the exception of the %Ds for dichlorodifluoromethane, chloromethane, trichlorofluoromethane, acetone, and 1,2-dibromo-3-chloropropane in the continuing calibration dated 05/07/01. Results for the aforementioned target compounds were qualified as estimated, "UJ" for nondetects and "J" for detects, in samples PF001, PF002, PF004, PF005, PF006, PF007, and PF008. Sample PF003 was identified as a field QC sample, and as such was not qualified for the continuing calibration %D outliers. No further qualifications were required.

2.4 BLANKS

Three method blanks (VBLKOG, VBLKQA, and VBLKQB) were analyzed with the samples in this SDG. No target compounds were reported in the method blanks. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Three blank spikes (VLCSOH, VLCSQA, and VLCSQB) were analyzed with the samples in this SDG. All of the recoveries were within laboratory QC limits, with the exception of the recoveries of dichlorodifluoromethane and chloroethane above QC limits in VLCSOH. The dichlorodifluoromethane results reported in associated samples PF002, PF004, PF006, and PF008 were therefore qualified as estimated, "J." Chloroethane was not reported in the samples associated with VLCSOH. No further qualifications were required.

2.6 SURROGATE RECOVERY

Surrogate recoveries for the samples of this SDG were within their respective laboratory control limits for waters, with the exception of toluene-d8 and bromofluorobenzene recoveries above the QC limits in sample PF006, and bromofluorobenzene recoveries above the QC limit in samples PF001, PF002, PF003, PF004, PF004DL, PF005, PF006, PF006DL, PF007, PF007DL, PF008, and PF008DL. The bromofluorobenzene recovery in the associated method blank was also above the QC limit, indicating a possible systemic problem; however, only samples requiring dilutions were reanalyzed (see section 2.11). All reported detects in samples PF001, PF002, PF004, PF004DL, PF005, PF006, PF006DL, PF007, PF007DL, PF008, and PF008DL were qualified as estimated, "J." Sample PF003 was identified as a field QC sample and as such required no qualifications for outlier surrogate recoveries. No further qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses associated with this SDG. Evaluation of method accuracy was based on blank spike results. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated and, if necessary, qualified based on method blanks only (see Section 2.4). Remaining detects were then used to qualify the samples. The following are findings associated with field QC samples:

2.8.1 Trip Blanks

Sample PF003 was identified as the trip blank associated with the site samples in this SDG. No target compounds were reported in the trip blank. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

Sample PF024 (SDG PF021) was identified as the field blank and PF026 (SDG PF021) was identified as the equipment rinsate associated with the site samples in this SDG. No target compounds were reported in the field blank or the equipment rinsate. No qualifications were necessary.

2.8.3 Field Duplicates

Samples PF014 and PF015 were identified as the field duplicate pair for this SDG. Qualifications are not routinely assigned based on filed duplicate results; however, relative percent differences (RPDs) are calculated for those results present above the reporting limits in both samples. RPDs greater than 50% for waters or 100% for soils are noted in the data validation report. Cis-1,2-dichloroethene, total 1,2-dichloroethene, and trichloroethene were reported in PF014 at 10µg/L, 11µg/L, and 28µg/L, respectively. Cis-1,2-dichloroethene, total 1,2-dichloroethene, and trichloroethene were reported in PF015 at 11µg/L, 12µg/L, and 30µg/L, respectively. The reviewer-calculated RPDs for cis-1,2-dichloroethene, total 1,2-

dichloroethene, and trichloroethene were 9.5%, 8.7%, and 6.9%, respectively. The field duplicate pair was considered to be in good agreement.

2.9 INTERNAL STANDARDS PERFORMANCE

The retention times of all internal standards were within the QC limits of ±30 seconds of the associated continuing calibration standards for all samples.

The area counts of the internal standards were within the QC limits of +100%/-50% of the associated continuing calibration standards for all samples, with the exception of the area counts for fluorobenzene and 1,4-dichlorobenzene-d4 below the QC limits in samples PF011, PF013, and PF016, and area counts for 1,4-dichlorobenzene-d4 below the QC limits in samples PF014, PF015, PF017, PF018, PF019, and PF020. The area count for 1,4-dichlorobenzene was also below the QC limit in the method blank associated with samples PF011, PF012, PF013, PF014, PF015, PF016, PF017, PF018, and PF019, indicating a possible systemic problem; however, none of the samples with low internal standard area counts were reanalyzed. The laboratory was not compliant with Method 8260B, which requires reanalysis of samples with internal standards outside the QC limits.

The 25 compounds referencing fluorobenzene as an internal standard were qualified as estimated, "UJ" for nondetects and "J" for detects, in samples PF011, PF013, and PF016, and the nondetect results for the five target compounds referencing 1,4-dichlorobenzene-d4 as an internal standard were qualified as estimated, "UJ" in samples PF011, PF013, PF014, PF015, PF016, PF017, PF018, PF019, and PF020. No further qualifications were required.

2.10 TARGET COMPOUND IDENTIFICATION

The laboratory analyzed for 8260B volatile compounds. Requested compounds 1,1,2-trichloro-1,2,2-trifluoroethane, chlorotrifluoroethene, chlorotrifluoroethane, and 2-chloroethyl vinyl ether were not reported, and were not addressed in the case narrative. Chromatograms and spectra and compound identification are not examined at a Level III validation. No qualifications were assigned.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

The reporting limits were supported by the method detection limit (MDL) study dated March, 1999, and by the low points of the initial calibrations. Target compounds reported below the reporting limit were qualified as estimated, "J," by the laboratory.

Target compounds were reported above the linear range of the calibration standards in samples PF004, PF006, PF007, and PF008. The aforementioned samples were reanalyzed within holding times at appropriate dilutions. Chloroform and carbon tetrachloride were reported above linear range in sample PF004, and were therefore rejected, "R," in PF004 and reported from PF004DL. Cis-1,2-dichloroethene and total 1,2-dichloroethene were reported above linear range in samples PF006 and PF007, and were rejected, "R," in PF006 and PF007 and reported from PF006DL and PF007DL. Cis-1,2-dichloroethene, total 1,2-dichloroethene, and trichloroethane were reported above linear range in PF008, and the three

aforementioned compounds were rejected, "R," in PF008 and reported from PF008DL. All other target compounds in the diluted sample analyses were rejected, "R," and reported from the original undiluted analyses. Compound quantitations are not examined at a Level III validation. No further qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not included in the Form Is for this SDG. A cursory review of the raw data did not indicate that TIC searches had been performed by the laboratory. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Chromatograms and system performance are not examined at a Level III validation. No qualifications were necessary.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF001

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG634

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5.00	U	UJ	C
74-87-3	Chloromethane	5.00	U	UJ	C
75-01-4	Vinyl Chloride	5.00	U	UJ	C
74-83-9	Bromomethane	5.00	U	UJ	C
75-00-3	Chloroethane	5.00	U	↓	↓
75-69-4	Trichlorofluoromethane	5.00	U	UJ	C
67-64-1	Acetone	5.00	U	U	
75-35-4	1,1-Dichloroethene	5.00	U	U	
75-09-2	Methylene Chloride	1.11	J	J	C, S
156-60-5	trans-1,2-Dichloroethene	5.00	U	U	
75-34-3	1,1-Dichloroethane	1.84	J	J	C, S
78-93-3	2-Butanone	5.00	U	UJ	C
156-59-2	cis-1,2-Dichloroethene	2.18	J	J	S
540-59-0	1,2-Dichloroethene (total)	2.24	J	↓	↓
67-66-3	Chloroform	1.69	J	J	S
71-55-6	1,1,1-Trichloroethane	5.00	U	U	
56-23-5	Carbon Tetrachloride	5.00	U	U	
107-06-2	1,2-Dichloroethane	1.41	J	J	S
71-43-2	Benzene	5.00	U	U	
79-01-6	Trichloroethene	5.01		J	S
75-27-4	Bromodichloromethane	5.00	U	U	
108-88-3	Toluene	5.00	U	U	
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	C
79-00-5	1,1,2-Trichloroethane	5.00	U	U	
127-18-4	Tetrachloroethene	5.00	U	↓	
108-90-7	Chlorobenzene	5.00	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U		
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U		
75-25-2	Bromoform	5.00	U	UJ	C
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U	U	

THF DAB 7/9/01

AMEC VALIDATED

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF001

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG634

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U	UJ	C

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF002

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG635

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	8.29		J	J	C,S,L
74-87-3	Chloromethane	5.00	U	UJ	UJ	C
75-01-4	Vinyl Chloride	4.29	J	J	J	S
74-83-9	Bromomethane	5.00	U	UJ	UJ	C
75-00-3	Chloroethane	5.00	U	UJ	UJ	C
75-69-4	Trichlorofluoromethane	5.00	U	UJ	UJ	C
67-64-1	Acetone	5.00	U	UJ	UJ	C
75-35-4	1,1-Dichloroethene	11		J	J	S
75-09-2	Methylene Chloride	6.50		J	J	S
156-60-5	trans-1,2-Dichloroethene	5.00	U	UJ	U	C
75-34-3	1,1-Dichloroethane	76		J	J	S
78-93-3	2-Butanone	5.00	U	UJ	UJ	C
156-59-2	cis-1,2-Dichloroethene	25		J	J	S
540-59-0	1,2-Dichloroethene (total)	25				
67-66-3	Chloroform	49				
71-55-6	1,1,1-Trichloroethane	7.34				
56-23-5	Carbon Tetrachloride	9.73				
107-06-2	1,2-Dichloroethane	40				
71-43-2	Benzene	5.00	U	U	U	
79-01-6	Trichloroethene	150		J	J	S
75-27-4	Bromodichloromethane	5.00	U	U	U	
108-88-3	Toluene	5.00	U	U	U	
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	UJ	C
79-00-5	1,1,2-Trichloroethane	5.00	U	U	U	
127-18-4	Tetrachloroethene	5.00	U	U	U	
108-90-7	Chlorobenzene	5.00	U	U	U	
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U	U	U	
100-41-4	Ethylbenzene	5.00	U	U	U	
1330-20-7	Xylenes (total)	5.00	U	U	U	
108-38-3	m,p-Xylenes	5.00	U	U	U	
95-47-6	o-Xylene	5.00	U	U	U	
75-25-2	Bromoform	5.00	U	UJ	UJ	C
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U	U	U	

LEVEL III

AMEC VALIDATED

DAB 7/18/01

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF002

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG635

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REVISED QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	u	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U	uJ	c

AMEC VALIDATED

LEVEL III

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF003 TB

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG636

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5.00	U	UJ	E
74-87-3	Chloromethane	5.00	U		
75-01-4	Vinyl Chloride	5.00	U		
74-83-9	Bromomethane	5.00	U		
75-00-3	Chloroethane	5.00	U		
75-69-4	Trichlorofluoromethane	5.00	U		
67-64-1	Acetone	5.00	U		
75-35-4	1,1-Dichloroethene	5.00	U	U	
75-09-2	Methylene Chloride	5.00	U		
156-60-5	trans-1,2-Dichloroethene	5.00	U		
75-34-3	1,1-Dichloroethane	5.00	U		
78-93-3	2-Butanone	5.00	U		
156-59-2	cis-1,2-Dichloroethene	5.00	U		
540-59-0	1,2-Dichloroethene (total)	5.00	U		
67-66-3	Chloroform	5.00	U		
71-55-6	1,1,1-Trichloroethane	5.00	U		
56-23-5	Carbon Tetrachloride	5.00	U		
107-06-2	1,2-Dichloroethane	5.00	U		
71-43-2	Benzene	5.00	U		
79-01-6	Trichloroethene	5.00	U		
75-27-4	Bromodichloromethane	5.00	U		
108-88-3	Toluene	5.00	U		
10061-02-6	trans-1,3-Dichloropropene	5.00	U		
79-00-5	1,1,2-Trichloroethane	5.00	U		
127-18-4	Tetrachloroethene	5.00	U		
108-90-7	Chlorobenzene	5.00	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U		
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U		
75-25-2	Bromoform	5.00	U		
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U		

LEVEL III

AMEC VALIDATED

DAB 7/12/01

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF003

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG636

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U		

AMEC VALIDATED

LEVEL III

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF004

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG637

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV Qual	Qual CODE
75-71-8	Dichlorodifluoromethane	1.88	J	J	C,S,L
74-87-3	Chloromethane	5.00	U	UJ	C
75-01-4	Vinyl Chloride	3.86	J	J	↓,S
74-83-9	Bromomethane	5.00	U	UJ	C
75-00-3	Chloroethane	5.00	U	↓	↓
75-69-4	Trichlorofluoromethane	5.00	U		
67-64-1	Acetone	5.00	U		
75-35-4	1,1-Dichloroethene	3.70	J	J	S
75-09-2	Methylene Chloride	10		J	C ↓
156-60-5	trans-1,2-Dichloroethene	5.00	U	U	
75-34-3	1,1-Dichloroethane	13		J	S
78-93-3	2-Butanone	5.00	U	UJ	C
156-59-2	cis-1,2-Dichloroethene	14		J	S
540-59-0	1,2-Dichloroethene (total)	14		J	↓
67-66-3	Chloroform	930	E	R	D
71-55-6	1,1,1-Trichloroethane	1.08	J	J	S
56-23-5	Carbon Tetrachloride	950	E	R	D
107-06-2	1,2-Dichloroethane	10		J	S
71-43-2	Benzene	5.00	U	U	
79-01-6	Trichloroethene	48		J	S
75-27-4	Bromodichloromethane	5.00	U	U	
108-88-3	Toluene	5.00	U	↓	
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	C
79-00-5	1,1,2-Trichloroethane	5.00	U	U	
127-18-4	Tetrachloroethene	1.30	J	J	S
108-90-7	Chlorobenzene	5.00	U	U	
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U	↓	
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U		
75-25-2	Bromoform	5.00	U	UJ	C
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U	U	

LEVEL III

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF004

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG637

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U	UJ	C

AMEC VALIDATED

LEVEL III

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF004DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-04DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG643

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV Qual	Qual CODE
75-71-8	Dichlorodifluoromethane	50	U	R	D
74-87-3	Chloromethane	50	U		
75-01-4	Vinyl Chloride	50	U		
74-83-9	Bromomethane	50	U		
75-00-3	Chloroethane	50	U		
75-69-4	Trichlorofluoromethane	50	U		
67-64-1	Acetone	50	U		
75-35-4	1,1-Dichloroethene	50	U		
75-09-2	Methylene Chloride	19	DJ		
156-60-5	trans-1,2-Dichloroethene	50	U		
75-34-3	1,1-Dichloroethane	50	U		
78-93-3	2-Butanone	50	U		
156-59-2	cis-1,2-Dichloroethene	20	DJ		
540-59-0	1,2-Dichloroethene (total)	21	DJ		
67-66-3	Chloroform	1200	D	R	SD
71-55-6	1,1,1-Trichloroethane	50	U	R	SD
56-23-5	Carbon Tetrachloride	1200	D	R	SD
107-06-2	1,2-Dichloroethane	50	U	R	D
71-43-2	Benzene	50	U		
79-01-6	Trichloroethene	70	D		
75-27-4	Bromodichloromethane	50	U		
108-88-3	Toluene	50	U		
10061-02-6	trans-1,3-Dichloropropene	50	U		
79-00-5	1,1,2-Trichloroethane	50	U		
127-18-4	Tetrachloroethene	50	U		
108-90-7	Chlorobenzene	50	U		
630-20-6	1,1,1,2-Tetrachloroethane	50	U		
100-41-4	Ethylbenzene	50	U		
1330-20-7	Xylenes (total)	50	U		
108-38-3	m,p-Xylenes	50	U		
95-47-6	o-Xylene	50	U		
75-25-2	Bromoform	50	U		
79-34-5	1,1,2,2-Tetrachloroethane	50	U		

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF004DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-04DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG643

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	50	U	R	D
95-63-6	1,2,4-Trimethylbenzene	50	U		
541-73-1	1,3-Dichlorobenzene	50	U		
106-46-7	1,4-Dichlorobenzene	50	U		
95-50-1	1,2-Dichlorobenzene	50	U		
96-12-8	1,2-Dibromo-3-Chloropropane	50	U		

AMEC VALIDATED

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF005

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG647

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5.00	U	UJ	C
74-87-3	Chloromethane	5.00	U	UJ	
75-01-4	Vinyl Chloride	150		J	C, S
74-83-9	Bromomethane	5.00	U	UJ	C
75-00-3	Chloroethane	5.00	U		
75-69-4	Trichlorofluoromethane	5.00	U		
67-64-1	Acetone	5.00	U		
75-35-4	1,1-Dichloroethene	5.00	U	U	
75-09-2	Methylene Chloride	2.54	J	J	C, S
156-60-5	trans-1,2-Dichloroethene	5.00	U	U	
75-34-3	1,1-Dichloroethane	1.78	J	J	S
78-93-3	2-Butanone	5.00	U	UJ	C
156-59-2	cis-1,2-Dichloroethene	74		J	S
540-59-0	1,2-Dichloroethene (total)	76			
67-66-3	Chloroform	17			
71-55-6	1,1,1-Trichloroethane	5.00	U	U	
56-23-5	Carbon Tetrachloride	1.36	J	J	S
107-06-2	1,2-Dichloroethane	2.31	J		
71-43-2	Benzene	5.00	U	U	
79-01-6	Trichloroethene	7.03		J	S
75-27-4	Bromodichloromethane	5.00	U	U	
108-88-3	Toluene	5.00	U		
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	C
79-00-5	1,1,2-Trichloroethane	5.00	U	U	
127-18-4	Tetrachloroethene	5.00	U		
108-90-7	Chlorobenzene	5.00	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U		
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U		
75-25-2	Bromoform	5.00	U	UJ	C
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U	U	

AMEC VALIDATED

DAB 7/12/07

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF005

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG647

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U	UJ	C

AMEC VALIDATED

LEVEL III

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF006

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG639

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	REV Qual	Qual Code
75-71-8	Dichlorodifluoromethane	1.01	J	J	J	C,S,L
74-87-3	Chloromethane	5.00	U	UJ	UJ	C
75-01-4	Vinyl Chloride	2.06	J	J	J	C,S
74-83-9	Bromomethane	5.00	U	UJ	UJ	C
75-00-3	Chloroethane	5.00	U			
75-69-4	Trichlorofluoromethane	5.00	U			
67-64-1	Acetone	24		J	J	S
75-35-4	1,1-Dichloroethene	3.29	J	J	J	S
75-09-2	Methylene Chloride	1.06	J	J	J	C,S
156-60-5	trans-1,2-Dichloroethene	2.13	J	J	J	S
75-34-3	1,1-Dichloroethane	5.00	U	U	U	
78-93-3	2-Butanone	5.00	U	UJ	UJ	C
156-59-2	cis-1,2-Dichloroethene	1100	E	R	R	A
540-59-0	1,2-Dichloroethene (total)	1100	E			
67-66-3	Chloroform	5.00	U	U	U	
71-55-6	1,1,1-Trichloroethane	5.00	U			
56-23-5	Carbon Tetrachloride	5.00	U			
107-06-2	1,2-Dichloroethane	5.00	U			
71-43-2	Benzene	5.00	U			
79-01-6	Trichloroethene	4.87	J	J	J	S
75-27-4	Bromodichloromethane	5.00	U	U	U	
108-88-3	Toluene	5.00	U			
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	UJ	C
79-00-5	1,1,2-Trichloroethane	5.00	U	U	U	
127-18-4	Tetrachloroethene	5.00	U			
108-90-7	Chlorobenzene	5.00	U			
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U			
100-41-4	Ethylbenzene	5.00	U			
1330-20-7	Xylenes (total)	5.00	U			
108-38-3	m,p-Xylenes	5.00	U			
95-47-6	o-Xylene	5.00	U			
75-25-2	Bromoform	5.00	U	UJ	UJ	C
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U	U	U	

LEVEL III

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF006

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG639

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U	U5	C

AMEC VALIDATED

LEVEL III

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF006DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-06DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG644

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	100	U	R	D
74-87-3	Chloromethane	100	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	100	U		
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
67-64-1	Acetone	100	U		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	26	DJ		
156-60-5	trans-1,2-Dichloroethene	100	U		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	100	U		
156-59-2	cis-1,2-Dichloroethene	950	D	S	S
540-59-0	1,2-Dichloroethene (total)	970	D		
67-66-3	Chloroform	100	U	R	D
71-55-6	1,1,1-Trichloroethane	100	U		
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	100	U		
75-27-4	Bromodichloromethane	100	U		
108-88-3	Toluene	100	U		
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-90-7	Chlorobenzene	100	U		
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	100	U		
75-25-2	Bromoform	100	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF006DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-06DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG644

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	100	U	R	D
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

AMEC VALIDATED

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF007

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG641

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5.00	U	UJ	C
74-87-3	Chloromethane	5.00	U	↓	↓
75-01-4	Vinyl Chloride	1.35	J	J	S
74-83-9	Bromomethane	5.00	U	UJ	C
75-00-3	Chloroethane	5.00	U	↓	↓
75-69-4	Trichlorofluoromethane	5.00	U	↓	↓
67-64-1	Acetone	22		J	C S
75-35-4	1,1-Dichloroethene	6.28		J	↓
75-09-2	Methylene Chloride	5.00	U	UJ	C
156-60-5	trans-1,2-Dichloroethene	2.02	J	J	S
75-34-3	1,1-Dichloroethane	1.91	J	↓	↓
78-93-3	2-Butanone	5.00	U	UJ	C
156-59-2	cis-1,2-Dichloroethene	1400	E	R	D
540-59-0	1,2-Dichloroethene (total)	1400	E	↓	↓
67-66-3	Chloroform	2.79	J	J	S
71-55-6	1,1,1-Trichloroethane	5.00	U	U	
56-23-5	Carbon Tetrachloride	5.00	U	↓	
107-06-2	1,2-Dichloroethane	5.00	U	↓	
71-43-2	Benzene	5.00	U	↓	
79-01-6	Trichloroethene	2.54	J	J	S
75-27-4	Bromodichloromethane	5.00	U	U	
108-88-3	Toluene	5.00	U	↓	
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	C
79-00-5	1,1,2-Trichloroethane	5.00	U	U	
127-18-4	Tetrachloroethene	5.00	U	↓	
108-90-7	Chlorobenzene	5.00	U	↓	
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U	↓	
100-41-4	Ethylbenzene	5.00	U	↓	
1330-20-7	Xylenes (total)	5.00	U	↓	
108-38-3	m,p-Xylenes	5.00	U	↓	
95-47-6	o-Xylene	5.00	U	↓	
75-25-2	Bromoform	5.00	U	UJ	C
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U	U	

AMEC VALIDATED

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF007

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG641

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U	UJ	C

AMEC VALIDATED

LEVEL III

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF007DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-07DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG645

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	100	U	R	D
74-87-3	Chloromethane	100	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	100	U		
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
67-64-1	Acetone	23	DJ		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	31	DJ		
156-60-5	trans-1,2-Dichloroethene	100	U		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	100	U		
156-59-2	cis-1,2-Dichloroethene	1400	D	S	S
540-59-0	1,2-Dichloroethene (total)	1500	D		
67-66-3	Chloroform	100	U	R	D
71-55-6	1,1,1-Trichloroethane	100	U		
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	100	U		
75-27-4	Bromodichloromethane	100	U		
108-88-3	Toluene	100	U		
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-90-7	Chlorobenzene	100	U		
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	100	U		
75-25-2	Bromoform	100	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		

AMEC VALIDATED

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF007DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-07DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG645

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	100	U	R	D
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

AMEC VALIDATED

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF008

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG642

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	2.07	J	J	C,S,L
74-87-3	Chloromethane	5.00	U	UJ	C
75-01-4	Vinyl Chloride	5.00	U	↓	↓
74-83-9	Bromomethane	5.00	U		
75-00-3	Chloroethane	5.00	U		
75-69-4	Trichlorofluoromethane	5.00	U		
67-64-1	Acetone	5.00	U		
75-35-4	1,1-Dichloroethene	15		J	S
75-09-2	Methylene Chloride	5.00	U	UJ	C
156-60-5	trans-1,2-Dichloroethene	3.67	J	J	S
75-34-3	1,1-Dichloroethane	2.40	J	↓	↓S
78-93-3	2-Butanone	5.00	U	UJ	C
156-59-2	cis-1,2-Dichloroethene	1800	E	R	A
540-59-0	1,2-Dichloroethene (total)	1900	E	↓	↓
67-66-3	Chloroform	2.10	J	J	S
71-55-6	1,1,1-Trichloroethane	5.00	U	U	
56-23-5	Carbon Tetrachloride	5.00	U	↓	
107-06-2	1,2-Dichloroethane	5.00	U		
71-43-2	Benzene	5.00	U		
79-01-6	Trichloroethene	900	E	R	A
75-27-4	Bromodichloromethane	5.00	U	U	
108-88-3	Toluene	5.00	U	↓	
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	C
79-00-5	1,1,2-Trichloroethane	5.00	U	U	
127-18-4	Tetrachloroethene	5.00	U	↓	
108-90-7	Chlorobenzene	5.00	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U		
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U	↓	
75-25-2	Bromoform	5.00	U	UJ	C
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U	U	

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DAB 7/18/01 LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF008

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG642

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U	UJ	C

AMEC VALIDATED

LEVEL III

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF008DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG646

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	100	U	R	D
74-87-3	Chloromethane	100	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	100	U		
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
67-64-1	Acetone	100	U		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	100	U		
156-60-5	trans-1,2-Dichloroethene	38	DJ		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	100	U		
156-59-2	cis-1,2-Dichloroethene	100	U		
540-59-0	1,2-Dichloroethene (total)	1900	D	J	J
67-66-3	Chloroform	2000	D	J	J
71-55-6	1,1,1-Trichloroethane	100	U	R	D
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	100	U		
75-27-4	Bromodichloromethane	730	D	J J	J
108-88-3	Toluene	100	U	R	D
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-90-7	Chlorobenzene	100	U		
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	100	U		
75-25-2	Bromoform	100	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		

AMEC VALIDATED

LEVEL III

DAB 7/12/01

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF008DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG646

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/07/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	100	U	R	D
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

AMEC VALIDATED

LEVEL III

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF009

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3436

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/08/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U		U	
74-87-3	Chloromethane	5	U		UJ	C
75-01-4	Vinyl Chloride	2	U		↓	↓
74-83-9	Bromomethane	5	U		UJ	C
75-00-3	Chloroethane	5	U		U	
75-69-4	Trichlorofluoromethane	5	U		UJ	C
67-64-1	Acetone	10	U		UJ	C
75-35-4	1,1-Dichloroethene	5	U		UJ	C
75-09-2	Methylene Chloride	5	U		↓	↓
156-60-5	trans-1,2-Dichloroethene	5	U		U	
75-34-3	1,1-Dichloroethane	5	U		↓	
78-93-3	2-Butanone	10	U			
156-59-2	cis-1,2-Dichloroethene	5	U			
540-59-0	1,2-Dichloroethene (total)	10	U			
67-66-3	Chloroform	5	U			
71-55-6	1,1,1-Trichloroethane	5	U		UJ	C
56-23-5	Carbon Tetrachloride	5	U		UJ	C
107-06-2	1,2-Dichloroethane	5	U		U	
71-43-2	Benzene	5	U		↓	
79-01-6	Trichloroethene	6				
75-27-4	Bromodichloromethane	5	U		U	
108-88-3	Toluene	5	U			
10061-02-6	trans-1,3-Dichloropropene	5	U			
79-00-5	1,1,2-Trichloroethane	5	U		↓	
127-18-4	Tetrachloroethene	5	U		UJ	C
108-90-7	Chlorobenzene	5	U		↓	↓
630-20-6	1,1,1,2-Tetrachloroethane	5	U		U	
100-41-4	Ethylbenzene	5	U			
1330-20-7	Xylenes (total)	15	U			
108-38-3	m,p-Xylenes	10	U		UJ	C
95-47-6	o-Xylene	5	U		U	
75-25-2	Bromoform	5	U			
79-34-5	1,1,2,2-Tetrachloroethane	5	U		↓	

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FORM I VOA

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~~TIER II~~
DAB 7/23/01
~~DAB~~ 7/20/01

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF009

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3436

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/08/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C
95-63-6	1,2,4-Trimethylbenzene	5	U	U	
541-73-1	1,3-Dichlorobenzene	5	U	UJ	C
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	UJN	C

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LEVEL III

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FORM 1
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AMEC SAMPLE NO.

PF010

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3437

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	*1
74-87-3	Chloromethane	5	U	UJ	C *1
75-01-4	Vinyl Chloride	2	U	UJ	C *1
74-83-9	Bromomethane	5	U		C
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U	UJ	C *1
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U	UJ	C *1
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	10	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		C
56-23-5	Carbon Tetrachloride	5	U		C
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	16		J	*1
75-27-4	Bromodichloromethane	5	U	UJ	*1
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		C
108-90-7	Chlorobenzene	5	U		C
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

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LEVEL III

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF010

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3437

Level: (low/med) LOW Date Received: 04/25/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1C
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		C
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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LEVEL III

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF011

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3460

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	C
74-87-3	Chloromethane	5	U		C
75-01-4	Vinyl Chloride	2	U		C
74-83-9	Bromomethane	5	U		C
75-00-3	Chloroethane	5	U		C
75-69-4	Trichlorofluoromethane	5	U		C
67-64-1	Acetone	10	U		C
75-35-4	1,1-Dichloroethene	5	U		C
75-09-2	Methylene Chloride	5	U		C
156-60-5	trans-1,2-Dichloroethene	5	U		C
75-34-3	1,1-Dichloroethane	5	U		C
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	10	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		C
107-06-2	1,2-Dichloroethane	5	U		C
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	30		J	I
75-27-4	Bromodichloromethane	5	U	UJ	I
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		C
108-90-7	Chlorobenzene	5	U	UJ	C
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U	UJ	
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U	UJ	I

*1

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FORM 1
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AMEC SAMPLE NO.

PF011

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3460

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE	
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C	*1
95-63-6	1,2,4-Trimethylbenzene	5	U			
541-73-1	1,3-Dichlorobenzene	5	U	UJ	I C	
106-46-7	1,4-Dichlorobenzene	5	U			
95-50-1	1,2-Dichlorobenzene	5	U			
96-12-8	1,2-Dibromo-3-Chloropropane	5	U			

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AMEC SAMPLE NO.

PF012

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3464

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	C *1
74-87-3	Chloromethane	5	U		C
75-01-4	Vinyl Chloride	2	U	UJ	C
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U	UJ	C
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U	UJ	C
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	31		J	
540-59-0	1,2-Dichloroethene (total)	33			
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		C
56-23-5	Carbon Tetrachloride	5	U		C
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	120		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		C
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

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AMEC SAMPLE NO.

PF012

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3464

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	REV QUAL	REV QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U		UJ	C x1
95-63-6	1,2,4-Trimethylbenzene	5	U			
541-73-1	1,3-Dichlorobenzene	5	U			
106-46-7	1,4-Dichlorobenzene	5	U			C
95-50-1	1,2-Dichlorobenzene	5	U			
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		UJ	C

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF013

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-13

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3461

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	REV QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	C I *1
74-87-3	Chloromethane	5	U	↓	C ↓
75-01-4	Vinyl Chloride	2	U	UJ	C I
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U	↓	
75-69-4	Trichlorofluoromethane	5	U	UJ	C
67-64-1	Acetone	10	U	↓	↓
75-35-4	1,1-Dichloroethene	5	U	UJ	C
75-09-2	Methylene Chloride	5	U		↓
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U	↓	
156-59-2	cis-1,2-Dichloroethene	6		~~UJ~~ J	
540-59-0	1,2-Dichloroethene (total)	7	J	J	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		C
107-06-2	1,2-Dichloroethane	5	U		C
71-43-2	Benzene	5	U	↓	
79-01-6	Trichloroethene	9		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		C
108-90-7	Chlorobenzene	5	U		C
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U	↓	I

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AMEC SAMPLE NO.

PF013

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-13

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3461

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C *1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		C I
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	UJ	

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FORM 1
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AMEC SAMPLE NO.

PF014

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-14

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3465

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code	
75-71-8	Dichlorodifluoromethane	5	U	UJ	C	*1
74-87-3	Chloromethane	5	U			
75-01-4	Vinyl Chloride	2	U	UJ	C	
74-83-9	Bromomethane	5	U			
75-00-3	Chloroethane	5	U			
75-69-4	Trichlorofluoromethane	5	U	UJ	C	
67-64-1	Acetone	10	U			
75-35-4	1,1-Dichloroethene	5	U	UJ	C	
75-09-2	Methylene Chloride	5	U			
156-60-5	trans-1,2-Dichloroethene	5	U			
75-34-3	1,1-Dichloroethane	5	U			
78-93-3	2-Butanone	10	U			
156-59-2	cis-1,2-Dichloroethene	10		J		
540-59-0	1,2-Dichloroethene (total)	11				
67-66-3	Chloroform	5	U	UJ		
71-55-6	1,1,1-Trichloroethane	5	U			
56-23-5	Carbon Tetrachloride	5	U		C	
107-06-2	1,2-Dichloroethane	5	U			
71-43-2	Benzene	5	U			
79-01-6	Trichloroethene	28		J		
75-27-4	Bromodichloromethane	5	U	UJ		
108-88-3	Toluene	5	U			
10061-02-6	trans-1,3-Dichloropropene	5	U			
79-00-5	1,1,2-Trichloroethane	5	U			
127-18-4	Tetrachloroethene	5	U		C	
108-90-7	Chlorobenzene	5	U			
630-20-6	1,1,1,2-Tetrachloroethane	5	U			
100-41-4	Ethylbenzene	5	U			
1330-20-7	Xylenes (total)	15	U			
108-38-3	m,p-Xylenes	10	U		C	
95-47-6	o-Xylene	5	U			
75-25-2	Bromoform	5	U			
79-34-5	1,1,2,2-Tetrachloroethane	5	U		I	

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FORM 1
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AMEC SAMPLE NO.

PF014

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-14

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3465

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE	
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C	*1
95-63-6	1,2,4-Trimethylbenzene	5	U	↓		
541-73-1	1,3-Dichlorobenzene	5	U	UJ	I	C
106-46-7	1,4-Dichlorobenzene	5	U	↓	↓	↓
95-50-1	1,2-Dichlorobenzene	5	U			
96-12-8	1,2-Dibromo-3-Chloropropane	5	U			

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AMEC SAMPLE NO.

PF015

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3462

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	C *1
74-87-3	Chloromethane	5	U	↓	↓
75-01-4	Vinyl Chloride	5	U	UJ	C
74-83-9	Bromomethane	5	U	↓	↓
75-00-3	Chloroethane	5	U	↓	
75-69-4	Trichlorofluoromethane	5	U	UJ	C
67-64-1	Acetone	5	U	↓	↓
75-35-4	1,1-Dichloroethene	5	U	UJ	C
75-09-2	Methylene Chloride	5	U	↓	↓
156-60-5	trans-1,2-Dichloroethene	5	U	↓	
75-34-3	1,1-Dichloroethane	5	U	↓	
78-93-3	2-Butanone	5	U	↓	
156-59-2	cis-1,2-Dichloroethene	11		J	
540-59-0	1,2-Dichloroethene (total)	12		↓	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U	↓	C
56-23-5	Carbon Tetrachloride	5	U	↓	C
107-06-2	1,2-Dichloroethane	5	U	↓	
71-43-2	Benzene	5	U	↓	
79-01-6	Trichloroethene	30		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U	↓	
10061-02-6	trans-1,3-Dichloropropene	5	U	↓	
79-00-5	1,1,2-Trichloroethane	5	U	↓	
127-18-4	Tetrachloroethene	5	U	↓	C
108-90-7	Chlorobenzene	5	U	↓	↓
630-20-6	1,1,1,2-Tetrachloroethane	5	U	↓	
100-41-4	Ethylbenzene	5	U	↓	
1330-20-7	Xylenes (total)	5	U	↓	
108-38-3	m,p-Xylenes	5	U	↓	C
95-47-6	o-Xylene	5	U	↓	
75-25-2	Bromoform	5	U	↓	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	↓	I

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AMEC SAMPLE NO.

PF015

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3462

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C #1
95-63-6	1,2,4-Trimethylbenzene	5	U	UJ	
541-73-1	1,3-Dichlorobenzene	5	U	UJ	IC
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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AMEC SAMPLE NO.

PF016

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-16

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3466

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	C I *1
74-87-3	Chloromethane	5	U	↓	↓C
75-01-4	Vinyl Chloride	2	U	UJ	
74-83-9	Bromomethane	5	U		↓
75-00-3	Chloroethane	5	U	↓	
75-69-4	Trichlorofluoromethane	5	U	UJ	C
67-64-1	Acetone	10	U	↓	↓
75-35-4	1,1-Dichloroethene	5	U	UJ	C
75-09-2	Methylene Chloride	5	U	↓	↓
156-60-5	trans-1,2-Dichloroethene	8		J	C
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	10	U	↓	
156-59-2	cis-1,2-Dichloroethene	100		J	
540-59-0	1,2-Dichloroethene (total)	120		↓	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		C
56-23-5	Carbon Tetrachloride	5	U		C
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	4	J	↓	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		C
108-90-7	Chlorobenzene	5	U		C
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U	↓	I

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AMEC SAMPLE NO.

PF016

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-16

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3466

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C *1
95-63-6	1,2,4-Trimethylbenzene	5	U	UJ	
541-73-1	1,3-Dichlorobenzene	5	U	UJ	C I
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

DAB 7/20/01

AMEC VALIDATED LEVEL III

FORM I VOA

DAB 7/23/01 Rev I

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF017

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3467

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	C *1
74-87-3	Chloromethane	5	U	↓	↓
75-01-4	Vinyl Chloride	2	U	UJ	
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U	↓	
75-69-4	Trichlorofluoromethane	5	U	UJ	C
67-64-1	Acetone	10	U	↓	↓
75-35-4	1,1-Dichloroethene	5	U	UJ	C
75-09-2	Methylene Chloride	5	U	↓	↓
156-60-5	trans-1,2-Dichloroethene	14		J	C
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	10	U	↓	
156-59-2	cis-1,2-Dichloroethene	160		J	
540-59-0	1,2-Dichloroethene (total)	190		↓	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		C
56-23-5	Carbon Tetrachloride	5	U		C
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U	↓	
79-01-6	Trichloroethene	41		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		C
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U	↓	I

DMB 7/20/01

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AMEC VALIDATED

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF017

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3467

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C *1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U	C	I
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

DAB 7/20/09

AMEC VALIDATED

LEVEL III

FORM I VOA

DAB 7/23/09 Rev F

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF018

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-18

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3468

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	C ¥1
74-87-3	Chloromethane	5	U	↓	C
75-01-4	Vinyl Chloride	2	U	UJ	
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U	↓	
75-69-4	Trichlorofluoromethane	5	U	UJ	C
67-64-1	Acetone	10	U	↓	C
75-35-4	1,1-Dichloroethene	5	U	UJ	C
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U	↓	
156-59-2	cis-1,2-Dichloroethene	29		J	
540-59-0	1,2-Dichloroethene (total)	32		↓	
67-66-3	Chloroform	5	U	UJ	C
71-55-6	1,1,1-Trichloroethane	5	U		C
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U	↓	
79-01-6	Trichloroethene	8		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		C
108-90-7	Chlorobenzene	5	U		C
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		I

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LEVEL III

Rev I DAB 7/23/01

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF018

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-18

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3468

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C *1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		C I
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF019

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3469

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	REV QUAL CODE
75-71-8	Dichlorodifluoromethane	5 U		UJ	C *1
74-87-3	Chloromethane	5 U		UJ	C
75-01-4	Vinyl Chloride	2 U		UJ	
74-83-9	Bromomethane	5 U		UJ	
75-00-3	Chloroethane	5 U		UJ	
75-69-4	Trichlorofluoromethane	5 U		UJ	C
67-64-1	Acetone	10 U		UJ	C
75-35-4	1,1-Dichloroethene	5 U		UJ	C
75-09-2	Methylene Chloride	5 U		UJ	C
156-60-5	trans-1,2-Dichloroethene	19		J	
75-34-3	1,1-Dichloroethane	5 U		UJ	
78-93-3	2-Butanone	10 U		UJ	
156-59-2	cis-1,2-Dichloroethene	140		J	
540-59-0	1,2-Dichloroethene (total)	170		J	
67-66-3	Chloroform	5 U		UJ	
71-55-6	1,1,1-Trichloroethane	5 U		UJ	
56-23-5	Carbon Tetrachloride	5 U		UJ	C
107-06-2	1,2-Dichloroethane	5 U		UJ	
71-43-2	Benzene	5 U		UJ	
79-01-6	Trichloroethene	110		J	
75-27-4	Bromodichloromethane	5 U		UJ	
108-88-3	Toluene	5 U		UJ	
10061-02-6	trans-1,3-Dichloropropene	5 U		UJ	
79-00-5	1,1,2-Trichloroethane	5 U		UJ	
127-18-4	Tetrachloroethene	5 U		UJ	
108-90-7	Chlorobenzene	5 U		UJ	C
630-20-6	1,1,1,2-Tetrachloroethane	5 U		UJ	
100-41-4	Ethylbenzene	5 U		UJ	
1330-20-7	Xylenes (total)	15 U		UJ	
108-38-3	m,p-Xylenes	10 U		UJ	C
95-47-6	o-Xylene	5 U		UJ	
75-25-2	Bromoform	5 U		UJ	
79-34-5	1,1,2,2-Tetrachloroethane	5 U		UJ	I

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF019

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3469

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C *1
95-63-6	1,2,4-Trimethylbenzene	5	U	↓	
541-73-1	1,3-Dichlorobenzene	5	U	UJ	I C
106-46-7	1,4-Dichlorobenzene	5	U	↓	↓ ↓
95-50-1	1,2-Dichlorobenzene	5	U	↓	↓ ↓
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	UJ	C, I, *1

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LEVEL III

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF020

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-20

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3448

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	C
74-87-3	Chloromethane	5	U	↓	↓
75-01-4	Vinyl Chloride	2	U	UJ	
74-83-9	Bromomethane	5	U	↓	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U	UJ	C
67-64-1	Acetone	10	U	↓	↓
75-35-4	1,1-Dichloroethene	5	U	UJ	C
75-09-2	Methylene Chloride	5	U	↓	↓
156-60-5	trans-1,2-Dichloroethene	22		J	C
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	10	U	↓	
156-59-2	cis-1,2-Dichloroethene	170		J	
540-59-0	1,2-Dichloroethene (total)	200		↓	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U	↓	C
56-23-5	Carbon Tetrachloride	5	U		C
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	78		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U	↓	
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		C
108-90-7	Chlorobenzene	5	U		C
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		C
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U	↓	I

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LEVEL III

Rev I

DMB 7/23/01

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne, Shallow Groundwater
Project Manager: D. Hambrick
Analysis/Method: Volatiles by Method 8260B
QC Level: V[1]
SDG: PF021
Matrix: Water
No. of Samples: 12
No. of Reanalyses/Dilutions: 12
Date Reviewed: June 4, 2003
Reviewer: M. Pokorny
Reference: National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed: PF027, PF027DL, PF028, PF028DL, PF029, PF029DL, PF030, PF030DL, PF031, PF031DL, PF032, PF032DL, PF035, PF035RE, PF036, PF036RE, PF037, PF037RE, PF038, PF038RE, PF039, PF039RE, PF040, PF040RE

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs were signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the samples were received intact. According to the laboratory case narrative, the cooler temperature was not recorded on the day of receipt at the laboratory (04/28/01). The cooler temperature was recorded two days later (04/30/01), with a cooler temperature above the limits of 4°C ± 2°C at 18°C. Custody seals were noted to be intact on the cooler.	All retained target compound results were qualified as estimated, "UJ," for nondetects and "J," for detects for the samples of this SDG.
	The analyses of all samples were originally performed within 14 days of sample collection; however, due to poor internal standard performance for PF035, PF036, PF037, PF038, PF039, and PF040, these samples were reanalyzed out of holding time. The original analyses were retained (see Section 9).	No qualifications were required.

	Findings	Qualifications
4. Method Blanks	Five method blanks were analyzed with this SDG. No target compounds were reported in the method blanks. One TIC was reported in method blank VBLKQC.	When detected in the associated samples, the same TIC found in the method blank was rejected, "R," in the samples of this SDG.
5. LCS/BS	Five LCSs were analyzed with this SDG. All spike compounds were recovered within the QC limits except for the recovery of dichlorodiflouromethane below the QC limit, but greater than 10%, for VLCSQI.	No qualifications were required since the sample analyses associated with VLCSQI were not retained (see Section 9).
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for all samples.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: None TB: None FB: None FD: None	None.	No qualifications were required.
9. Other	Cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were above the calibration range of the instrument for sample PF028, PF029, PF030, PF031, and PF032. The samples were reanalyzed at 50-fold dilutions, PF028DL, PF029DL, PF030DL, and PF031DL, except for sample PF032DL which was analyzed at a 100-fold dilution. Trichloroethene was above the calibration range of the instrument for sample PF027. The sample was reanalyzed at 50-fold dilution, PF027DL.	Cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were rejected, "R," in samples PF028, PF029, PF030, PF031, and PF032 and were reported from PF028DL, PF029DL, PF030DL, PF031DL, and PF032DL. All remaining target compounds were rejected, "R," in the dilution analyses. Trichloroethene was rejected, "R," in sample PF027 and was reported from PF027DL. All remaining target were rejected, "R," in sample PF027DL.

	Findings	Qualifications
9. Other (continued)	TICs were reported in some of the samples of this SDG.	TICs were qualified as tentatively identified and estimated, "NJ," unless rejected as method blank contamination (see Section 4).
	Although internal standard area counts are not typically evaluated at a Level V validation, summaries were provided by the laboratory. As all original analyses had poor recoveries for one or more internal standards, the reviewer deemed it appropriate to evaluate the internal standards and to qualify the sample data accordingly.	
	The area counts for all three of the internal standards were below the QC limits for samples PF035, PF036, PF037, PF038, PF039, and PF040. Samples PF035, PF036, PF037, PF038, PF039, and PF040 were reanalyzed, out of holding time, with improved internal standard results; however, all of the surrogate recoveries were acceptable in both the original and reanalyses and the originals were retained since they were analyzed within the holding times with similar results.	Samples PF035, PF036, PF037, PF038, PF039, and PF040 had all nondetects qualified as estimated "UJ," and all detects qualified as estimated, "J." Samples PF035RE, PF036RE, PF037RE, PF038RE, PF039RE, and PF040RE were rejected, "R."
	Samples PF027, PF028, and PF029 had area counts for internal standard #3 (1,4-dichlorobenzene-d4) below the QC limits.	Samples PF027, PF028, and PF029 had the target compounds associated with internal standard #3 qualified as estimated nondetects, "UJ."
	Samples PF030, PF031, and PF032 had area counts for internal standards #1(fluorobenzene) and #3 (1,4-dichlorobenzene-d4) below the QC limits.	Samples PF030, PF031, and PF032 had the target compounds associated with internal standards #1 and #3 qualified as estimated "UJ," for nondetects and all detects qualified as estimated, "J."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF027

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3470

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L			
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10			
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	170			
67-66-3	Chloroform	180			
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	29			
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	2400	E	D	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM I VOA

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF027

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3470

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	LJ	*1, I
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF027

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3470

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.74	63	NJ
2.		BRANCHED ALKANE	3.37	100	J
3.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.72	11000	NJ
4.		UNKNOWN	4.87	7	J
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF027DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-07DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3659

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
75-71-8	Dichlorodifluoromethane	250	U	R	D
74-87-3	Chloromethane	250	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	250	U		
75-00-3	Chloroethane	250	U		
75-69-4	Trichlorofluoromethane	250	U		
67-64-1	Acetone	500	U		
75-35-4	1,1-Dichloroethene	250	U		
75-09-2	Methylene Chloride	77	DJ		
156-60-5	trans-1,2-Dichloroethene	250	U		
75-34-3	1,1-Dichloroethane	250	U		
78-93-3	2-Butanone	500	U		
156-59-2	cis-1,2-Dichloroethene	100	DJ		
540-59-0	1,2-Dichloroethene (total)	110	DJ		
67-66-3	Chloroform	250	U		
71-55-6	1,1,1-Trichloroethane	250	U		
56-23-5	Carbon Tetrachloride	250	U		
107-06-2	1,2-Dichloroethane	250	U		
71-43-2	Benzene	250	U		
79-01-6	Trichloroethene	250	U		
75-27-4	Bromodichloromethane	1200	D	J	*1
108-88-3	Toluene	250	U	R	D
10061-02-6	trans-1,3-Dichloropropene	250	U		
79-00-5	1,1,2-Trichloroethane	250	U		
127-18-4	Tetrachloroethene	250	U		
108-90-7	Chlorobenzene	250	U		
630-20-6	1,1,1,2-Tetrachloroethane	250	U		
100-41-4	Ethylbenzene	250	U		
1330-20-7	Xylenes (total)	750	U		
108-38-3	m,p-Xylenes	500	U		
95-47-6	o-Xylene	250	U		
75-25-2	Bromoform	250	U		
79-34-5	1,1,2,2-Tetrachloroethane	250	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF027DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-07DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3659

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-67-8	1,3,5-Trimethylbenzene	250	U
95-63-6	1,2,4-Trimethylbenzene	250	U
541-73-1	1,3-Dichlorobenzene	250	U
106-46-7	1,4-Dichlorobenzene	250	U
95-50-1	1,2-Dichlorobenzene	250	U
96-12-8	1,2-Dibromo-3-Chloropropane	250	U

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF027DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-07DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3659

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.69	6300	NJD
2.					
3.					
4.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF028

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3471

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q		
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	23			
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	27			
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	36			
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	340	E	D	
540-59-0	1,2-Dichloroethene (total)	370	E	D	
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	53			
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	4400	E	D	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF028

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3471

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	final qual	final qual code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1, I
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF028

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3471

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 79-38-9	ETHENE, CHLOROTRIFLUORO-	1.74	120	NJ
2. 354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.37	150	NJ
3. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.72	16000	NJ
4.	BRANCHED ALKANE	4.86	21	J
5.	UNKNOWN	5.17	8	J
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LEVEL V

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF028DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3660

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Level	Qual Code
75-71-8	Dichlorodifluoromethane	250	U	R	D
74-87-3	Chloromethane	250	U		
75-01-4	Vinyl Chloride	250	U		
74-83-9	Bromomethane	250	U		
75-00-3	Chloroethane	250	U		
75-69-4	Trichlorofluoromethane	250	U		
67-64-1	Acetone	350	D		
75-35-4	1,1-Dichloroethene	250	U		
75-09-2	Methylene Chloride	73	DJ		
156-60-5	trans-1,2-Dichloroethene	250	U		
75-34-3	1,1-Dichloroethane	250	U		
78-93-3	2-Butanone	250	U		
156-59-2	cis-1,2-Dichloroethene	260	D	J	#1
540-59-0	1,2-Dichloroethene (total)	280	D	J	#1
67-66-3	Chloroform	250	U	R	D
71-55-6	1,1,1-Trichloroethane	250	U		
56-23-5	Carbon Tetrachloride	250	U		
107-06-2	1,2-Dichloroethane	250	U		
71-43-2	Benzene	250	U		
79-01-6	Trichloroethene	3600	D	J	#1
75-27-4	Bromodichloromethane	250	U	R	D
108-88-3	Toluene	250	U		
10061-02-6	trans-1,3-Dichloropropene	250	U		
79-00-5	1,1,2-Trichloroethane	250	U		
127-18-4	Tetrachloroethene	250	U		
108-90-7	Chlorobenzene	250	U		
630-20-6	1,1,1,2-Tetrachloroethane	250	U		
100-41-4	Ethylbenzene	250	U		
1330-20-7	Xylenes (total)	250	U		
108-38-3	m,p-Xylenes	250	U		
95-47-6	o-Xylene	250	U		
75-25-2	Bromoform	250	U		
79-34-5	1,1,2,2-Tetrachloroethane	250	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF028DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3660

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	250	U		
95-63-6	1,2,4-Trimethylbenzene	250	U		
541-73-1	1,3-Dichlorobenzene	250	U		
106-46-7	1,4-Dichlorobenzene	250	U		
95-50-1	1,2-Dichlorobenzene	250	U		
96-12-8	1,2-Dibromo-3-Chloropropane	250	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF028DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3660

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.70	15000	NJD
2.					
3.					
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF029

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3478

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	U	*1
74-87-3	Chloromethane	5	U	U	
75-01-4	Vinyl Chloride	120			
74-83-9	Bromomethane	5	U	U	
75-00-3	Chloroethane	5	U	U	
75-69-4	Trichlorofluoromethane	5	U	U	
67-64-1	Acetone	94			
75-35-4	1,1-Dichloroethene	74			
75-09-2	Methylene Chloride	9			
156-60-5	trans-1,2-Dichloroethene	11			
75-34-3	1,1-Dichloroethane	84			
78-93-3	2-Butanone	5	U	U	
156-59-2	cis-1,2-Dichloroethene	1000	E	D	D
540-59-0	1,2-Dichloroethene (total)	1100	E	D	D
67-66-3	Chloroform	5	U	U	*1
71-55-6	1,1,1-Trichloroethane	8			
56-23-5	Carbon Tetrachloride	5	U	U	
107-06-2	1,2-Dichloroethane	5	U	U	
71-43-2	Benzene	5	U	U	
79-01-6	Trichloroethene	6300	E	D	D
75-27-4	Bromodichloromethane	5	U	U	*1
108-88-3	Toluene	5	U	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	U	
79-00-5	1,1,2-Trichloroethane	5	U	U	
127-18-4	Tetrachloroethene	4	J	J	
108-90-7	Chlorobenzene	5	U	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	U	
100-41-4	Ethylbenzene	5	U	U	
1330-20-7	Xylenes (total)	5	U	U	
108-38-3	m,p-Xylenes	5	U	U	
95-47-6	o-Xylene	5	U	U	
75-25-2	Bromoform	5	U	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	U	*1

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF029

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3478

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	+1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF029

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3478

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.76	1600	NJ
2.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.37	1400	NJ
3.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.70	4400	NJB
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF029DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-09DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3661

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Dil Level	Dil Code
75-71-8	Dichlorodifluoromethane	680	D	R	D
74-87-3	Chloromethane	250	U		
75-01-4	Vinyl Chloride	79	DJ		
74-83-9	Bromomethane	250	U		
75-00-3	Chloroethane	250	U		
75-69-4	Trichlorofluoromethane	250	U		
67-64-1	Acetone	500	U		
75-35-4	1,1-Dichloroethene	250	U		
75-09-2	Methylene Chloride	87	DJ		
156-60-5	trans-1,2-Dichloroethene	250	U		
75-34-3	1,1-Dichloroethane	250	U		
78-93-3	2-Butanone	500	U		
156-59-2	cis-1,2-Dichloroethene	710	D	J	*1
540-59-0	1,2-Dichloroethene (total)	770	D	J	*1
67-66-3	Chloroform	250	U	R	D
71-55-6	1,1,1-Trichloroethane	250	U		
56-23-5	Carbon Tetrachloride	250	U		
107-06-2	1,2-Dichloroethane	250	U		
71-43-2	Benzene	250	U		
79-01-6	Trichloroethene	5600	D	J	*1
75-27-4	Bromodichloromethane	250	U	R	D
108-88-3	Toluene	250	U		
10061-02-6	trans-1,3-Dichloropropene	250	U		
79-00-5	1,1,2-Trichloroethane	250	U		
127-18-4	Tetrachloroethene	250	U		
108-90-7	Chlorobenzene	250	U		
630-20-6	1,1,1,2-Tetrachloroethane	250	U		
100-41-4	Ethylbenzene	250	U		
1330-20-7	Xylenes (total)	750	U		
108-38-3	m,p-Xylenes	500	U		
95-47-6	o-Xylene	250	U		
75-25-2	Bromoform	250	U		
79-34-5	1,1,2,2-Tetrachloroethane	250	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF029DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-09DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3661

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	R	D
108-67-8	1,3,5-Trimethylbenzene	250	U		
95-63-6	1,2,4-Trimethylbenzene	250	U		
541-73-1	1,3-Dichlorobenzene	250	U		
106-46-7	1,4-Dichlorobenzene	250	U		
95-50-1	1,2-Dichlorobenzene	250	U		
96-12-8	1,2-Dibromo-3-Chloropropane	250	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF029DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-09DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3661

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.63	14000	NJD
2.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.36	840	NJD
3.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.69	2600	NJD
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF030

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3479

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Reviewer Qual	Reviewer Code
75-71-8	Dichlorodifluoromethane	5	U	R	D
74-87-3	Chloromethane	5	U	R	D
75-01-4	Vinyl Chloride	120		R	D
74-83-9	Bromomethane	5	U	R	D
75-00-3	Chloroethane	5	U	R	D
75-69-4	Trichlorofluoromethane	5	U	R	D
67-64-1	Acetone	5	U	R	D
75-35-4	1,1-Dichloroethene	24		R	D
75-09-2	Methylene Chloride	5	U	R	D
156-60-5	trans-1,2-Dichloroethene	6		R	D
75-34-3	1,1-Dichloroethane	54		R	D
78-93-3	2-Butanone	5	U	R	D
156-59-2	cis-1,2-Dichloroethene	1400	E	R	D
540-59-0	1,2-Dichloroethene (total)	1500	E	R	D
67-66-3	Chloroform	5	U	UJ	H1 *1
71-55-6	1,1,1-Trichloroethane	5	U	R	D
56-23-5	Carbon Tetrachloride	5	U	R	D
107-06-2	1,2-Dichloroethane	5	U	R	D
71-43-2	Benzene	5	U	R	D
79-01-6	Trichloroethene	2200	E	R	D
75-27-4	Bromodichloromethane	5	U	UJ	H1 *1
108-88-3	Toluene	5	U	R	D
10061-02-6	trans-1,3-Dichloropropene	5	U	R	D
79-00-5	1,1,2-Trichloroethane	5	U	R	D
127-18-4	Tetrachloroethene	5	U	R	D
108-90-7	Chlorobenzene	5	U	R	D
630-20-6	1,1,1,2-Tetrachloroethane	5	U	R	D
100-41-4	Ethylbenzene	5	U	R	D
1330-20-7	Xylenes (total)	5	U	R	D
108-38-3	m,p-Xylenes	5	U	R	D
95-47-6	o-Xylene	5	U	R	D
75-25-2	Bromoform	5	U	R	D
79-34-5	1,1,2,2-Tetrachloroethane	5	U	UJ	H1 *1

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF030

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3479

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF030

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3479

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.76	2300	NJ
2.		UNKNOWN	2.25	18	J
3.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.37	2500	NJ
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF030DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-10DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3524

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q		
				Rerun	Rerun Confirm	
75-71-8	Dichlorodifluoromethane	250	U	R	D	
74-87-3	Chloromethane	250	U			
75-01-4	Vinyl Chloride	100	U			
74-83-9	Bromomethane	250	U			
75-00-3	Chloroethane	250	U			
75-69-4	Trichlorofluoromethane	250	U			
67-64-1	Acetone	500	U			
75-35-4	1,1-Dichloroethene	250	U			
75-09-2	Methylene Chloride	250	U			
156-60-5	trans-1,2-Dichloroethene	250	U			
75-34-3	1,1-Dichloroethane	250	U			
78-93-3	2-Butanone	500	U			
156-59-2	cis-1,2-Dichloroethene	1200	D	J	#1	
540-59-0	1,2-Dichloroethene (total)	1300	D	J	#1	
67-66-3	Chloroform	250	U	R	D	
71-55-6	1,1,1-Trichloroethane	250	U			
56-23-5	Carbon Tetrachloride	250	U			
107-06-2	1,2-Dichloroethane	250	U			
71-43-2	Benzene	250	U			
79-01-6	Trichloroethene	2000	D	J	#1	
75-27-4	Bromodichloromethane	250	U	R	D	
108-88-3	Toluene	250	U			
10061-02-6	trans-1,3-Dichloropropene	250	U			
79-00-5	1,1,2-Trichloroethane	250	U			
127-18-4	Tetrachloroethene	250	U			
108-90-7	Chlorobenzene	250	U			
630-20-6	1,1,1,2-Tetrachloroethane	250	U			
100-41-4	Ethylbenzene	250	U			
1330-20-7	Xylenes (total)	750	U			
108-38-3	m,p-Xylenes	500	U			
95-47-6	o-Xylene	250	U			
75-25-2	Bromoform	250	U			
79-34-5	1,1,2,2-Tetrachloroethane	250	U			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF030DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-10DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3524

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Level	Qual Code
108-67-8	1,3,5-Trimethylbenzene	250	U	R	D
95-63-6	1,2,4-Trimethylbenzene	250	U		
541-73-1	1,3-Dichlorobenzene	250	U		
106-46-7	1,4-Dichlorobenzene	250	U		
95-50-1	1,2-Dichlorobenzene	250	U		
96-12-8	1,2-Dibromo-3-Chloropropane	250	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF030DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-10DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3524

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.74	2200	NJD	R
2.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.35	3100	NJD	R
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF031

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3480

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	I, *1
74-87-3	Chloromethane	5	U	UJ	
75-01-4	Vinyl Chloride	100			
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U	UJ	
75-69-4	Trichlorofluoromethane	5	U	UJ	
67-64-1	Acetone	110		J	
75-35-4	1,1-Dichloroethene	33			
75-09-2	Methylene Chloride	21			
156-60-5	trans-1,2-Dichloroethene	7			
75-34-3	1,1-Dichloroethane	42			
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	1300	E	D	
540-59-0	1,2-Dichloroethene (total)	1400	E	D	
67-66-3	Chloroform	5	U	UJ	I *1
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	3600	E	D	
75-27-4	Bromodichloromethane	5	U	UJ	I *1
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		I

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF031

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3480

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Review Code	
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1,
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF031

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3480

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.76	2000	NJ
2.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.37	1400	NJ
3.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.72	5100	NJB
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF031DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3525

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Recalculated	Recalculated
75-71-8	Dichlorodifluoromethane	250	U	R	D
74-87-3	Chloromethane	250	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	250	U		
75-00-3	Chloroethane	250	U		
75-69-4	Trichlorofluoromethane	250	U		
67-64-1	Acetone	500	U		
75-35-4	1,1-Dichloroethene	250	U		
75-09-2	Methylene Chloride	250	U		
156-60-5	trans-1,2-Dichloroethene	250	U		
75-34-3	1,1-Dichloroethane	250	U		
78-93-3	2-Butanone	500	U		
156-59-2	cis-1,2-Dichloroethene	1000	D	J	*1
540-59-0	1,2-Dichloroethene (total)	1100	D	J	*1
67-66-3	Chloroform	250	U	R	D
71-55-6	1,1,1-Trichloroethane	250	U		
56-23-5	Carbon Tetrachloride	250	U		
107-06-2	1,2-Dichloroethane	250	U		
71-43-2	Benzene	250	U		
79-01-6	Trichloroethene	3300	D	J	*1
75-27-4	Bromodichloromethane	250	U	R	D
108-88-3	Toluene	250	U		
10061-02-6	trans-1,3-Dichloropropene	250	U		
79-00-5	1,1,2-Trichloroethane	250	U		
127-18-4	Tetrachloroethene	250	U		
108-90-7	Chlorobenzene	250	U		
630-20-6	1,1,1,2-Tetrachloroethane	250	U		
100-41-4	Ethylbenzene	250	U		
1330-20-7	Xylenes (total)	750	U		
108-38-3	m,p-Xylenes	500	U		
95-47-6	o-Xylene	250	U		
75-25-2	Bromoform	250	U		
79-34-5	1,1,2,2-Tetrachloroethane	250	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF031DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3525

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Level	Qual Code
108-67-8	1,3,5-Trimethylbenzene	250	U		
95-63-6	1,2,4-Trimethylbenzene	250	U		
541-73-1	1,3-Dichlorobenzene	250	U		
106-46-7	1,4-Dichlorobenzene	250	U		
95-50-1	1,2-Dichlorobenzene	250	U		
96-12-8	1,2-Dibromo-3-Chloropropane	250	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF031DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3525

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.74	2000	NJD
2.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.35	1300	NJD
3.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.70	4200	NJD
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF032

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3481

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q Rev Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	I, *1
74-87-3	Chloromethane	5	U	UJ	
75-01-4	Vinyl Chloride	120			
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	46			
75-09-2	Methylene Chloride	5	U	UJ	
156-60-5	trans-1,2-Dichloroethene	9			
75-34-3	1,1-Dichloroethane	48			
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	1800	E	D	
540-59-0	1,2-Dichloroethene (total)	1900	E	D	
67-66-3	Chloroform	5	U	UJ	I *1
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	6300	E	D	
75-27-4	Bromodichloromethane	5	U	UJ	I *1
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5		UJ	
108-90-7	Chlorobenzene	5	U	UJ	
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		I,J

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF032

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3481

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Final Qual Code	
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1,I
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF032

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3481

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.76	3900	NJ
2.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.37	2600	NJ
3.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.70	77	NJB
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF032DL

Lab Name: CEIMIC CORP   Contract: AMEC

Lab Code: CEIMIC   Case No.: 313150   SAS No.:   SDG No.: PF021

Matrix: (soil/water) WATER   Lab Sample ID: 010364-12DL

Sample wt/vol: 5.000 (g/mL) ML   Lab File ID: Q3526

Level: (low/med) LOW   Date Received: 04/28/01

% Moisture: not dec. ________   Date Analyzed: 05/11/01

GC Column: DB624   ID: 0.32 (mm)   Dilution Factor: 100.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Val Qual	Qual Code
75-71-8	Dichlorodifluoromethane	500	U	R	D
74-87-3	Chloromethane	500	U		
75-01-4	Vinyl Chloride	200	U		
74-83-9	Bromomethane	500	U		
75-00-3	Chloroethane	500	U		
75-69-4	Trichlorofluoromethane	500	U		
67-64-1	Acetone	1000	U		
75-35-4	1,1-Dichloroethene	500	U		
75-09-2	Methylene Chloride	500	U		
156-60-5	trans-1,2-Dichloroethene	500	U		
75-34-3	1,1-Dichloroethane	500	U		
78-93-3	2-Butanone	1000	U		
156-59-2	cis-1,2-Dichloroethene	1500	D	J	*1
540-59-0	1,2-Dichloroethene (total)	1600	D	J	*1
67-66-3	Chloroform	500	U	R	D
71-55-6	1,1,1-Trichloroethane	500	U		
56-23-5	Carbon Tetrachloride	500	U		
107-06-2	1,2-Dichloroethane	500	U		
71-43-2	Benzene	500	U		
79-01-6	Trichloroethene	7300	D	J	*1
75-27-4	Bromodichloromethane	500	U	R	D
108-88-3	Toluene	500	U		
10061-02-6	trans-1,3-Dichloropropene	500	U		
79-00-5	1,1,2-Trichloroethane	500	U		
127-18-4	Tetrachloroethene	500	U		
108-90-7	Chlorobenzene	500	U		
630-20-6	1,1,1,2-Tetrachloroethane	500	U		
100-41-4	Ethylbenzene	500	U		
1330-20-7	Xylenes (total)	1500	U		
108-38-3	m,p-Xylenes	1000	U		
95-47-6	o-Xylene	500	U		
75-25-2	Bromoform	500	U		
79-34-5	1,1,2,2-Tetrachloroethane	500	U		

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF032DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-12DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3526

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 100.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Review Level	Qual Code
108-67-8	1,3,5-Trimethylbenzene	500	U	R	D
95-63-6	1,2,4-Trimethylbenzene	500	U		
541-73-1	1,3-Dichlorobenzene	500	U		
106-46-7	1,4-Dichlorobenzene	500	U		
95-50-1	1,2-Dichlorobenzene	500	U		
96-12-8	1,2-Dibromo-3-Chloropropane	500	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF032DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-12DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3526

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 100.0

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

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	79-38-9	ETHENE, CHLOROTRIFLUORO-	1.74	4000	NJD	R D
2.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.35	3200	NJD	R D
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF035

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3484

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	I
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	31		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF035

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3484

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	I, #1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF035

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3484

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (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
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF035RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-15RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3645

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
67-64-1	Acetone	5	U
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	27	
75-27-4	Bromodichloromethane	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylenes (total)	5	U
108-38-3	m,p-Xylenes	5	U
95-47-6	o-Xylene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF035RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-15RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3645

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Level Qual	Level Code
108-67-8	1,3,5-Trimethylbenzene	5	U	R	D
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF035RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-15RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3645

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF036

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-16

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3485

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	J,*
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	30		J	
108-88-3	Toluene	5	U	UJ	
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF036

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-16

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3485

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	I, *1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF036

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-16

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3485

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF036RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-16RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3646

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code R	Qual Code D
75-71-8	Dichlorodifluoromethane	5	U	R	D
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	27			
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF036RE

Lab Name: CEIMIC CORP   Contract: AMEC

Lab Code: CEIMIC   Case No.: 313150   SAS No.:   SDG No.: PF021

Matrix: (soil/water) WATER   Lab Sample ID: 010364-16RE

Sample wt/vol: 5.000 (g/mL) ML   Lab File ID: Q3646

Level: (low/med) LOW   Date Received: 04/28/01

% Moisture: not dec. ________   Date Analyzed: 05/16/01

GC Column: DB624   ID: 0.32 (mm)   Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Level	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	R	D
95-63-6	1,2,4-Trimethylbenzene	5	U	↓	↓
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM I VOA

90

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF036RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-16RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3646

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF037

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3486

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	I, *
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	26		J	
108-88-3	Toluene	5	U	UJ	
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF037

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3486

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. ________ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	I, *1
95-63-6	1,2,4-Trimethylbenzene	5	U	↓	↓
541-73-1	1,3-Dichlorobenzene	5	U	↓	↓
106-46-7	1,4-Dichlorobenzene	5	U	↓	↓
95-50-1	1,2-Dichlorobenzene	5	U	↓	↓
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	↓	↓

FORM I VOA

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF037

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3486

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (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
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF037RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-17RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3647

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
67-64-1	Acetone	5	U
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	3	J
540-59-0	1,2-Dichloroethene (total)	3	J
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	25	
75-27-4	Bromodichloromethane	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
108-90-7	Chlorobenzene	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylenes (total)	5	U
108-38-3	m,p-Xylenes	5	U
95-47-6	o-Xylene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

R D

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF037RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-17RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3647

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Level R	Qual Level D
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF037RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-17RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3647

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF038

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-18

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3487

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual	Qual
75-71-8	Dichlorodifluoromethane	5	U	UJ	I, *	
74-87-3	Chloromethane	5	U			
75-01-4	Vinyl Chloride	5	U			
74-83-9	Bromomethane	5	U			
75-00-3	Chloroethane	5	U			
75-69-4	Trichlorofluoromethane	5	U			
67-64-1	Acetone	5	U			
75-35-4	1,1-Dichloroethene	5	U			
75-09-2	Methylene Chloride	5	U			
156-60-5	trans-1,2-Dichloroethene	5	U			
75-34-3	1,1-Dichloroethane	5	U			
78-93-3	2-Butanone	5	U			
156-59-2	cis-1,2-Dichloroethene	10		UJ		
540-59-0	1,2-Dichloroethene (total)	11		UJ		
67-66-3	Chloroform	5	U			
71-55-6	1,1,1-Trichloroethane	5	U			
56-23-5	Carbon Tetrachloride	5	U			
107-06-2	1,2-Dichloroethane	5	U			
71-43-2	Benzene	5	U			
79-01-6	Trichloroethene	42		UJ		
75-27-4	Bromodichloromethane	5	U			
108-88-3	Toluene	5	U			
10061-02-6	trans-1,3-Dichloropropene	5	U			
79-00-5	1,1,2-Trichloroethane	5	U			
127-18-4	Tetrachloroethene	5	U			
108-90-7	Chlorobenzene	5	U			
630-20-6	1,1,1,2-Tetrachloroethane	5	U			
100-41-4	Ethylbenzene	5	U			
1330-20-7	Xylenes (total)	5	U			
108-38-3	m,p-Xylenes	5	U			
95-47-6	o-Xylene	5	U			
75-25-2	Bromoform	5	U			
79-34-5	1,1,2,2-Tetrachloroethane	5	U			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF038

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-18

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3487

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	I, *1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF038

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-18

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3487

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (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
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2.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF038RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-18RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3648

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	R	D
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	10			
540-59-0	1,2-Dichloroethene (total)	11			
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	37			
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF038RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-18RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3648

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual Code	Val Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF038RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-18RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3648

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF039

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3488

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual	Area Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	I,*
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	8		J	
540-59-0	1,2-Dichloroethene (total)	9		J	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	29		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF039

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3488

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	I, *1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF039

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3488

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF039RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-19RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3649

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code	Anal Code
75-71-8	Dichlorodifluoromethane	5	U	R	D
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	8			
540-59-0	1,2-Dichloroethene (total)	9			
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	24			
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF039RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-19RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3649

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Level	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	R	D
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF039RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-19RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3649

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF040

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-20

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3489

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Review Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	I, *1
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF040

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-20

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3489

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	I, #
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF040

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-20

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3489

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (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
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF040RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-20RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3650

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	R	D
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF040RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-20RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3650

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	R	D
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF040RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF021

Matrix: (soil/water) WATER Lab Sample ID: 010364-20RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3650

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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.					
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30.					

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF020

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF001

Matrix: (soil/water) WATER Lab Sample ID: 010355-20

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3448

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/09/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	C *1
95-63-6	1,2,4-Trimethylbenzene	5	U	↓	↓
541-73-1	1,3-Dichlorobenzene	5	U	UJ	C I
106-46-7	1,4-Dichlorobenzene	5	U	↓	↓ ↓
95-50-1	1,2-Dichlorobenzene	5	U	↓	↓ ↓
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	UJ	C, I, *1

DAB
7/20/01

AMEC VALIDATED

LEVEL III

Rev I
DAB 7/23/01

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne, Shallow Groundwater
Project Manager: D. Hambrick
Analysis/Method: Volatiles by Method 8260B
QC Level: V[1]
SDG: PF041
Matrix: Water
No. of Samples: 11
No. of Reanalyses/Dilutions: 11
Date Reviewed: June 9, 2003
Reviewer: M. Pokorny
Reference: National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed: PF041, PF041RE, PF043, PF043DL, PF044, PF044RE, PF045, PF045RE, PF046, PF046RE, PF047, PF047DL, PF048, PF048DL, PF049, PF049DL, PF055, PF055DL, PF057, PF057DL, PF059, PF059DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs were signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the samples were received intact. The cooler was received with at a temperature within the limits of 4°C ± 2°. Custody seals were noted to be intact on the coolers. The analyses of samples PF041, PF044, PF045, and PF046 were originally performed within 14 days of sample collection; however, due to poor internal standard area counts or surrogate recoveries these samples were reanalyzed out of holding time. The original analyses were retained (see Section 9).	No qualifications were required.
4. Method Blanks	Seven method blanks were analyzed with this SDG. No target compounds were reported in the method blanks except for acetone in method blank VBLKQH at 4ug/L. The acetone concentration in associated sample PF057 exceeded 10X the blank amount.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	Six LCSs were analyzed with the retained analyses of the samples of this SDG. All spike compounds were recovered within the QC limits except for the recovery of dichlorodiflouromethane below the QC limits, but greater than 10%, for VLCSQF and VLCSQH.	Samples PF047, PF049, PF055, and PF057 had dichlorodiflouromethane qualified as an estimated nondetect, "UJ."
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for all samples except for recoveries above the QC limit for samples PF043, PF044, and PF046. All three samples were reanalyzed with acceptable surrogate recoveries.	Retained target compound detects for samples PF043, PF044, and PF046 were qualified as estimated, "J." As the reanalyses of PF044 and PF046 occurred out of holding time and surrogate recovery was above rather than below QC limits, the reanalyses were rejected, "R," in favor of the original analyses. Results for PF043 and PF043DL were rejected or retained as decribed in Section 9.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: None TB: None FB: None FD: None	None.	No qualifications were required.
9. Other	2-Butanone was above the calibration range of the instrument for sample PF043. The sample was reanalyzed at 10-fold dilution, PF043DL. Trichloroethene was above the calibration range of the instrument in samples PF047, PF048, PF049, and PF055. The samples was reanalyzed at 5, 2.5, 5, and 2-fold dilution, respectively, PF047DL, PF048DL, PF049DL, and PF055DL.	2-Butanone was rejected, "R," in sample PF043 and was reported from PF043DL. All remaining target compounds were rejected, "R," in sample PF043DL. Trichloroethene was rejected, "R," in samples samples PF047, PF048, PF049, and PF055 and was reported from PF047DL, PF048DL, PF049DL, and PF055DL. All remaining target compounds were rejected, "R," in the dilution analyses.

	Findings	Qualifications
9. Other continued	Cis-1,2-dichloroethene and 1,2-dichloroethene (total) were above the calibration range of the instrument for samples PF057 and PF059. The samples were reanalyzed at 5 and 2-fold dilutions, respectively, PF057DL and PF059DL.	Cis-1,2-dichloroethene and 1,2-dichloroethene (total) were rejected, "R," in samples PF057 and PF059 and were reported from PF057DL and PF057DL. All remaining target compounds were rejected, "R," in the dilution analyses.
	TICs were not reported for the samples of this SDG.	No qualifications were required.
	Internal standard areas are not routinely evaluated at a Level V validation; however, since the internal standard data was provided and did have an affect on the analyses, internal standard evaluation was included as part of this data validation.	
	The area counts for all three of the internal standards were below the QC limits for samples PF041 and PF045. The samples were reanalyzed, out of holding time, with improved internal standard results. The surrogate recoveries were acceptable in both the original and reanalyses, and sample results were similar to the reanalysis results.	Samples PF041and PF045 had all nondetects qualified as estimated "UJ." Samples PF041RE and PF045RE were rejected, "R," in favor of the original analyses.
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF041

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3490

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	I
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF041

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3490

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	I
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF041RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-01RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3509

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	R	D
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	2	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	10	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF041RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-01RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3509

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	R	D
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF043

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG719

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	qual	qual code
75-71-8	Dichlorodifluoromethane	5.00	U	U	$
74-87-3	Chloromethane	5.00	U		
75-01-4	Vinyl Chloride	5.00	U		
74-83-9	Bromomethane	5.00	U		
75-00-3	Chloroethane	5.00	U		
75-69-4	Trichlorofluoromethane	5.00	U		
67-64-1	Acetone	58		J	S
75-35-4	1,1-Dichloroethene	5.00	U	U	$
75-09-2	Methylene Chloride	5.00	U		
156-60-5	trans-1,2-Dichloroethene	5.00	U		
75-34-3	1,1-Dichloroethane	5.00	U		
78-93-3	2-Butanone	990	E	R	D
156-59-2	cis-1,2-Dichloroethene	5.00	U	U	$
540-59-0	1,2-Dichloroethene (total)	5.00	U		
67-66-3	Chloroform	5.00	U		
71-55-6	1,1,1-Trichloroethane	5.00	U		
56-23-5	Carbon Tetrachloride	5.00	U		
107-06-2	1,2-Dichloroethane	5.00	U		
71-43-2	Benzene	5.00	U		
79-01-6	Trichloroethene	5.00	U		
75-27-4	Bromodichloromethane	5.00	U		
108-88-3	Toluene	5.00	U		
10061-02-6	trans-1,3-Dichloropropene	5.00	U		
79-00-5	1,1,2-Trichloroethane	5.00	U		
127-18-4	Tetrachloroethene	5.00	U		
108-90-7	Chlorobenzene	5.00	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U		
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U		
75-25-2	Bromoform	5.00	U		
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U		

MP 6-4-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF043

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG719

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	$
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U		

MD 6-4-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF043DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3522

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Level	Qual Code
75-71-8	Dichlorodifluoromethane	50	U	R	D
74-87-3	Chloromethane	50	U		
75-01-4	Vinyl Chloride	20	U		
74-83-9	Bromomethane	50	U		
75-00-3	Chloroethane	50	U		
75-69-4	Trichlorofluoromethane	50	U		
67-64-1	Acetone	100	U		
75-35-4	1,1-Dichloroethene	50	U		
75-09-2	Methylene Chloride	50	U		
156-60-5	trans-1,2-Dichloroethene	50	U		
75-34-3	1,1-Dichloroethane	50	U		
78-93-3	2-Butanone	1300	D		
156-59-2	cis-1,2-Dichloroethene	50	U	R	D
540-59-0	1,2-Dichloroethene (total)	100	U		
67-66-3	Chloroform	50	U		
71-55-6	1,1,1-Trichloroethane	50	U		
56-23-5	Carbon Tetrachloride	50	U		
107-06-2	1,2-Dichloroethane	50	U		
71-43-2	Benzene	50	U		
79-01-6	Trichloroethene	50	U		
75-27-4	Bromodichloromethane	50	U		
108-88-3	Toluene	50	U		
10061-02-6	trans-1,3-Dichloropropene	50	U		
79-00-5	1,1,2-Trichloroethane	50	U		
127-18-4	Tetrachloroethene	50	U		
108-90-7	Chlorobenzene	50	U		
630-20-6	1,1,1,2-Tetrachloroethane	50	U		
100-41-4	Ethylbenzene	50	U		
1330-20-7	Xylenes (total)	150	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	50	U		
75-25-2	Bromoform	50	U		
79-34-5	1,1,2,2-Tetrachloroethane	50	U		

MP 6-4-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF043DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3522

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	50	U	
95-63-6	1,2,4-Trimethylbenzene	50	U	
541-73-1	1,3-Dichlorobenzene	50	U	
106-46-7	1,4-Dichlorobenzene	50	U	
95-50-1	1,2-Dichlorobenzene	50	U	
96-12-8	1,2-Dibromo-3-Chloropropane	50	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF044

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG718

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5.00	U	U	$
74-87-3	Chloromethane	5.00	U		
75-01-4	Vinyl Chloride	5.00	U		
74-83-9	Bromomethane	5.00	U		
75-00-3	Chloroethane	5.00	U		
75-69-4	Trichlorofluoromethane	5.00	U		
67-64-1	Acetone	5.00	U		
75-35-4	1,1-Dichloroethene	5.00	U		
75-09-2	Methylene Chloride	5.00	U		
156-60-5	trans-1,2-Dichloroethene	5.00	U		
75-34-3	1,1-Dichloroethane	5.00	U		
78-93-3	2-Butanone	5.00	U		
156-59-2	cis-1,2-Dichloroethene	5.00	U		
540-59-0	1,2-Dichloroethene (total)	5.00	U		
67-66-3	Chloroform	5.00	U		
71-55-6	1,1,1-Trichloroethane	5.00	U		
56-23-5	Carbon Tetrachloride	5.00	U		
107-06-2	1,2-Dichloroethane	5.00	U		
71-43-2	Benzene	5.00	U		
79-01-6	Trichloroethene	11		J	S
75-27-4	Bromodichloromethane	5.00	U	U	$
108-88-3	Toluene	5.00	U		
10061-02-6	trans-1,3-Dichloropropene	5.00	U		
79-00-5	1,1,2-Trichloroethane	5.00	U		
127-18-4	Tetrachloroethene	5.00	U		
108-90-7	Chlorobenzene	5.00	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U		
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U		
75-25-2	Bromoform	5.00	U		
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U		

MP
L-4-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF044

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG718

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	$
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U		

MP
6-4-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF044RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-04RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3505

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	2	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
540-59-0	1,2-Dichloroethene (total)	10	U	
67-66-3	Chloroform	5	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	16		
75-27-4	Bromodichloromethane	5	U	
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	15	U	
108-38-3	m,p-Xylenes	10	U	
95-47-6	o-Xylene	5	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF044RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-04RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3505

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	R	D
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF045

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3491

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Review Qual Code	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	I
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF045

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3491

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	LJ
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	I
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF045RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-05RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3504

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Re-Anal	Anal Code
75-71-8	Dichlorodifluoromethane	5	U	R	D
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	2	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	10	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	2	J		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF045RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-05RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3504

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qualifier Codes	
				R	D
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF046

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG717

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Qual	Qual code
75-71-8	Dichlorodifluoromethane	5.00	U	U	$
74-87-3	Chloromethane	5.00	U		
75-01-4	Vinyl Chloride	5.00	U		
74-83-9	Bromomethane	5.00	U		
75-00-3	Chloroethane	5.00	U		
75-69-4	Trichlorofluoromethane	5.00	U		
67-64-1	Acetone	5.00	U		
75-35-4	1,1-Dichloroethene	5.00	U		
75-09-2	Methylene Chloride	5.00	U		
156-60-5	trans-1,2-Dichloroethene	5.00	U		
75-34-3	1,1-Dichloroethane	5.00	U		
78-93-3	2-Butanone	5.00	U		
156-59-2	cis-1,2-Dichloroethene	2 1.7 1.66	J	J	S
540-59-0	1,2-Dichloroethene (total)	2 1.70	J		S
67-66-3	Chloroform	5.00	U	U	
71-55-6	1,1,1-Trichloroethane	5.00	U		
56-23-5	Carbon Tetrachloride	5.00	U		
107-06-2	1,2-Dichloroethane	5.00	U		
71-43-2	Benzene	5.00	U		
79-01-6	Trichloroethene	5.00	U		
75-27-4	Bromodichloromethane	5.00	U		
108-88-3	Toluene	5.00	U		
10061-02-6	trans-1,3-Dichloropropene	5.00	U		
79-00-5	1,1,2-Trichloroethane	5.00	U		
127-18-4	Tetrachloroethene	5.00	U		
108-90-7	Chlorobenzene	5.00	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.00	U		
100-41-4	Ethylbenzene	5.00	U		
1330-20-7	Xylenes (total)	5.00	U		
108-38-3	m,p-Xylenes	5.00	U		
95-47-6	o-Xylene	5.00	U		
75-25-2	Bromoform	5.00	U		
79-34-5	1,1,2,2-Tetrachloroethane	5.00	U		

MP 6-4-03

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF046

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OG717

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/10/01

GC Column: VOCOL ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5.00	U	U	$
95-63-6	1,2,4-Trimethylbenzene	5.00	U		
541-73-1	1,3-Dichlorobenzene	5.00	U		
106-46-7	1,4-Dichlorobenzene	5.00	U		
95-50-1	1,2-Dichlorobenzene	5.00	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.00	U		

MP
6-4-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF046RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-06RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3506

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	R	D
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	2	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	10	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF046RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-06RE

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3506

Level: (low/med) LOW Date Received: 04/28/01

% Moisture: not dec. _____ Date Analyzed: 05/11/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	R	U
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF047

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3578

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/13/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q (Lab Qual)	(Area Qual Code)
75-71-8	Dichlorodifluoromethane	5	U	U	L
74-87-3	Chloromethane	5	U	U	
75-01-4	Vinyl Chloride	2	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	43			
540-59-0	1,2-Dichloroethene (total)	47			
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	230	E	R	D
75-27-4	Bromodichloromethane	5	U	U	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF047

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3578

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/13/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF047DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-07DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3607

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Qual	Qual Code
75-71-8	Dichlorodifluoromethane	25	U	R	D
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
67-64-1	Acetone	25	U		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	25	U		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	25	U		
156-59-2	cis-1,2-Dichloroethene	25	U		
540-59-0	1,2-Dichloroethene (total)	30	D		
67-66-3	Chloroform	32	D		
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	25	U		
75-27-4	Bromodichloromethane	170	D		
108-88-3	Toluene	25	U	R	D
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	25	U		
108-90-7	Chlorobenzene	25	U		
630-20-6	1,1,1,2-Tetrachloroethane	25	U		
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	25	U		
108-38-3	m,p-Xylenes	25	U		
95-47-6	o-Xylene	25	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF047DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-07DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3607

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Revised Qual Code	Qual Code
108-67-8	1,3,5-Trimethylbenzene	25	U	R	D
95-63-6	1,2,4-Trimethylbenzene	25	U		
541-73-1	1,3-Dichlorobenzene	25	U		
106-46-7	1,4-Dichlorobenzene	25	U		
95-50-1	1,2-Dichlorobenzene	25	U		
96-12-8	1,2-Dibromo-3-Chloropropane	25	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF048

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3602

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/14/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ L
74-87-3	Chloromethane	5	U	U
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
67-64-1	Acetone	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	5	U	
156-59-2	cis-1,2-Dichloroethene	36		
540-59-0	1,2-Dichloroethene (total)	39		
67-66-3	Chloroform	5	U	U
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	300	E	R D
75-27-4	Bromodichloromethane	5	U	U
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	5	U	
108-38-3	m,p-Xylenes	5	U	
95-47-6	o-Xylene	5	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF048

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3602

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/14/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF048DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3605

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/14/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.5

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual	Validation Code
75-71-8	Dichlorodifluoromethane	13	U	R	D
74-87-3	Chloromethane	13	U		
75-01-4	Vinyl Chloride	13	U		
74-83-9	Bromomethane	13	U		
75-00-3	Chloroethane	13	U		
75-69-4	Trichlorofluoromethane	13	U		
67-64-1	Acetone	13	U		
75-35-4	1,1-Dichloroethene	13	U		
75-09-2	Methylene Chloride	3	DJ		
156-60-5	trans-1,2-Dichloroethene	13	U		
75-34-3	1,1-Dichloroethane	13	U		
78-93-3	2-Butanone	13	U		
156-59-2	cis-1,2-Dichloroethene	28	D		
540-59-0	1,2-Dichloroethene (total)	31	D		
67-66-3	Chloroform	13	U		
71-55-6	1,1,1-Trichloroethane	13	U		
56-23-5	Carbon Tetrachloride	13	U		
107-06-2	1,2-Dichloroethane	13	U		
71-43-2	Benzene	13	U		
79-01-6	Trichloroethene	210	D		
75-27-4	Bromodichloromethane	13	U	R	D
108-88-3	Toluene	13	U		
10061-02-6	trans-1,3-Dichloropropene	13	U		
79-00-5	1,1,2-Trichloroethane	13	U		
127-18-4	Tetrachloroethene	13	U		
108-90-7	Chlorobenzene	13	U		
630-20-6	1,1,1,2-Tetrachloroethane	13	U		
100-41-4	Ethylbenzene	13	U		
1330-20-7	Xylenes (total)	13	U		
108-38-3	m,p-Xylenes	13	U		
95-47-6	o-Xylene	13	U		
75-25-2	Bromoform	13	U		
79-34-5	1,1,2,2-Tetrachloroethane	13	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF048DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3605

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/14/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.5

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Reanal	Reanal Code
108-67-8	1,3,5-Trimethylbenzene	13	U	R	D
95-63-6	1,2,4-Trimethylbenzene	13	U		
541-73-1	1,3-Dichlorobenzene	13	U		
106-46-7	1,4-Dichlorobenzene	13	U		
95-50-1	1,2-Dichlorobenzene	13	U		
96-12-8	1,2-Dibromo-3-Chloropropane	13	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF049

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3580

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/13/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ L
74-87-3	Chloromethane	5	U	U
75-01-4	Vinyl Chloride	2	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
156-59-2	cis-1,2-Dichloroethene	120		
540-59-0	1,2-Dichloroethene (total)	130		
67-66-3	Chloroform	5	U	U
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	5	U	
75-27-4	Bromodichloromethane	420	E	E D
108-88-3	Toluene	5	U	U
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	15	U	
108-38-3	m,p-Xylenes	10	U	
95-47-6	o-Xylene	5	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF049

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3580

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/13/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Lab Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF049DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-09DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3608

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. ________ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual	Qual Code
75-71-8	Dichlorodifluoromethane	25	U	R	D
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
67-64-1	Acetone	25	U		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	25	U		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	25	U		
156-59-2	cis-1,2-Dichloroethene	76	D		
540-59-0	1,2-Dichloroethene (total)	82	D		
67-66-3	Chloroform	25	U		
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	240	D		
75-27-4	Bromodichloromethane	25	U	R	D
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	25	U		
108-90-7	Chlorobenzene	25	U		
630-20-6	1,1,1,2-Tetrachloroethane	25	U		
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	25	U		
108-38-3	m,p-Xylenes	25	U		
95-47-6	o-Xylene	25	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF049DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-09DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3608

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	25	U	R
95-63-6	1,2,4-Trimethylbenzene	25	U	D
541-73-1	1,3-Dichlorobenzene	25	U	
106-46-7	1,4-Dichlorobenzene	25	U	
95-50-1	1,2-Dichlorobenzene	25	U	
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF055

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3613

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ L
74-87-3	Chloromethane	5	U	U
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
67-64-1	Acetone	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	5	U	
156-59-2	cis-1,2-Dichloroethene	25		
540-59-0	1,2-Dichloroethene (total)	27		
67-66-3	Chloroform	5	U	U
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	210	E	R D
75-27-4	Bromodichloromethane	5	U	U
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	5	U	
108-38-3	m,p-Xylenes	5	U	
95-47-6	o-Xylene	5	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF055

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-15

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3613

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF055DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-15DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3624

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
75-71-8	Dichlorodifluoromethane	10	U	R D
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl Chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-09-2	Methylene Chloride	4	DJ	
156-60-5	trans-1,2-Dichloroethene	10	U	
75-34-3	1,1-Dichloroethane	10	U	
78-93-3	2-Butanone	10	U	
156-59-2	cis-1,2-Dichloroethene	29	D	
540-59-0	1,2-Dichloroethene (total)	31	D	
67-66-3	Chloroform	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
107-06-2	1,2-Dichloroethane	10	U	
71-43-2	Benzene	10	U	
79-01-6	Trichloroethene	250	D	R
75-27-4	Bromodichloromethane	10	U	R D
108-88-3	Toluene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
127-18-4	Tetrachloroethene	10	U	
108-90-7	Chlorobenzene	10	U	
630-20-6	1,1,1,2-Tetrachloroethane	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	Xylenes (total)	10	U	
108-38-3	m,p-Xylenes	10	U	
95-47-6	o-Xylene	10	U	
75-25-2	Bromoform	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	

MP 6-4-03

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF055DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-15DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3624

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code	
108-67-8	1,3,5-Trimethylbenzene	10	U	R	D
95-63-6	1,2,4-Trimethylbenzene	10	U		
541-73-1	1,3-Dichlorobenzene	10	U		
106-46-7	1,4-Dichlorobenzene	10	U		
95-50-1	1,2-Dichlorobenzene	10	U		
96-12-8	1,2-Dibromo-3-Chloropropane	10	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF057

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3615

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Raw Qual	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	UJ	L
74-87-3	Chloromethane	5	U	U	
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	73	B		
75-35-4	1,1-Dichloroethene	5	U	U	
75-09-2	Methylene Chloride	17			
156-60-5	trans-1,2-Dichloroethene	1	J	J	
75-34-3	1,1-Dichloroethane	5	U	U	
78-93-3	2-Butanone	25			
156-59-2	cis-1,2-Dichloroethene	500	E	R	D
540-59-0	1,2-Dichloroethene (total)	540	E	R	D
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	33			
75-27-4	Bromodichloromethane	5	U	U	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF057

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3615

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF057DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-17DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3625

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q Rev Qual	Qual Code
75-71-8	Dichlorodifluoromethane	25	U	R	D
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
67-64-1	Acetone	150	D		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	33	D		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	27	D		
156-59-2	cis-1,2-Dichloroethene	500	D		
540-59-0	1,2-Dichloroethene (total)	540	D		
67-66-3	Chloroform	25	U	R	D
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	34	D		
75-27-4	Bromodichloromethane	25	U		
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	25	U		
108-90-7	Chlorobenzene	25	U		
630-20-6	1,1,1,2-Tetrachloroethane	25	U		
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	25	U		
108-38-3	m,p-Xylenes	25	U		
95-47-6	o-Xylene	25	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF057DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-17DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3625

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	25	U	R D
95-63-6	1,2,4-Trimethylbenzene	25	U	
541-73-1	1,3-Dichlorobenzene	25	U	
106-46-7	1,4-Dichlorobenzene	25	U	
95-50-1	1,2-Dichlorobenzene	25	U	
96-12-8	1,2-Dibromo-3-Chloropropane	25	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF059

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3627

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
75-71-8	Dichlorodifluoromethane	5	U	U
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
67-64-1	Acetone	11		
75-35-4	1,1-Dichloroethene	5	U	U
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	10		
156-59-2	cis-1,2-Dichloroethene	250	E	R D
540-59-0	1,2-Dichloroethene (total)	270	E	R D
67-66-3	Chloroform	8		
71-55-6	1,1,1-Trichloroethane	5	U	U
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	2	J	J
75-27-4	Bromodichloromethane	5	U	U
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	5	U	
108-38-3	m,p-Xylenes	5	U	
95-47-6	o-Xylene	5	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF059

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3627

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF059DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-19DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3631

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
75-71-8	Dichlorodifluoromethane	10	U	R	D
74-87-3	Chloromethane	10	U		
75-01-4	Vinyl Chloride	10	U		
74-83-9	Bromomethane	10	U		
75-00-3	Chloroethane	10	U		
75-69-4	Trichlorofluoromethane	10	U		
67-64-1	Acetone	14	D		
75-35-4	1,1-Dichloroethene	10	U		
75-09-2	Methylene Chloride	6	DJ		
156-60-5	trans-1,2-Dichloroethene	10	U		
75-34-3	1,1-Dichloroethane	10	U		
78-93-3	2-Butanone	11	D		
156-59-2	cis-1,2-Dichloroethene	310	D		
540-59-0	1,2-Dichloroethene (total)	330	D		
67-66-3	Chloroform	9	DJ	R	D
71-55-6	1,1,1-Trichloroethane	10	U		
56-23-5	Carbon Tetrachloride	10	U		
107-06-2	1,2-Dichloroethane	10	U		
71-43-2	Benzene	10	U		
79-01-6	Trichloroethene	3	DJ		
75-27-4	Bromodichloromethane	10	U		
108-88-3	Toluene	10	U		
10061-02-6	trans-1,3-Dichloropropene	10	U		
79-00-5	1,1,2-Trichloroethane	10	U		
127-18-4	Tetrachloroethene	10	U		
108-90-7	Chlorobenzene	10	U		
630-20-6	1,1,1,2-Tetrachloroethane	10	U		
100-41-4	Ethylbenzene	10	U		
1330-20-7	Xylenes (total)	10	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	10	U		
75-25-2	Bromoform	10	U		
79-34-5	1,1,2,2-Tetrachloroethane	10	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF059DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF041

Matrix: (soil/water) WATER Lab Sample ID: 010365-19DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3631

Level: (low/med) LOW Date Received: 05/03/01

% Moisture: not dec. _____ Date Analyzed: 05/15/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Review Level	Qual Code
108-67-8	1,3,5-Trimethylbenzene	10	U	R	D
95-63-6	1,2,4-Trimethylbenzene	10	U		
541-73-1	1,3-Dichlorobenzene	10	U		
106-46-7	1,4-Dichlorobenzene	10	U		
95-50-1	1,2-Dichlorobenzene	10	U		
96-12-8	1,2-Dibromo-3-Chloropropane	10	U		

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne, Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	PF063
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	2
Date Reviewed:	June 3, 2003
Reviewer:	M. Pokorny
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF063, PF063DL, PF064, PF064DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the samples were received intact, with a cooler temperature within the limits of 4°C ± 2°C. Custody seals were noted to be intact on the cooler. The analyses of the samples were performed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	One method blank was analyzed with this SDG. No target compounds were reported in the method blank.	No qualifications were required.
5. LCS/BS	One LCS was analyzed with this SDG. All spike compounds were recovered within the QC limits.	No qualifications were required.
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for all analyses.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.

	Findings	Qualifications
8. Field QC Samples ER: None TB: None FB: None FD: None	None.	No qualifications were required.
9. Other	Cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were detected above the calibration range of the instrument for sample PF063. The sample was reanalyzed at a 20-fold dilution, PF063DL. Vinyl chloride, trans-1,2-dichloroethene, cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were detected above the calibration range of the instrument for sample PF064. The sample was reanalyzed at a 50-fold dilution, PF064DL. No TICs were reported in the samples in this SDG.	Cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were rejected, "R," in sample PF063 and were reported from PF063DL. All target compounds except for cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were rejected, "R," in sample PF063DL. Vinyl chloride, trans-1,2-dichloroethene, cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were rejected, "R," in sample PF064 and were reported from PF064DL. All target compounds except for vinyl chloride, trans-1,2-dichloroethene cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were rejected, "R," in sample PF064DL. No qualifications were required.
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF063

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3662

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	U	
74-87-3	Chloromethane	5	U	U	
75-01-4	Vinyl Chloride	13			
74-83-9	Bromomethane	5	U	U	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	2	J	J	
75-09-2	Methylene Chloride	5	U	U	
156-60-5	trans-1,2-Dichloroethene	130			
75-34-3	1,1-Dichloroethane	5	U	U	
78-93-3	2-Butanone	5	U	U	
156-59-2	cis-1,2-Dichloroethene	550	E	R	D
540-59-0	1,2-Dichloroethene (total)	710	E	R	D
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	1900	E	R	D
75-27-4	Bromodichloromethane	5	U	U	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF063

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3662

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

LEVEL V

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF063

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3662

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF063DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-01DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3666

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	100	U	R	D
74-87-3	Chloromethane	100	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	100	U		
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
67-64-1	Acetone	100	U		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	87	DJ		
156-60-5	trans-1,2-Dichloroethene	100	D		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	100	U		
156-59-2	cis-1,2-Dichloroethene	460	D		
540-59-0	1,2-Dichloroethene (total)	590	D		
67-66-3	Chloroform	100	U	R	D
71-55-6	1,1,1-Trichloroethane	100	U		
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	1600	D		
75-27-4	Bromodichloromethane	100	U	R	D
108-88-3	Toluene	100	U		
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-90-7	Chlorobenzene	100	U		
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	100	U		
75-25-2	Bromoform	100	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF063DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-01DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3666

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	100	U	R	D
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF063DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-01DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3666

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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.					
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LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF064

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3663

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUA COD
75-71-8	Dichlorodifluoromethane	5	U	U	
74-87-3	Chloromethane	5	U	U	
75-01-4	Vinyl Chloride	230	E	R	D
74-83-9	Bromomethane	5	U	U	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	3	J	J	
75-09-2	Methylene Chloride	5	U	U	
156-60-5	trans-1,2-Dichloroethene	870	E	R	D
75-34-3	1,1-Dichloroethane	5	U	U	
78-93-3	2-Butanone	5	U	U	
156-59-2	cis-1,2-Dichloroethene	2400	E	R	D
540-59-0	1,2-Dichloroethene (total)	3400	E	R	D
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	570	E	R	D
75-27-4	Bromodichloromethane	5	U	U	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF064

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3663

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF064

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3663

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (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.					
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LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF064DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3667

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	250	U	R	D
74-87-3	Chloromethane	250	U	↓	D
75-01-4	Vinyl Chloride	190	DJ	J	
74-83-9	Bromomethane	250	U	R	D
75-00-3	Chloroethane	250	U		
75-69-4	Trichlorofluoromethane	250	U		
67-64-1	Acetone	250	U		
75-35-4	1,1-Dichloroethene	250	U		
75-09-2	Methylene Chloride	230	DJ		
156-60-5	trans-1,2-Dichloroethene	710	D		
75-34-3	1,1-Dichloroethane	250	U	R	
78-93-3	2-Butanone	250	U	R	
156-59-2	cis-1,2-Dichloroethene	2100	D		
540-59-0	1,2-Dichloroethene (total)	2900	D		
67-66-3	Chloroform	250	U	R	D
71-55-6	1,1,1-Trichloroethane	250	U		
56-23-5	Carbon Tetrachloride	250	U		
107-06-2	1,2-Dichloroethane	250	U		
71-43-2	Benzene	250	U		
79-01-6	Trichloroethene	510	D		
75-27-4	Bromodichloromethane	250	U	R	D
108-88-3	Toluene	250	U		
10061-02-6	trans-1,3-Dichloropropene	250	U		
79-00-5	1,1,2-Trichloroethane	250	U		
127-18-4	Tetrachloroethene	250	U		
108-90-7	Chlorobenzene	250	U		
630-20-6	1,1,1,2-Tetrachloroethane	250	U		
100-41-4	Ethylbenzene	250	U		
1330-20-7	Xylenes (total)	250	U		
108-38-3	m,p-Xylenes	250	U		
95-47-6	o-Xylene	250	U		
75-25-2	Bromoform	250	U		
79-34-5	1,1,2,2-Tetrachloroethane	250	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF064DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3667

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	250	U	R	D
95-63-6	1,2,4-Trimethylbenzene	250	U	↓	↓
541-73-1	1,3-Dichlorobenzene	250	U		
106-46-7	1,4-Dichlorobenzene	250	U		
95-50-1	1,2-Dichlorobenzene	250	U		
96-12-8	1,2-Dibromo-3-Chloropropane	250	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF064DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3667

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: not dec. _____ Date Analyzed: 05/16/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 50.0

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.					
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LEVEL V

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701VO5
Task Order 313150002
SDG No. PF067
No. of Analyses 7

Laboratory Quivic
Reviewer L. Calvin
Analysis/Method 1,4Dioxane

Date: 07-11-01
Reviewer's Signature L Calvin

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications assigned for the following:
Holding Times	
GC/MS Tune/Inst. Perform	– elevated cooler temperature upon receipt
Calibrations	
Blanks	
Surrogates	– exceptionally low response factors for the target compound.
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	– method blank contamination
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
SHALLOW GROUNDWATER PROGRAM

ANALYSIS: 1,4-DIOXANE

SAMPLE DELIVERY GROUP: PF067

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, SSFL RFI Program
SDG#:	PF067
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	1,4-Dioxane
QC Level:	IV
No. of Samples:	7
No. of Reanalyses/Dilutions:	0
Reviewer:	L. Calvin
Date of Review:	July 9, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC *Project Procedures Manual* data validation procedure for volatile organics (*DVP-2, Rev. 2*), and the USEPA CLP *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab ID	Matrix	COC Method
PZ027GW01S01	PF067	010392-01	water	8260B/SIM
PZ024GW01S01	PF069	010392-03	water	8260B/SIM
PZ000QW01F03	PF072	010392-06	water	8260B/SIM
PZ000QW01E03	PF073	010392-07	water	8260B/SIM
PZ026GW01S01	PF074	010392-08	water	8260B/SIM
PZ048GW01S01	PF077	010392-11	water	8260B/SIM
PZ048GW01D01	PF078	010392-12	water	8260B/SIM

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The laboratory sample receipt checklist noted that the samples in this SDG were received with a cooler temperature of 24°C, above the temperature limits of 4°C ± 2°C. All site sample results for the 1,4-dioxane analysis were qualified as estimated, "J." Samples PF072 and PF073 were identified as field QC samples, and required no qualification for the elevated cooler temperature. According to the laboratory sample receipt checklist, all samples were received intact, properly preserved, and in good condition with no broken vials. No other problems were noted regarding sample handling and transport. No further qualifications were required.

2.1.2 Chain of Custody

The COC was signed by both field and laboratory personnel. All samples were accounted for on the COC. No information regarding sample conditions upon receipt was recorded on the COCs; however, the laboratory sample receipt checklist documented that the coolers were received with custody seals intact. No qualifications were required.

2.1.3 Holding Times

The water samples were analyzed within the holding time of 14 days of collection for preserved waters. No qualifications were required.

2.2 GC/MS TUNING

All tunes met the ion abundance criteria which were derived from USEPA SW-846 Method 8260B, and all samples were analyzed within 12 hours of the BFB injection time. No qualifications were required.

2.3 CALIBRATION

2.3.1 Initial Calibration

The was one five point initial calibration associated with this SDG, dated 05/16/01. The average RRF for 1,4-dioxane was less than 0.05, at 0.0008758; however, as the response factors were derived from SIM analysis, and the %RSD was less than 15%, the reviewer deemed it appropriate to estimate both detects and nondetects ("J," and "UJ," respectively) in the site samples, rather than reject nondetects, and not to estimate nondetects in the field QC samples.

Calculations of the average RRFs and %RSDs were checked from the raw data for the target compound and surrogate, and no calculation or transcription errors were noted. No further qualifications were required.

2.3.2 Continuing Calibration

There was one continuing calibration associated with the samples in this SDG, dated 05/23/01. The RRF for 1,4-dioxane was less than 0.05, at 0.0008368; however,as the response factors were derived from SIM analysis, and the %D was less than 20%, the reviewer deemed it appropriate to estimate both detects and nondetects ("J," and "UJ," respectively) in the site samples, rather than reject nondetects, and not to estimate nondetects in the field QC samples.

Calculations of RRFs and %Ds were checked from the raw data for the target compound and surrogate, and no calculation or transcription errors were noted. No further qualifications were required.

2.4 BLANKS

One water method blank (VBLKLC) was analyzed with the samples in this SDG. Target compound 1,4-dioxane was not originally reported as a detect in the method blank; however, upon request, the laboratory performed a search for the quant ion of 1,4-dioxane (see section 2.10), and found a reportable concentration in the method blank. The concentration of 1,4-dioxane in sample PF067 exceeded five times the method blank amount, and required no qualification. The concentrations in samples PF069, PF074, PF077, and PF078 were less than five times that in the method blank, and were therefore qualified as estimated nondetects "UJ," and the reporting limits raised to the levels of contamination.

The raw data provided for the method blank was reviewed for a false positive, and no errors were noted. No further qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One water blank spike (VLCSLC) was analyzed with the samples in this SDG. The recovery for 1,4-dioxane was within laboratory QC limits of 85-115%. The result for 1,4-dioxane reported on the Form III was verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.6 SURROGATE RECOVERY

All surrogate recoveries for the samples in this SDG were within the laboratory QC limits of 60-140%. The results reported on the Form II were verified from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses associated with this SDG. Evaluation of method accuracy was based on blank spike results. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated and, if necessary, qualified based on method blanks only (see Section 2.4). Remaining detects were then used to qualify the samples. The following are findings associated with field QC samples:

2.8.1 Trip Blanks

The 1,4-dioxane analysis was not requested on the COC for the trip blank associated with the site samples in this SDG. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

Sample PF072 was the field blank, and sample PF073 was the equipment rinsate associated with the site samples in this SDG. Target compound 1,4-dioxane was reported as a nondetect in both samples. Upon request, the laboratory performed a search for the quant ion of 1,4-dioxane (see section 2.10). Concentrations above the reporting limit were not present in either of the field QC samples. The raw data provided was reviewed for false negatives, and no errors were noted. No qualifications were required.

2.8.3 Field Duplicates

Samples PF077 and PF078 were the field duplicate pair associated with this SDG. Target compound 1,4-dioxane was not reportable in either sample (see section 2.4). The pair was considered to be in good agreement. No qualifications were required.

2.9 INTERNAL STANDARDS PERFORMANCE

The retention times and the area counts of the internal standards were within their respective QC limits of ±30 seconds and +100%/-50% of the associated continuing calibration standard for all samples. The internal standard retention times and areas on the Form VIIIs were checked from the raw data for a representative number of samples, and no errors were noted. No qualifications were required.

2.10 TARGET COMPOUND IDENTIFICATION

The laboratory analyzed for 1,4-dioxane using single ion monitoring (SIM). Ion chromatograms and spectra were examined and no identification problems were noted; however, as the peak for 1,4-dioxane was not visible on the chromatograms, and ion scans were not originally provided for nondetects, the nondetects in samples PF072 and PF073 could not be verified. The reviewer requested that scans for the characteristic ions for 1,4-dioxane be provided for the method blank and the samples reporting nondetects. The laboratory provided the data requested. No qualifications were necessary.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

The reporting limits were supported by the method detection limit (MDL) study April, 2001, and by the low point of the initial calibration; however, the level of 1,4-dioxane contamination in the method blank suggests a higher reporting limit may be appropriate. The compound quantitations for all samples were verified from the raw data and no calculation or transcription errors were noted. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TIC searches are not typically performed for SIM methods. No qualifications were required.

2.13 SYSTEM PERFORMANCE

A review of the chromatograms and other raw data showed no identifiable problems with system performance. No qualifications were necessary.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF067

Lab Name: CEIMIC Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-01

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC498

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.20 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	8		J	R*1

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF069

Lab Name: CEIMIC Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-03

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC499

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.20 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	1		UJ	ER*1

AMEC VALIDATED

FORM I VOA

LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF072

Lab Name: CEIMIC Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067 FB

Matrix: (soil/water) WATER Lab Sample ID: 010392-06

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC500

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.20 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	ver qual	qual code
123-91-1	1,4-Dioxane	1	U		U

AMEC VALIDATED

FORM I VOA

LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF073

Lab Name: CEIMIC Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-07

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC501

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.20 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	1	U	U	

AMEC VALIDATED

FORM I VOA

LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF074

Lab Name: CEIMIC Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-08

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC502

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.20 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	1		UJ	BR*1

AMEC VALIDATED

FORM I VOA

LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077

Lab Name: CEIMIC Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC503

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.20 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	4		UJ	BR*1

AMEC VALIDATED

LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF078

Lab Name: CEIMIC Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-12

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC504

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.20 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	5		UJ	BR*1

AMEC VALIDATED

LEVEL IV

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne, Shallow Groundwater
Project Manager: D. Hambrick
Analysis/Method: Volatiles by Method 8260B
QC Level: V[1]
SDG: PF118
Matrix: Water
No. of Samples: 1
No. of Reanalyses/Dilutions: 1
Date Reviewed: June 3, 2003
Reviewer: M. Pokorny
Reference: National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed: PF120, PF120DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the sample was received intact, with a cooler temperature within the limits of 4°C ± 2°C. Custody seals were noted to be intact on the coolers. The analysis of the sample was performed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	Two method blanks were analyzed with this SDG. No target compounds were reported in method blank VBLKQQ. Methylene chloride was present in method blank VBLKQR at 1ug/L.	No qualifications were required since methylene chloride was not reported in the associated sample, PF120DL.
5. LCS/BS	Two LCSs were analyzed with this SDG. All spike compounds were recovered within the laboratory-established QC limits.	No qualifications were required.
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for both samples.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.

	Findings	Qualifications
8. Field QC Samples ER: None TB: PF123 FB: None FD: None	Acetone was reported in the trip blank at 2ug/L.	No qualifications were required as the detect for acetone in sample PF120DL was greater than 10-times the level of the trip blank.
9. Other	The detect for acetone was above the calibration range of the instrument for sample PF120 and in the five-fold dilution of the sample PF120DL (for acetone). One TIC was reported in sample PF120.	Acetone was rejected, "R," in sample PF120 and was reported from PF120DL. All target compounds except for acetone were rejected, "R," in sample PF120DL. Acetone was qualified as estimated, "J," in sample PF120DL. The TIC was qualified as tentatively identified and estimated, "NJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF120

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF118

Matrix: (soil/water) WATER Lab Sample ID: 010449-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4310

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/07/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	U	
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	1200	E	R	D
75-35-4	1,1-Dichloroethene	5	U	U	
75-09-2	Methylene Chloride	2 ~~2~~	J	J	~~B~~
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U	U	
78-93-3	2-Butanone	4	J	J	
156-59-2	cis-1,2-Dichloroethene	5	U	U	
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

MP 6-3-03

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF120

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF118

Matrix: (soil/water) WATER Lab Sample ID: 010449-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4310

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/07/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

LEVEL V

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF120

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF118

Matrix: (soil/water) WATER Lab Sample ID: 010449-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4310

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/07/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	REV QUAL	QUA COD
1.	67-63-0	ISOPROPYL ALCOHOL	3.33	18	NJ	NJ	
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
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16.							
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20.							
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22.							
23.							
24.							
25.							
26.							
27.							
28.							
29.							
30.							

LEVEL V

AMEC VALIDATED

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF120DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF118

Matrix: (soil/water) WATER Lab Sample ID: 010449-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4323

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/07/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	25	U	R	D
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
67-64-1	Acetone	1100	DE	J	*9
75-35-4	1,1-Dichloroethene	25	U	R	D
75-09-2	Methylene Chloride	19	DJB		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	25	U		
156-59-2	cis-1,2-Dichloroethene	25	U		
540-59-0	1,2-Dichloroethene (total)	25	U		
67-66-3	Chloroform	25	U		
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	25	U		
75-27-4	Bromodichloromethane	25	U		
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	25	U		
108-90-7	Chlorobenzene	25	U		
630-20-6	1,1,1,2-Tetrachloroethane	25	U		
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	25	U		
108-38-3	m,p-Xylenes	25	U		
95-47-6	o-Xylene	25	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		

MP 6-3-03

LEVEL V 21

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF120DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF118

Matrix: (soil/water) WATER Lab Sample ID: 010449-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4323

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/07/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	25	U	R	D
95-63-6	1,2,4-Trimethylbenzene	25	U		
541-73-1	1,3-Dichlorobenzene	25	U		
106-46-7	1,4-Dichlorobenzene	25	U		
95-50-1	1,2-Dichlorobenzene	25	U		
96-12-8	1,2-Dibromo-3-Chloropropane	25	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF120DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF118

Matrix: (soil/water) WATER Lab Sample ID: 010449-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4323

Level: (low/med) LOW Date Received: 05/26/01

% Moisture: not dec. _____ Date Analyzed: 06/07/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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.					
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AMEC VALIDATED

LEVEL IV

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne, Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	PF094
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	June 9, 2003
Reviewer:	M. Pokorny
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF098, PF098DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the samples were received intact, with a cooler temperature within the limits of 4°C ± 2°C at 6°C. Custody seals were noted to be intact on the cooler. The analyses of the samples were performed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	One method blank was analyzed with this SDG. 2-Butanone was reported in the method blank at 2ug/L.	The 2-butanone detect for sample PF098 was qualified as a nondetect, "U," and raised to the reporting limit.
5. LCS/BS	One LCS was analyzed with this SDG. LCSQO had 24 spiked compounds recovered above the QC limits.	The trans-1,2-dichloroethene, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) detects for sample PF098 were qualified as estimated, "J."
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for all analyses.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.

	Findings	Qualifications
8. Field QC Samples ER: None TB: None FB: None FD: None	None.	No qualifications were required.
9. Other	Trichloroethene was detected above the calibration range of the instrument for sample PF098. The sample was reanalyzed at a 5-fold dilution, PF098DL. No TICs were reported in sample PF098.	Trichloroethene was rejected, "R," in sample PF098 and was reported from PF069DL. All remaining target compounds were rejected, "R," in sample PF098DL.
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF098

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4256

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/05/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0 -

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	U	
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	4	J	J	L
78-93-3	2-Butanone	5	U	U	
156-59-2	cis-1,2-Dichloroethene	52	JB	U	B
540-59-0	1,2-Dichloroethene (total)	52		U	L
67-66-3	Chloroform	58		U	L
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
75-27-4	Bromodichloromethane	470	E	R	D
108-88-3	Toluene	5	U	U	
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

MP 6.9.03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF098

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4256

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/05/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF098

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4256

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/05/01

GC Column: DB624 ID: 0.32 (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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.
PF098DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-05DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4262

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/05/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	25	U	R	D
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
67-64-1	Acetone	25	U		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	5	DJ		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	7	DJB		
156-59-2	cis-1,2-Dichloroethene	45	D		
540-59-0	1,2-Dichloroethene (total)	47	D		
67-66-3	Chloroform	25	U		
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	410	D		
75-27-4	Bromodichloromethane	25	U	R	D
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	25	U		
108-90-7	Chlorobenzene	25	U		
630-20-6	1,1,1,2-Tetrachloroethane	25	U		
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	25	U		
108-38-3	m,p-Xylenes	25	U		
95-47-6	o-Xylene	25	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF098DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-05DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4262

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/05/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0 -

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	25	U	R	D
95-63-6	1,2,4-Trimethylbenzene	25	U		
541-73-1	1,3-Dichlorobenzene	25	U		
106-46-7	1,4-Dichlorobenzene	25	U		
95-50-1	1,2-Dichlorobenzene	25	U		
96-12-8	1,2-Dibromo-3-Chloropropane	25	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF098DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q4262

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/05/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 5.0

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.					
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550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne, Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	PF067
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	2
Date Reviewed:	June 9, 2003
Reviewer:	M. Pokorny
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF068, PF068DL, PF077, PF077DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the samples were received intact, with a cooler temperature above the limits of 4°C ± 2°C at 24°C. Custody seals were noted to be intact on the cooler. The analyses of the samples were performed within 14 days of sample collection.	All retained target compound results were qualified as estimated, "UJ," for nondetects and "J," for detects for all of the retained analyses of the samples of this SDG.
4. Method Blanks	Two method blanks were analyzed with this SDG. No target compounds were reported in the method blanks.	No qualifications were required.
5. LCS/BS	Two LCSs were analyzed with this SDG. LCSQT had 21 spiked compounds recovered above the QC limits, and dichlorodifluoromethane recovered below the laboratory-established QC limits, but greater than 10%.	The trans-1,2-dichloroethene, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) detects for sample PF068(DL) were qualified as estimated, "J." The nondetect for dichlorofluoromethane was qualified as estimated, "UJ," for sample PF068.

	Findings	Qualifications
5. LCS/BS (continued)	LCSQU had dichlorodifluoromethane and chloromethane recovered below the laboratory-established QC limits, but greater than 10%.	The dichlorodifluoromethane and chloromethane nondetects for PF077 were qualified as estimated, "UJ."
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for all analyses.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: None TB: None FB: None FD: None	None.	No qualifications were required.
9. Other	Cis-1,2-dichloroethene and 1,2-dichloroethene (total) were detected above the calibration range of the instrument for sample PF068. The sample was reanalyzed at a 2-fold dilution, PF068DL. Vinyl chloride, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) were detected above the calibration range of the instrument for sample PF077. The sample was reanalyzed at a 20-fold dilution, PF077DL. TICs were reported in sample PF077.	Cis-1,2-dichloroethene and 1,2-dichloroethene (total) were rejected, "R," in sample PF068 and were reported from PF068DL. All remaining target compounds were rejected, "R," in sample PF068DL. Vinyl chloride, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) were rejected, "R," in sample PF077 and were reported from PF077DL. All remaining target compounds were rejected, "R," in sample PF077DL. The TICs were qualified as tentatively identified and estimated, "NJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF068

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3843

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U	UJ	L, *
74-87-3	Chloromethane	5	U	UJ	
75-01-4	Vinyl Chloride	21		J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	72		J	L
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	220	E	R	D
540-59-0	1,2-Dichloroethene (total)	310	E	R	D
67-66-3	Chloroform	5	U	UJ	*
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	20		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF068

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3843

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF068

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3843

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (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
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF068DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3846

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	10	U	R	D
74-87-3	Chloromethane	10	U		
75-01-4	Vinyl Chloride	19	D		
74-83-9	Bromomethane	10	U		
75-00-3	Chloroethane	10	U		
75-69-4	Trichlorofluoromethane	10	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	10	U		
75-09-2	Methylene Chloride	10	U		
156-60-5	trans-1,2-Dichloroethene	67	D		
75-34-3	1,1-Dichloroethane	10	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	220	D	J	L,*1
540-59-0	1,2-Dichloroethene (total)	300	D	J	L,*1
67-66-3	Chloroform	10	U	R	D
71-55-6	1,1,1-Trichloroethane	10	U		
56-23-5	Carbon Tetrachloride	10	U		
107-06-2	1,2-Dichloroethane	10	U		
71-43-2	Benzene	10	U		
79-01-6	Trichloroethene	19	D		
75-27-4	Bromodichloromethane	10	U		
108-88-3	Toluene	10	U		
10061-02-6	trans-1,3-Dichloropropene	10	U		
79-00-5	1,1,2-Trichloroethane	10	U		
127-18-4	Tetrachloroethene	10	U		
108-90-7	Chlorobenzene	10	U		
630-20-6	1,1,1,2-Tetrachloroethane	10	U		
100-41-4	Ethylbenzene	10	U		
1330-20-7	Xylenes (total)	10	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	10	U		
75-25-2	Bromoform	10	U		
79-34-5	1,1,2,2-Tetrachloroethane	10	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF068DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3846

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	10	U	R	A
95-63-6	1,2,4-Trimethylbenzene	10	U		
541-73-1	1,3-Dichlorobenzene	10	U		
106-46-7	1,4-Dichlorobenzene	10	U		
95-50-1	1,2-Dichlorobenzene	10	U		
96-12-8	1,2-Dibromo-3-Chloropropane	10	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF068DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3846

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF077

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3869

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5			J	L *
74-87-3	Chloromethane	5	U		UJ	L *
75-01-4	Vinyl Chloride	290	E		R	D
74-83-9	Bromomethane	5	U		UJ	L1
75-00-3	Chloroethane	5	U			
75-69-4	Trichlorofluoromethane	5	U			
67-64-1	Acetone	5	U			
75-35-4	1,1-Dichloroethene	5	U			
75-09-2	Methylene Chloride	5	U			
156-60-5	trans-1,2-Dichloroethene	180			J	
75-34-3	1,1-Dichloroethane	5	U		UJ	
78-93-3	2-Butanone	5	U		UJ	
156-59-2	cis-1,2-Dichloroethene	1300	E		R	D
540-59-0	1,2-Dichloroethene (total)	1600	E		R	D
67-66-3	Chloroform	5	U		UJ	L1
71-55-6	1,1,1-Trichloroethane	5	U			
56-23-5	Carbon Tetrachloride	5	U			
107-06-2	1,2-Dichloroethane	5	U			
71-43-2	Benzene	5	U			
79-01-6	Trichloroethene	13			J	
75-27-4	Bromodichloromethane	5	U		UJ	
108-88-3	Toluene	5	U			
10061-02-6	trans-1,3-Dichloropropene	5	U			
79-00-5	1,1,2-Trichloroethane	5	U			
127-18-4	Tetrachloroethene	5	U			
108-90-7	Chlorobenzene	5	U			
630-20-6	1,1,1,2-Tetrachloroethane	5	U			
100-41-4	Ethylbenzene	5	U			
1330-20-7	Xylenes (total)	5	U			
108-38-3	m,p-Xylenes	5	U			
95-47-6	o-Xylene	5	U			
75-25-2	Bromoform	5	U			
79-34-5	1,1,2,2-Tetrachloroethane	5	U			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3869

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	#1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF077

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3869

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	REV QUAL	QUA COD
1.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.37	15	NJ	NJ	
2.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.69	13	NJ	NJ	
3.							
4.							
5.							
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30.							

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3870

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	100	U	R	D
74-87-3	Chloromethane	100	U	R	D
75-01-4	Vinyl Chloride	260	D	J	#1
74-83-9	Bromomethane	100	U	R	D
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
67-64-1	Acetone	100	U		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	100	U		
156-60-5	trans-1,2-Dichloroethene	150	D		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	100	U		
156-59-2	cis-1,2-Dichloroethene	1100	D	J	#1
540-59-0	1,2-Dichloroethene (total)	1400	D	J	#1
67-66-3	Chloroform	100	U	R	D
71-55-6	1,1,1-Trichloroethane	100	U		
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	100	U		
75-27-4	Bromodichloromethane	100	U		
108-88-3	Toluene	100	U		
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-90-7	Chlorobenzene	100	U		
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	100	U		
75-25-2	Bromoform	100	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3870

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	100	U	R	D
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF077DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3870

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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.					
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30.					

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701PA1
Task Order 31315000 6/7/8
SDG No. PF063
No. of Analyses 2

Laboratory
Reviewer E. Wessling
Analysis/Method PAH

Date:
Reviewer's Signature

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
SHALLOW GROUNDWATER PROGRAM

ANALYSIS: POLYNUCLEAR AROMATIC HYDROCARBONS

SAMPLE DELIVERY GROUP: PF063

Prepared by

AMECCDenver Operations
550 South Wadsworth Boulevard Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, Shallow Groundwater Program
SDG#:	PF063
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	PAH
QC Level:	III
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Reviewer:	E. Wessling
Date of Review:	November 26, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC *Project Procedures Manual* data validation procedure for semivolatile organics (DVP-3, Rev. 2), the *Ceimic SOP for Semivolatile Analysis by Modified SW846 Method 8270SIM (SOP No.8270SIM)* revised 11/00, and the USEPA CLP *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the AR@ data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab ID	Matrix	COC Method
PZ087BGW02S01	PF063	010378-01	water	8270SIM
PZ088BGW01S01	PF065	010378-03	water	8270SIM

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The laboratory sample receipt checklist noted that the samples in this SDG were received intact and in good condition, with cooler temperatures within the QC limits of 4°C ± 2°C. No problems were noted regarding sample handling and transport. No qualifications were required. Sample PF063 was noted to have been acid-preserved for the PAH/SIM analysis and nonpreserved for the TPH analysis. The laboratory was instructed to use the properly preserved bottle for each analysis. No qualification of the data was required as the properly preserved sample was extracted.

2.1.2 Chain of Custody

The COC was signed by both field and laboratory personnel. No information regarding sample conditions upon receipt was recorded on the COCs; however, the laboratory sample receipt checklist documented that the coolers were received with custody seals intact. No qualifications were required.

2.1.3 Holding Times

The water samples were extracted within seven days of collection, and analyzed within 40 days of extraction. No qualifications were required.

2.2 GC/MS TUNING

All tunes met the ion abundance criteria which were derived from USEPA SW-846 Method 8270C, and all samples were analyzed within 12 hours of the DFTPP injection times. No qualifications were required.

2.3 CALIBRATION

The initial calibration consisted of five concentration levels of standards. The initial calibration associated with this SDG, dated 05/11/01, had %RSDs below 15% for all target compounds. The continuing calibration had %Ds below 20% for all target compounds. All average RRFs for the initial calibration, and RRFs for the continuing calibration were greater than 0.05. The reviewer noted that the laboratory used the less stringent criteria of 35%RSD for evaluation of the initial calibration, and 35%D for the continuing calibrations. No qualifications were required.

2.4 BLANKS

One water method blank (SBLKID) was extracted and analyzed with the samples in this SDG. No target compounds were reported in the method blank; therefore, no qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One soil blank spike (SLCSID) was extracted and analyzed with the samples in this SDG. All recoveries were within the laboratory QC limits of 20-140%, with the exception of a recovery below the QC limits for dibenz(a,h)anthracene. All nondetects for dibenz(a,h)anthracene in the associated samples were qualified as estimated nondetects, "UJ." No further qualifications were required.

2.6 SURROGATE RECOVERY

The surrogate recovery for terphenyl-d14 was above QC limits in both site samples. The detect for n-nitrosodimethylamine in PF063 was qualified as estimated due to this surrogate outlier. As there were no additional detects in the samples in this SDG, no further qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses performed for this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated and, if necessary, qualified based on method blanks only (see Section 2.4). Remaining detects were then used to qualify the samples. The following are findings associated with field QC samples:

2.8.1 Field Blanks and Equipment Rinsates

There were no associated field blanks or equipment rinsates associated with the samples in this SDG; however, as there were no reported detects in the site samples of this SDG, evaluation of possible field contamination was not necessary. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this package. Field duplicates are required at a rate of 10% per matrix for site samples only; therefore, field duplicates are not required in every package. Qualifications are not routinely assigned based on field duplicate results.

2.9 INTERNAL STANDARDS PERFORMANCE

The retention times and the area counts of the internal standards were within their respective QC limits of ±30 seconds and +100%/-50% of the associated continuing calibration standard for all samples; therefore, no qualifications were required.

2.10 TARGET COMPOUND IDENTIFICATION

The laboratory analyzed for 18 polynuclear aromatic hydrocarbons using GC/MS-Selective Ion Monitoring (SIM) mode. Verification of compound identification is not verified at a Level III data validation; however, a cursory review of the detect for n-nitrosodimethlyamine noted the spectra to support the reporting of this compound. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

The reporting limits were supported by the laboratory MDL study dated July, 2000, and corresponded to the concentration level of the lowest standard in the initial calibration. Target compound quantitation is not verified at a Level III data validation. No qualifications were required.

2.12 SYSTEM PERFORMANCE

System performance is not evaluated at a Level III data validation. No qualification of the data was required.

T201PA1

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF063

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IB084

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/09/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/15/01

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual code
62-75-9	N-Nitrosodimethylamine	0.2		J	S
91-20-3	Naphthalene	0.1	U	U	
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U	UJ	L
191-24-2	Benzo(g,h,i)perylene	0.1	U	U	

AMEC VALIDATED

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF065

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF063

Matrix: (soil/water) WATER Lab Sample ID: 010378-03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IB090

Level: (low/med) LOW Date Received: 05/05/01

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/09/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/15/01

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual Code	Qual Code
62-75-9	N-Nitrosodimethylamine	0.1	U	U	
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U	U5	L
191-24-2	Benzo(g,h,i)perylene	0.1	U	U	

AMEC VALIDATED

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701PA5
Task Order 313150001G
SDG No. PF125
No. of Analyses 3

Laboratory Ceimic
Reviewer L. Calvin
Analysis/Method PAH

Date: 07.19.01
Reviewer's Signature: L Calvin

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications given for continuing calibration %D's >20%.
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
SHALLOW GROUNDWATER PROGRAM

ANALYSIS: POLYNUCLEAR AROMATIC HYDROCARBONS

SAMPLE DELIVERY GROUP: PF125

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, Shallow Groundwater Program
SDG#:	PF125
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	PAH
QC Level:	III
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Reviewer:	L. Calvin
Date of Review:	July 19, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC *Project Procedures Manual* data validation procedure for semivolatile organics (DVP-3, Rev. 2), the *Ceimic SOP for Semivolatile Analysis by Modified SW846 Method 8270SIM (SOP No.8270SIM)* revised 11/00, and the USEPA CLP *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab ID	Matrix	COC Method
PZ076GW01S01	PF126	010469-02	water	8270SIM
PZ089GW01S01	PF132	010469-08	water	8270SIM
PZ082GW01S01	PF133	010469-09	water	8270SIM

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The laboratory sample receipt checklist noted that the samples in this SDG were received intact and in good condition, with cooler temperatures within the QC limits of 4°C ± 2°C. No problems were noted regarding sample handling and transport. No qualifications were required.

2.1.2 Chain of Custody

All of the COCs were signed by both field and laboratory personnel. No information regarding sample conditions upon receipt was recorded on the COCs; however, the laboratory sample receipt checklist documented that the coolers were received with custody seals intact. No qualifications were required.

2.1.3 Holding Times

The water samples were extracted within seven days of collection, and analyzed within 40 days of extraction. No qualifications were required.

2.2 GC/MS TUNING

All tunes met the ion abundance criteria which were derived from USEPA SW-846 Method 8270C, and all samples were analyzed within 12 hours of the DFTPP injection times. No qualifications were required.

2.3 CALIBRATION

The initial calibration consisted of five concentration levels of standards. The initial calibration associated with this SDG, dated 05/11/01, had %RSDs below 15% for all target compounds. The continuing calibration had %Ds below 20% for all target compounds except benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene. Nondetect results for the aforementioned compounds were qualified as estimated, "UJ." All average RRFs for the initial calibration, and RRFs for the continuing calibration were greater than 0.05. The reviewer noted that the laboratory used the less stringent criteria of 35%RSD for evaluation of the initial calibration, and 35%D for the continuing calibrations. No further qualifications were required.

2.4 BLANKS

One soil method blank (SBLKIE) was extracted and analyzed with the samples in this SDG. No target compounds were reported in the method blank; therefore, no qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One soil blank spike (SLCSIE) was extracted and analyzed with the samples in this SDG. All recoveries were within the laboratory QC limits of 20-140%, with the exception of a recovery above the QC limits for dibenz(a,h)anthracene; however, as there were no reported detects for dibenz(a,h)anthracene in the associated samples, no qualifications were required.

2.6 SURROGATE RECOVERY

All surrogate recoveries for the samples in this SDG were within the laboratory control limits; therefore, no qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

There were no MS/MSD analyses performed for this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated and, if necessary, qualified based on method blanks only (see Section 2.4). Remaining detects were then used to qualify the samples. The following are findings associated with field QC samples:

2.8.1 Field Blanks and Equipment Rinsates

There were no associated field blanks or equipment rinsates associated with the samples in this SDG; however, as there were no reported detects in the site samples of this SDG, evaluation of possible field contamination was not necessary. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate pairs associated with this package. Field duplicates are required at a rate of 10% per matrix for site samples only; therefore, field duplicates are not required in every package. Qualifications are not routinely assigned based on field duplicate results.

2.9 INTERNAL STANDARDS PERFORMANCE

The retention times and the area counts of the internal standards were within their respective QC limits of ±30 seconds and +100%/-50% of the associated continuing calibration standard for all samples; therefore, no qualifications were required.

2.10 TARGET COMPOUND IDENTIFICATION

The laboratory analyzed for 18 polynuclear aromatic hydrocarbons using GC/MS-Selective Ion Monitoring (SIM) mode. Verification of compound identification is not verified at a Level III data validation. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

The reporting limits were supported by the laboratory MDL study dated July, 2000, and corresponded to the concentration level of the lowest standard in the initial calibration. Target compound quantitation is not verified at a Level III data validation. There were no reported target compound detects in the samples of this SDG. No qualifications were required.

2.12 SYSTEM PERFORMANCE

System performance is not evaluated at a Level III data validation. No qualification of the data was required.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PF126

Lab Name: CEIMIC CORP Contract: 32R-69813

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF125

Matrix: (soil/water) WATER Lab Sample ID: 010469-02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IB326

Level: (low/med) LOW Date Received: 06/01/01

% Moisture: _____ Decanted: (Y/N)___ Date Extracted: 06/05/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/13/01

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	ver qual	qual Dcod
62-75-9	N-Nitrosodimethylamine	0.1	U	U	
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U	UJ	C
207-08-9	Benzo(k)fluoranthene	0.1	U	U	
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U	UJ	C
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U	U	

AMEC VALIDATED

Level III

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PF132

Lab Name: CEIMIC CORP Contract: 32R-69813

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF125

Matrix: (soil/water) WATER Lab Sample ID: 010469-08

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IB327

Level: (low/med) LOW Date Received: 06/01/01

% Moisture: _____ Decanted: (Y/N)___ Date Extracted: 06/05/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/13/01

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	U	
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U	UJ	C
50-32-8	Benzo(a)pyrene	0.1	U	U	
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U	UJ	C
191-24-2	Benzo(g,h,i)perylene	0.1	U	U	

AMEC VALIDATED

Level III

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PF133

Lab Name: CEIMIC CORP Contract: 32R-69813

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF125

Matrix: (soil/water) WATER Lab Sample ID: 010469-09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IB328

Level: (low/med) LOW Date Received: 06/01/01

% Moisture: _____ Decanted: (Y/N)___ Date Extracted: 06/05/01

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/13/01

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	U	
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U	UJ	C
50-32-8	Benzo(a)pyrene	0.1	U	U	
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U	UJ	C
191-24-2	Benzo(g,h,i)perylene	0.1	U	U	

AMEC VALIDATED

Level III

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701PP1
Task Order 313150
SDG No. PF125
No. of Analyses 2

Laboratory Celmic
Reviewer P. Meeks
Analysis/Method PCBs

Date: July 12, 2001
Reviewer's Signature
P. Meeks

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were applied for continuing calibration %D outlier.
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

Rocketdyne
Shallow Groundwater

ANALYSIS: PESTICIDES/PCBs

SAMPLE DELIVERY GROUP: PF125

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, Shallow Groundwater
Contract Task Order #:	313150002
SDG#:	PF125
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	PCBs
QC Level:	III
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Reviewer:	P. Meeks
Date of Review:	July 10, 2001

The samples listed in Table 1 were validated based on *AMEC Data Validation Procedure for Levels C and D pesticides/PCBs (DVP-4, Rev. 2)*, *Ceimic Corporation, SOP No. 8082, Revision 0 (11/98)*, *PCB Analysis by SW846 Method 8082*, USEPA SW846 *Test Methods for Evaluating Solid Wastes, Method 8082 and Method 8000B* (12/96), and the USEPA CLP *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. These procedures are designed to meet the data quality objectives required by the Camp Edwards Impact Area Groundwater Quality Study Quality Assurance/Quality Control Plan for all analyses at the requested QC level. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
PZ090GW01S01	PF125	010469-01	water	8082
PZ082GW01S01	PF133	010469-09	water	8082

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

Cooler temperatures were not noted on the COCs, but were noted on the laboratory's Cooler Receiving Checklist. According to the checklist, the cooler temperatures were within the established QC guidelines of 4°C ± 2°C. No qualifications were required.

2.1.2 Chain of Custody

The COCs were legible and were signed by the field and laboratory personnel. The COCs accounted for the samples in the SDG. According to laboratory Receiving Checklist, all samples were received intact. There were no custody seals on the coolers. No information was provided about sample container custody seals. No qualifications were required based on sample receipt information.

2.1.3 Holding Times

Both water samples were extracted within seven days from the date of sample collection and both extracts were analyzed within 40 days of extraction. No qualifications were required.

2.2 PESTICIDES INSTRUMENT PERFORMANCE

No resolution check standards or breakdown check standards are required by Method 8082, and according to the raw data provided, these check standards were not analyzed by the laboratory. A cursory review of the raw data indicated that the analytical run time was of sufficient length to provide adequate standard separation. The two analytical columns used in the analyses were within the guidelines specified in the Method.

No surrogate or calibration retention time windows are specified in Method 8082. According to the laboratory SOP, the retention time windows for tetrachloro-m-xylene, decachlorobiphenyl, and Aroclor peaks are ± 0.05 minutes, ±0.10 minutes, and ±0.07 minutes, respectively. A cursory review of the raw data indicated that the retention time criteria were met for the surrogates and Aroclor calibration standards. No qualifications were required.

2.3 CALIBRATION

2.3.1 Analytical Sequence

Based on the data provided, the analytical sequence was in accordance with the requirements of the laboratory SOP and Method 8082. No qualifications were necessary.

2.3.2 Initial Calibration

The initial calibrations associated with the samples of this SDG consisted of five-point curves for Aroclors 1016, 1242, 1254, and 1260, and single-point calibrations for Aroclors 1221, 1232, and 1248. The initial calibration was initiated on 05/24/01. To determine the %RSDs, individual peak %RSDs were calculated and then averaged for each Aroclor. The averaged %RSDs were then used to evaluate the initial calibration curves. The %RSDs for the five initial five-point calibration curves were less than or equal to the Method 8000B QC limit of 20%. Due to software limitations, summary forms were not provided for the initial calibration. No qualifications were required.

2.3.3 Continuing Calibration

Continuing calibrations consisted of a standard mix of Aroclors 1016 and 1260 analyzed at 12-hour intervals. The %Ds for the continuing calibrations were determined by averaging the results for the quantitation peaks. All %RPDs were within the Method QC limit of 15%, except for Aroclor-1260 analyzed on 06/12/01 at 13:05; therefore, the nondetected results for Aroclor-1260 in both site samples were qualified as estimated, "UJ." No summary forms were provided by the laboratory; therefore, %Ds were calculated from the raw data. No further qualifications were required.

2.4 BLANKS

2.4.1 Instrument Blanks

Instrument blank summary forms were provided in the raw data package. No target compound detects were present at or above the reporting limits. No qualifications were necessary.

2.4.2 Method Blanks

One soil method blank (PBLK01) was extracted and analyzed with the samples in this SDG. No target compound detects were present at or above the reporting limits. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (PLCS01) was extracted and analyzed with the samples in this SDG. The blank spike was fortified with Aroclors 1016 and 1260, in compliance with Method 8082 and the laboratory SOP. Recoveries were within the laboratory-established QC limits for both compounds and therefore, no qualifications were required. No qualifications were required.

2.6 SURROGATE RECOVERY

Both samples, the blank, and the spike were noted to contain the surrogate compounds tetrachloro-m-xylene and decachlorobiphenyl. All sample surrogate recoveries were within the laboratory-established QC limits of 33-106% for tetrachloro-m-xylene and 37-137% for decachlorobiphenyl. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analysis was performed in conjunction with the samples in this SDG. Method accuracy was evaluated based on blank spike performance. No qualifications were required.

2.8 SAMPLE CLEANUP PERFORMANCE

No information was provided about sulfuric acid smaple cleanup, either in the case narrative or in the raw data package. No qualifications were required.

2.9 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based on method blanks and laboratory QC samples for useability. Any remaining detects are used to evaluate the associated samples. The following are findings associated with field QC samples:

2.9.1 Field Blanks and Equipment Rinsates

Sample PF149 (SDG PF145) was identified as the equipment rinsate and sample PF148 (SDG PF145) was identified as the field blank associated with both site samples. No target compound detects were present in either field QC sample; therefore, no qualifications were required.

2.9.2 Field Duplicates

No field duplicate samples were associated with the samples in this SDG. Field duplicates are required at a 10% frequency per matrix and therefore, may not be present in every data set. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

Compound identification is not verified at a Level III validation. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is not verified at a Level III validation. Reporting limits were in accordance with the laboratory MDL study dated April, 2000, and were supported by the low level standard. No qualifications were required.

FORM 1
PESTICIDE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF125

Lab Name: CEIMIC CORP Contract: ROCKETDYNE

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF125

Matrix: (soil/water) WATER Lab Sample ID: 010469-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ Decanted: (Y/N) ___ Date Received: 06/01/01

Extraction: (Type) SEPF Date Extracted: 06/05/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/12/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qu Cod
12674-11-2	Aroclor-1016	1.0	U	U	
11104-28-2	Aroclor-1221	2.0	U		
11141-16-5	Aroclor-1232	1.0	U		
53469-21-9	Aroclor-1242	1.0	U		
12672-29-6	Aroclor-1248	1.0	U		
11097-69-1	Aroclor-1254	1.0	U		
11096-82-5	Aroclor-1260	1.0	U	UJ	C

AMEC VALIDATED

LEVEL III

FORM 1
PESTICIDE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF133

Lab Name: CEIMIC CORP Contract: ROCKETDYNE

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF125

Matrix: (soil/water), WATER Lab Sample ID: 010469-09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ Decanted: (Y/N) ___ Date Received: 06/01/01

Extraction: (Type) SEPF Date Extracted: 06/05/01

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/12/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
12674-11-2	Aroclor-1016	1.0	U	U	
11104-28-2	Aroclor-1221	2.0	U		
11141-16-5	Aroclor-1232	1.0	U		
53469-21-9	Aroclor-1242	1.0	U		
12672-29-6	Aroclor-1248	1.0	U		
11097-69-1	Aroclor-1254	1.0	U		
11096-82-5	Aroclor-1260	1.0	U	UJ	C

AMEC VALIDATED

LEVEL III

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701TF1
Task Order
SDG No. PF125
No. of Analyses 5

Laboratory Ceimic
Reviewer H. Chang
Analysis/Method Total Fuel Hydrocarbons

Date: 7/11/01
Reviewer's Signature H. Chang

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Samples were qualified for low surrogate and low LCS recoveries.
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
Shallow Groundwater

ANALYSIS: TOTAL FUEL HYDROCARBONS

SAMPLE DELIVERY GROUP: PF125

Prepared by

AMEC—Denver Operations
550 South Wadsworth Blvd. Suite 500
Lakewood, CO 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, Shallow Groundwater
SDG#:	PF125
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	Total Fuel Hydrocarbons
QC Level:	III
No. of Samples:	5
No. of Reanalyses/Dilutions:	0
Reviewer:	H. Chang
Date of Review:	July 11, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC *Project Procedures Manual* data validation procedure for Levels C and D total fuel hydrocarbons (SOP DVP-8, Rev. 2) and USEPA SW-846 Method 8015B. Any deviations from this procedure are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	COC Method
PZ090GW01S01	PF125	010469-01	water	8015OG
PZ054GW01S01	PF127	010469-03	water	8015OG
PZ043GW01S01	PF128	010469-04	water	8015OG
PZ082GW01S01	PF133	010469-09	water	8015OG
PZ079GW01S01	PF137	010469-13	water	8015OG

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples were received at the laboratory with cooler temperatures within 4°C ± 2°C. No problems with sample handling and trasport were noted and no qualifications were required.

2.1.2 Chain of Custody

The COCs were present for the samples in this SDG and were legible. All samples were accounted for on the COC, and all COC were signed by both field and laboratory personnel. No qualifications were required.

2.1.3 Holding Times

The samples were extracted within 7 day of sampling and analyzed within 40 days of extraction; therefore, no qualifications were necessary.

2.2 CALIBRATION

The initial calibration associated with this SDG consisted of a standard containing n-alkanes analyzed at five concentration levels. All %RSDs for the initial calibration were below the QC limit of 20%; therefore, no qualifications were necessary.

The continuing calibrations consisted of a mid-level (50 ppm) standard containing n-alkanes. All %Ds were below the QC limit of 15%; therefore, no qualifications were necessary.

2.3 BLANKS

The laboratory analyzed one water blank with this SDG. There were no detects in the method blank; therefore, no qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory analyzed one water blank spike with this SDG. The gasoline and kerosene ranges had recoveries below the laboratory QC limits. The gasoline and kerosene ranges were qualified as estimated nondetects, "UJ," in all samples.

2.5 SURROGATE RECOVERY

The surrogate recoveries for n-decane were below the laboratory QC limits in samples PF125, PF127, and PF133. All nondetects in these samples were qualified "UJ."

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were performed in this SDG; therefore, no evaluation was performed on this basis and no qualifications were required.

2.7 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based only on method blanks. Any remaining detects are used to evaluate the associated samples.

Following are findings associated with field QC samples:

2.7.1 Field Blanks and Equipment Rinsates

Samples PF148 and PF149 were identified as the field blank and equiment rinsate, respectively, associated with the samples in this SDG. There were no detects in either of the field QC samples; therefore, no qualifications were required.

2.7.2 Field Duplicates

No field duplicates were identified in this SDG. Since they are required at a frequency of 10% per matrix for the site samples; consequently, field duplicates are not required in every package.

2.8 COMPOUND IDENTIFICATION

Compound identification was defined by hydrocarbon ranges based on retention times from an n–alkane standard. Compound identification was not verified at Level III validation.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

The compound quantitation was not verified at Level III validation.

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified SW846 Method 8015B

Client: AMEC

Client Sample ID: PF125

Date Sampled: 05/30/01

Date Sample Received: 06/01/01

Matrix: Water

Laboratory ID: 010469-01

Date Sample Extracted: 06/05/01

Date Sample Analyzed: 06/08/01

Associated Method Blank: F0605-BB10

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	Rev Qual	Qual Code	Quantitation Limit
C08-C11 (Gasoline Range)	ND	UJ	SL	0.100
C11-C14 (Kerosene Range)	ND	↓	↓	0.100
C14-C20 (Diesel Range)	ND			0.100
C20-C30 (Lubricant Oil Range)	ND			0.100

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	(52)	55 - 112
n-Eicosane	73	80 - 127
p-Terphenyl-d14	71	87 - 109

Level III

AMEC VALIDATED

Reported by: TS

Approved by:

Form I TPH

C714

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified SW846 Method 8015B

Client: AMEC

Client Sample ID: PF127

Date Sampled: 05/29/01

Date Sample Received: 06/01/01

Matrix: Water

Laboratory ID: 010469-03

Date Sample Extracted: 06/05/01

Date Sample Analyzed: 06/08/01

Associated Method Blank: F0605-BB10

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	Rev Qual	Qual Code	Quantitation Limit
C08-C11 (Gasoline Range)	ND	UJ	S, L	0.100
C11-C14 (Kerosene Range)	ND	↓	L	0.100
C14-C20 (Diesel Range)	ND	↓	↓	0.100
C20-C30 (Lubricant Oil Range)	ND	↓	↓	0.100

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	42	55 - 112
n-Eicosane	65	80 - 127
p-Terphenyl-d14	67	87 - 109

Level III

AMEC VALIDATED

Reported by: TS

Approved by: [signature]

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified SW846 Method 8015B

Client: AMEC

Client Sample ID: PF128

Date Sampled: 05/29/01

Date Sample Received: 06/01/01

Matrix: Water

Laboratory ID: 010469-04

Date Sample Extracted: 06/05/01

Date Sample Analyzed: 06/08/01

Associated Method Blank: F0605-BB10

Final Extract Volume (mL): 1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	Rev Qual	Qual Code	Quantitation Limit
C08-C11 (Gasoline Range)	ND	UJ	L	0.100
C11-C14 (Kerosene Range)	ND	UJ	L	0.100
C14-C20 (Diesel Range)	ND	U		0.100
C20-C30 (Lubricant Oil Range)	ND	U		0.100

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	55	55 - 112
n-Eicosane	83	80 - 127
p-Terphenyl-d14	83	87 - 109

Level III

AMEC VALIDATED

Reported by: TS

Approved by:

Form I TPH

0718

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified SW846 Method 8015B

Client: AMEC

Client Sample ID: PF133

Date Sampled: 05/30/01

Date Sample Received: 06/01/01

Matrix: Water

Laboratory ID: 010469-09

Date Sample Extracted: 06/05/01

Date Sample Analyzed: 06/08/01

Associated Method Blank: F0605-BB10

Final Extract Volume (mL): 1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	Rev Qual	Qual Code	Quantitation Limit
C08-C11 (Gasoline Range)	ND	UJ	SL	0.100
C11-C14 (Kerosene Range)	ND	↓	L	0.100
C14-C20 (Diesel Range)	ND		↓	0.100
C20-C30 (Lubricant Oil Range)	ND			0.100

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	(40)	55 - 112
n-Eicosane	68	80 - 127
p-Terphenyl-d14	67	87 - 109

Level III

AMEC VALIDATED

Reported by: TS

Approved by:

Form I TPH

(7.2)

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified SW846 Method 8015B

Client: AMEC

Client Sample ID: PF137

Date Sampled: 05/29/01

Date Sample Received: 06/01/01

Matrix: Water

Laboratory ID: 010469-13

Date Sample Extracted: 06/05/01

Date Sample Analyzed: 06/08/01

Associated Method Blank: F0605-BB10

Final Extract Volume (mL): 1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	Rev Qual	Qual Code	Quantitation Limit
C08-C11 (Gasoline Range)	ND	UJ	L	0.100
C11-C14 (Kerosene Range)	ND	UJ	L	0.100
C14-C20 (Diesel Range)	ND	U		0.100
C20-C30 (Lubricant Oil Range)	ND	U		0.100

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	63	55 - 112
n-Eicosane	83	80 - 127
p-Terphenyl-d14	81	87 - 109

Level IV

AMEC VALIDATED

Reported by: TS

Approved by:

Form I TPH

0722

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	1,4-Dioxane by Method 8260B/SIM
QC Level:	V
SDG:	PF094
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	2
Date Reviewed:	August 21, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF095, PF095RE, PF099, PF099RE

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC, and additional receipt information was not provided by the laboratory. Both samples were originally analyzed within 14 days of sample collection; however, according to the case narrative for this SDG, both samples were reanalyzed outside of the holding time due to method blank contamination associated with the original analyses (see section 4).	As the reanalyses were retained, sample results were qualified as estimated, "J," for the detect in sample PF095RE and "UJ," for the nondetect in sample PF099RE.
4. Method Blanks	Two water method blanks (VBLKLC and VBLKLZ) were analyzed with this SDG. Target compound 1,4-dioxane detected at a concentration of 2 µg/L in VBLKLC, associated with the original sample analyses, PF095 and PF099. 1,4-Dioxane was not detected in VBLKLZ, associated with the reanalyses, PF095RE and PF099RE.	Due to the level of method blank contamination in VBLKLC, the reviewer deemed it appropriate to reject ("R") the original analyses, PF095 and PF099, in favor of the reanalyses, PF095RE and PF099RE.
5. LCS/BS	Two LCSs (VLCSLA and VLCSLZ) were analyzed with this SDG. The recoveries for 1,4-dioxane were within the laboratory QC limits of 85-115%.	No qualifications were required.

	Findings	Qualifications
6. Surrogates	Surrogate recoveries for all sample analyses were within the laboratory QC limits of 60-140%.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples TB: None ER: PF315 (SDG PF304) FB: PF109 FD: None	1,4-Dioxane was not reported in the equipment rinsate or in the field blank (from the unvalidated portion of this SDG).	No qualifications were required.
9. Other	The samples in this SDG were analyzed for 1,4-dioxane only. Although atypical for SIM analyses, TIC summaries were provided by the laboratory for the samples in this SDG. No TICs were reported in the sample analyses. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard.	No qualifications were required.
Comments	The laboratory placed the "RE" suffix on the sample IDs of the original analyses of the samples, rather than on the reanalyses. As the later analyses are technically the reanalyses, the reviewer manually corrected the Form Is for all analyses.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF095~~RE~~

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-02~~RE~~

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC874

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. ________ Date Analyzed: 06/04/01

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
123-91-1	1,4-Dioxane	8	B	R	D

MC 08 21 03

FORM I VOA

AMEC VALIDATED
LEVEL IV

0077

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF095RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-02RE

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC874

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/04/01

GC Column: ID: 2.00 (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.					
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29.					
30.					

WC 09.21.03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF095RB

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-02RB

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC922

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/06/01

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	10		J	H

MC 08.21.03

AMEC VALIDATED
LEVEL IV

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF095RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-02RE

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC922

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/06/01

GC Column: ID: 2.00 (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.					
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MC 08.21.03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF099~~RE~~

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-06~~RE~~

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC875

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/04/01

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	3	B	R	D

MC 02.21.03

AMEC VALIDATED LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF099RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-06RE

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC875

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/04/01

GC Column: ID: 2.00 (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
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dc

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF099RB

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-06RB

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC924

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/06/01

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	1	U	UJ	H

MC 08.21.03

AMEC VALIDATED
LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF099RE

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF094

Matrix: (soil/water) WATER Lab Sample ID: 010436-06RE

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: LC924

Level: (low/med) LOW Date Received: 05/24/01

% Moisture: not dec. _____ Date Analyzed: 06/06/01

GC Column: ID: 2.00 (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
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AMEC VALIDATED

LEVEL IV

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701WC1
Task Order 313150002
SDG No. ~~RJ579~~ PF125 pm 07/16/01
No. of Analyses 5

Laboratory Ceimic
Reviewer P. Meeks
Analysis/Method General Minerals

Date: July 10, 2001
Reviewer's Signature
P. Meeks

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	
Acceptable as reviewed.	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
Shallow Groundwater

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: PF125

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Project:	Rocketdyne Shallow Groundwater
Contract Task Order #:	313150002
SDG#:	PF125
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	General Minerals
QC Level:	IV
No. of Samples:	5
No. of Reanalyses/Dilutions:	0
Reviewer:	P. Meeks
Date of Review:	July 10, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the *AMEC Data Validation Procedures* SOP DVP-6, Rev. 2, Wet Chemistry Analysis and the *National Functional Guidelines for Inorganic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on the Sample Result Forms with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
PZ089GW01D01	PF131	010469-07	water	perchlorate
PZ089GW01S01	PF132	010469-08	water	perchlorate
PZ080GW01S01	PF135	010469-11	water	perchlorate
PZ080GW01D01	PF136	010469-12	water	perchlorate
PZ074GW01S01	PF142	010469-18	water	perchlorate

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples arrived within the temperature limit of 4°C±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were required.

2.1.2 Chain of Custody

The COCs in the package were legible, were signed by the field and laboratory personnel, and accounted for the analyses presented in the data package. The sample condition questions were not answered on the COCs, but sample receiving checklists with this and additional information were included for all the samples. No custody seals were present on the two coolers. There was no documentation as to whether custody seals were present on the sample containers. No qualifications were required.

2.1.3 Holding Times

Holding times were assessed by comparing the dates of collection with the dates of analysis. The 28 day holding time for the perchlorate analyses was met. No qualifications were necessary.

2.2 CALIBRATION

All perchlorate ICV and CCV results in the raw data showed acceptable %Rs, 90-110%. No qualifications were required based on the calibration information.

2.3 BLANKS

The perchlorate results reported on the summary form and in the raw data for blank analyses associated with these samples were nondetects at the reporting limit, and no qualifications were necessary.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The perchlorate laboratory control sample %R for these analyses was within laboratory-established control limits of 80 - 120%. No qualifications were required.

2.5 LABORATORY DUPLICATES

No laboratory duplicate analyses were performed in association with the samples in this SDG; therefore, no assessment was made with respect to this criteria.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No matrix spike analyses were performed in association with the samples in this SDG; therefore, no assessment was made with respect to this criteria.

2.8 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for all samples in this data package. Calculations were verified, sample results reported on the Form Is were verified against the raw data, and no transcription errors or calculations errors were noted.

No perchlorate peak was evident in samples PF135 and PF136; however, these samples exhibited matrix interference in the form of a nonlinear baseline. The laboratory analyst spiked sample PF135 with a low-level of perchlorate, 0.01 mg/L. The recovery for this spiked sample was acceptable at 90%, indicating that the matrix did not interfere with the detection of low levels of perchlorate. No qualifications were necessary.

2.9 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.9.1 Field Blanks and Equipment Rinsates

Sample PF148 (SDG: PF145) was identified as the field blank and sample PF149 (SDG: PF145) was identified as the equipment rinsate associated with the samples in this SDG. Perchlorate was not detcted in either field QC sample. No qualifications were necessary.

2.9.2 Field Duplicates

Samples PF131/PF132 and PF135/PF136 were identified as the field duplicate pairs associated with the samples in this package. Qualifications are not assigned to sample results on the basis of field duplicate pairs; however, RPDs are calculated between results for these samples. If RPDs are greater than 50% for waters or 100% for soils, the RPDs and affected analytes are noted in the data validation report. Perchlorate was not detected in any of the field duplicate samples.

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: AMEC

Client Sample ID: PF131

Date Sampled: 05/29/01

Laboratory ID: 010469-07

Date Sample Received: 06/01/01

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	mg/L	0.005	06/04/01	06/04/01	U	

ND = Not Detected

AMEC VALIDATED

LEVEL IV

Reported by: CBL2

Approved by: LM

0815

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: AMEC

Client Sample ID: PF132

Date Sampled: 05/29/01

Laboratory ID: 010469-08

Date Sample Received: 06/01/01

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Lab Qual	Qual Code
Perchlorate	ND	mg/L	0.005	06/04/01	06/04/01	U	

ND = Not Detected

AMEC VALIDATED

LEVEL IV

Reported by: ICBF

Approved by: RM

0816

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: AMEC

Client Sample ID: PF135

Date Sampled: 05/29/01

Laboratory ID: 010469-11

Date Sample Received: 06/01/01

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	mg/L	0.005	06/04/01	06/04/01	U	

ND = Not Detected

AMEC VALIDATED

LEVEL IV

Reported by: [illegible]

Approved by: [illegible]

0317

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: AMEC

Client Sample ID: PF136

Date Sampled: 05/29/01

Laboratory ID: 010469-12

Date Sample Received: 06/01/01

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Lab Qual	Qual Code
Perchlorate	ND	mg/L	0.005	06/04/01	06/04/01	U	

ND = Not Detected

AMEC VALIDATED

LEVEL IV

Reported by: [illegible]

Approved by: LM

0818

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: AMEC

Client Sample ID: PF142

Date Sampled: 05/30/01

Laboratory ID: 010469-18

Date Sample Received: 06/01/01

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	0.019	mg/L	0.005	06/04/01	06/04/01		

AMEC VALIDATED

LEVEL IV

Reported by: KBF

Approved by: JM

0819

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701DF2
Task Order 3131500006/7
SDG No. PF125
No. of Analyses 2

Laboratory Pace
Reviewer E. Wessling
Analysis/Method Dioxins/Furans

Date: July 20 2001
Reviewer's Signature Elizabeth A. Wess

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]

Acceptable as reviewed.

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
Shallow Groundwater

ANALYSIS: POLYCHLORINATED DIOXINS AND FURANS

SAMPLE DELIVERY GROUPS: PF125

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, Shallow Groundwater
SDG#:	PF125
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	Dioxins/Furans
QC Level:	III
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Reviewer:	E. Wessling
Date of Review:	July 20, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the *National Functional Guidelines for Organic Data Review* (2/94) and SW-846 Method 8290 (9/94). Any deviations from this guideline and method are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab ID	Matrix	COC Method
PZ076GW01S01	PF126	102792041	water	8290
PZ054GW01S01	PF127	102792058	water	8290

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples were received at Ceimic with cooler temperatures of 5 °C. The cooler temperature was not recorded at Pace Analytical Services. No qualifications were required since the cooler temperature has little or no effect on the dioxin/furan compounds. No other problems with sample handling and transport were noted.

2.1.2 Chain of Custody

Two sets of COCs, one from the field to Ceimic and the other from Ceimic to Pace Analytical Services, were present for the samples in this SDG and were legible. All samples were accounted for on the COCs. The COCs from the field were signed by both field and laboratory personnel, and the transfer COCs were signed by both laboratory personnel. No qualifications were required.

2.1.3 Holding Times

All samples were extracted within 30 days of sampling and analyzed within 45 days of extraction; therefore, no qualifications were necessary.

2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

2.2.1 GC Column Performance

A column performance mixture (CPM) was analyzed prior to every analytical sequence. CPM analysis V10627C was acceptable with resolution between 2,3,7,8-TCDD and the non-2,3,7,8-substituted TCDDs below 25%. The CPM contained appropriate first and last eluting congeners for windows definition. No qualifications were required.

2.2.2 Mass Spectrometer Performance

The case narrative stated that the mass spectrometer resolution is verified prior to each analysis and hardcopies of the reference peaks are printed at the beginning and end of each day. The method specifies that the mass resolution be verified at the beginning and end of each 12 hour analytical sequence. The laboratory did not provide the hardcopy for the evaluation of the mass resolution; therefore, the evaluation was not performed. No qualifications were required.

2.3 CALIBRATION

Following are findings associated with calibrations.

2.3.1 Initial Calibration

One set of initial calibration data was provided dated 05/31/01, which consisted of five concentration levels. The laboratory made several deviations to the concentrations of the calibration standards. These deviations were considered acceptable, as no performance degradation was noted. All %RSDs were acceptable with %RSDs below 20% for unlabeled and 30% for the labeled compounds. All ion abundance data met the method specified criteria. No qualifications were required.

2.3.2 Continuing Calibration

The continuing calibration verification was performed at the beginning and end of each analytical sequence. All continuing calibrations were acceptable with %Ds below 20% for the unlabeled and 30% for the labeled compounds. All ion abundance data met the method specified criteria. No qualifications were required.

2.4 BLANKS

There was one method blank extracted and analyzed in this SDG. Blank-1129 had nondetects for all compounds. No qualification was necessary.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

A blank spike blank/spike duplicate pair was analyzed in association with the samples in this SDG. All recoveries were within the laboratory QC limits of 70-130% except for the penta-furans and the hexa-dioxins which were above QC limits in the blank spike, and all compounds in the blank spike duplicate which were below the QC limits. No qualifications were required since there was inconclusive indications of poor laboratory performance.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No samples were utilized for the MS/MSD analyses in this SDG. No evaluation made on this basis and no qualifications were required.

2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

2.7.1 Field Blanks and Equipment Rinsates

Sample PF148 (SDG PF145) was identified as the field blank. PF149 (SDG PF145) was identified as the equipment rinsate associated with these samples. As there were no detects in the field samples, no contamination was indicated from field sampling procedures. No qualifications were required.

2.7.2 Field Duplicates

There were no field duplicates identified in this SDG. No evaluation was made on this basis.

2.8 INTERNAL STANDARDS

The laboratory utilized 15 labeled internal standards instead of nine specified in the method. This deviation was acceptable. All internal standard recoveries were within the method QC limits of 40-135% for all samples; therefore, no qualifications were necessary.

2.9 COMPOUND IDENTIFICATION

The identification of the reported detects was not verified from the raw data. Raw data is not evaluated at Level III. No qualifications were required.

2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

The compound quantitations was not verified from the raw data as raw data is not evaluated at Level III. No qualifications were required.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Analysis Results

Client - CEIMIC

Client's Sample ID	PF126 (010469-02)		
Lab Sample ID	102792041		
Filename	V10627J		
Injected By	BAL		
Total Amount Extracted	991.45 mL	Matrix	WATER
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	05/30/2001
ICAL Date	05/31/2001	Received	06/12/2001
CCal Filename(s)	V10627C & V10627O	Extracted	06/15/2001
Method Blank ID	BLANK-1129	Analyzed	06/27/2001 16:24

Native Isomers	Conc ng/L	EMPC ng/L	LRL ng/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.0020	2,3,7,8-TCDF-13C	2.00	58
Total TCDF	ND	-----	0.0020	2,3,7,8-TCDD-13C	2.00	67
				1,2,3,7,8-PeCDF-13C	2.00	70
2,3,7,8-TCDD	ND	-----	0.0020	2,3,4,7,8-PeCDF-13C	2.00	64
Total TCDD	ND	-----	0.0020	1,2,3,7,8-PeCDD-13C	2.00	79
				1,2,3,4,7,8-HxCDF-13C	2.00	71
1,2,3,7,8-PeCDF	ND	-----	0.0100	1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	ND	-----	0.0100	2,3,4,6,7,8-HxCDF-13C	2.00	72
Total PeCDF	ND	-----	0.0100	1,2,3,7,8,9-HxCDF-13C	2.00	72
				1,2,3,4,7,8-HxCDD-13C	2.00	79
1,2,3,7,8-PeCDD	ND	-----	0.0100	1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	ND	-----	0.0100	1,2,3,4,6,7,8-HpCDF-13C	2.00	73
				1,2,3,4,7,8,9-HpCDF-13C	2.00	75
1,2,3,4,7,8-HxCDF	ND	-----	0.0100	1,2,3,4,6,7,8-HpCDD-13C	2.00	88
1,2,3,6,7,8-HxCDF	ND	-----	0.0100	OCDD-13C	4.00	69
2,3,4,6,7,8-HxCDF	ND	-----	0.0100			
1,2,3,7,8,9-HxCDF	ND	-----	0.0100	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.0100	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.0100	2,3,7,8-TCDD-37Cl4	0.20	70
1,2,3,6,7,8-HxCDD	ND	-----	0.0100			
1,2,3,7,8,9-HxCDD	ND	-----	0.0100			
Total HxCDD	ND	-----	0.0100			
1,2,3,4,6,7,8-HpCDF	ND	-----	0.0100	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.0100	Equivalence: 0.00 ng/L		
Total HpCDF	ND	-----	0.0100	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.0100			
Total HpCDD	ND	-----	0.0100			
OCDF	ND	-----	0.0200			
OCDD	ND	-----	0.0200			

AMEC VALIDATED

Level III

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
A = Detection Limit based on signal-to-noise measurement
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit
I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion

Report No.....01-1045562

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Analysis Results

Client - CEIMIC

Client's Sample ID	PF127 (010469-03)		
Lab Sample ID	102792058		
Filename	V10627K		
Injected By	BAL		
Total Amount Extracted	995.1 mL	Matrix	WATER
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	05/29/2001
ICAL Date	05/31/2001	Received	06/12/2001
CCal Filename(s)	V10627C & V10627O	Extracted	06/15/2001
Method Blank ID	BLANK-1129	Analyzed	06/27/2001 17:23

Native Isomers	Conc ng/L	EMPC ng/L	LRL ng/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.00200	2,3,7,8-TCDF-13C	2.00	71
Total TCDF	ND	-----	0.00200	2,3,7,8-TCDD-13C	2.00	81
				1,2,3,7,8-PeCDF-13C	2.00	91
2,3,7,8-TCDD	ND	-----	0.00200	2,3,4,7,8-PeCDF-13C	2.00	87
Total TCDD	ND	-----	0.00200	1,2,3,7,8-PeCDD-13C	2.00	100
				1,2,3,4,7,8-HxCDF-13C	2.00	87
1,2,3,7,8-PeCDF	ND	-----	0.01000	1,2,3,6,7,8-HxCDF-13C	2.00	98
2,3,4,7,8-PeCDF	ND	-----	0.01000	2,3,4,6,7,8-HxCDF-13C	2.00	89
Total PeCDF	ND	-----	0.01000	1,2,3,7,8,9-HxCDF-13C	2.00	89
				1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	ND	-----	0.01000	1,2,3,6,7,8-HxCDD-13C	2.00	88
Total PeCDD	ND	-----	0.01000	1,2,3,4,6,7,8-HpCDF-13C	2.00	93
				1,2,3,4,7,8,9-HpCDF-13C	2.00	95
1,2,3,4,7,8-HxCDF	ND	-----	0.01000	1,2,3,4,6,7,8-HpCDD-13C	2.00	106
1,2,3,6,7,8-HxCDF	ND	-----	0.01000	OCDD-13C	4.00	85
2,3,4,6,7,8-HxCDF	ND	-----	0.01000			
1,2,3,7,8,9-HxCDF	ND	-----	0.01000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.01000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.01000	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	ND	-----	0.01000			
1,2,3,7,8,9-HxCDD	ND	-----	0.01000			
Total HxCDD	ND	-----	0.01000			
1,2,3,4,6,7,8-HpCDF	ND	-----	0.01000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.01000	Equivalence: 0.00 ng/L		
Total HpCDF	ND	-----	0.01000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.01000			
Total HpCDD	ND	-----	0.01000			
				AMEC VALIDATED		
OCDF	ND	-----	0.02000			
OCDD	ND	-----	0.02000	Level III		

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
A = Detection Limit based on signal-to-noise measurement
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit
I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion

Report No.....01-1045562

REPORT OF LABORATORY ANALYSIS

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701EX1
Task Order
SDG No. PF145
No. of Analyses 3

Laboratory Clinic
Reviewer H. White
Analysis/Method Explosives

Date: 07/11/01
Reviewer's Signature Jedi D. White

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	Acceptable as Screened

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

Rocketdyne
Shallow Groundwater

ANALYSIS: EXPLOSIVES

SAMPLE DELIVERY GROUP: PF145

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	Rocketdyne, Shallow Groundwater
Contract Task Order #:	313150002
SDG#:	PF145
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	Explosives
QC Level:	III
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Reviewer:	H. White
Date of Review:	July 11, 2001

The samples listed in Table 1 were validated based on the general guidelines outlined in the AMEC *Data Validation Procedures* SOP DVP-16, Rev. 0, *Ceimic Corporation, Nitroaromatics and Nitramines by High PerformanceLiquid Chromatography (HPLC) by SW846 Method 8330, SOP No. 8330,* (03/98), USEPA SW-846 Method 8330, and validation guidelines outlined in the USEPA CLP *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures are documented herein. This procedure is designed to meet the data quality objectives required by the Camp Edwards Impact Area Groundwater Quality Study Quality Assurance/Quality Control Plan for all analyses at the requested QC level. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
PZ000QW01F05	PF148	010470-04	water	8330
PZ000QW01E05	PF149	010470-05	water	8330
PZ000QW01E06	PF150	010470-06	water	8330

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in this SDG were received at the laboratory within the temperature limits of 4°C ± 2°C. The analysis did not require preservation, and no preservation was noted in the field. According to the laboratory login sheets, the samples were received intact and in good condition. No qualifications were required.

2.1.2 Chain of Custody

The COCs were legible and were signed by the field and laboratory personnel. According to laboratory login sheets, all samples were received intact with appropriate custody seals on the coolers and sample containers. The COCs accounted for the samples in the SDG. No qualifications were required based on sample receipt information.

2.1.3 Holding Times

The water samples were extracted within seven days of the date of collection. The samples were analyzed within 40 days of extraction. No qualifications were required.

2.2 CALIBRATION

2.2.1 Initial Calibration

The initial calibration was analyzed on 11/14/00. The laboratory used a Luna Phenyl-Hexyl column as the primary analytical column. Photo-Diode Array spectra were provided for confirmation purposes. The initial calibration consisted of a five-point calibration for all compounds. A calibration curve is deemed acceptable if the coefficient of determination (r^2) value is ≥0.995. All compounds met the initial calibration criteria for the primary column. No qualifications were required.

An initial calibration second source verification standard (ICV) was analyzed immediately following each initial calibration. The %Ds for all target compounds were within the QC limit of 15%. No qualifications were required.

2.2.2 Continuing Calibration

A mid-level standard was used as the continuing calibration source analyzed prior to analysis of samples and following the sample analyses. The standards analyzed immediately prior to and subsequent to the cited samples were the only continuing calibration standards evaluated. The %Ds for all target compounds were within the laboratory-established QC limits of 15% for all continuing calibrations; therefore, no qualifications were required.

2.3 BLANKS

One water method blank (E0606-B5) was extracted and analyzed with the sample in this SDG. There were no target compound reported at or above the reporting limit in the method blank; therefore, no qualifications were required.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One water blank spike (E0606-LCS5) was extracted and analyzed with the sample in this SDG. The recoveries for all target compounds were within the laboratory-established QC limits of 30-150%. No qualifications were required.

2.5 SURROGATE RECOVERY

The sample of this SDG was fortified with 1,2-dinitrobenzene as the surrogate. All QC samples and the site sample were noted to contain the surrogate compound. The recovery was within the laboratory-established QC limits of 30-150% and therefore, no qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analysis was performed in conjunction with the samples in this SDG. Method accuracy was evaluated based on blank spike recoveries. No qualifications were required.

2.7 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and laboratory QC results. Any remaining detects were used to evaluate the associated samples. Following are findings associated with field QC samples:

2.7.1 Field Blanks and Equipment Rinsates

Sample PF148 was identified as a field blank and samples PF149 and PF150 were identified as the equipment rinsates. No site samples were present in this data package. No qualifications were required.

2.7.2 Field Duplicates

No field duplicates were associated with the sample in this SDG. Field duplicates are required at a 10% frequency and therefore, may not be present in every data set. No qualifications were required.

2.8 COMPOUND IDENTIFICATION

Samples were analyzed on the Luna Phenyl-Hexyl column with a UV detector at 250nm. The Phenyl-Hexyl column served as the primary column, with detects confirmed by PDA. PDA detection was performed in conjunction with the primary column analysis, and was utilized in evaluating the initial detects in the site samples. The respective target compound peak in the retention time window on the primary column was compared to an analytical standard from the initial calibration curve with a concentration closest to that of the peak in the window. No confirmed detects were present in the samples. No qualifications were required.

2.9 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified from the blank spike results. Reporting limits were supported by the low-level standard analyzed in the initial calibration. No detects were present in the samples. No qualifications were required.

EXPLOSIVES
EPA Method 8330

Client: AMEC

Client Sample ID: PF148

Date Sampled: 05/30/01

Date Sample Received: 06/01/01

Matrix: Aqueous

Laboratory ID: 010470-04

Date Sample Extracted: 06/06/01

Date Sample Analyzed: 06/08/01

Associated Method Blank: E0606-B5

Dilution Factor: 1

Concentration in: µg/L (ppb)

Target Analyte	Sample Concentration	Qual Code	Quantitation Limit
HMX	ND	U	1.0
1,3,5-TNB	ND		1.0
RDX	ND		1.0
1,3-DNB	ND		1.0
2,4,6-TNT	ND		1.0
TETRYL	ND		1.0
NB	ND		1.0
2,4,DNT	ND		1.0
2,6-DNT	ND		1.0
2-am-4,6-DNT	ND		1.0
4-am-2,6-DNT	ND		1.0
4-NT	ND		1.0
2-NT	ND		1.0
3-NT	ND		1.0

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
1,2-DNB	97	30 - 150

* For advisory purposes only.

AMEC VALIDATED

Level III

Reported by: TS

Approved by:

EXPLOSIVES
EPA Method 8330

Client: AMEC

Client Sample ID: PF149

Date Sampled: 05/30/01

Date Sample Received: 06/01/01

Matrix: Aqueous

Laboratory ID: 010470-05

Date Sample Extracted: 06/06/01

Date Sample Analyzed: 06/08/01

Associated Method Blank: E0606-B5

Dilution Factor: 1

Concentration in: µg/L (ppb)

Target Analyte	Sample Concentration	Qual	Qual Code	Quantitation Limit
HMX	ND	U		1.0
1,3,5-TNB	ND			1.0
RDX	ND			1.0
1,3-DNB	ND			1.0
2,4,6-TNT	ND			1.0
TETRYL	ND			1.0
NB	ND			1.0
2,4,DNT	ND			1.0
2,6-DNT	ND			1.0
2-am-4,6-DNT	ND			1.0
4-am-2,6-DNT	ND			1.0
4-NT	ND			1.0
2-NT	ND			1.0
3-NT	ND			1.0

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
1,2-DNB		30 - 150

* For advisory purposes only.

AMEC VALIDATED

Level III

Reported by: TS

Approved by:

EXPLOSIVES
EPA Method 8330

Client: AMEC

Client Sample ID: PF150

Laboratory ID: 010470-06

Date Sampled: 05/31/01

Date Sample Extracted: 06/06/01

Date Sample Received: 06/01/01

Date Sample Analyzed: 06/08/01

Matrix: Aqueous

Associated Method Blank: E0606-B5

Dilution Factor: 1

Concentration in: µg/L (ppb)

Target Analyte	Sample Concentration	Rev Qual / Qual Code	Quantitation Limit
HMX	ND	U	1.0
1,3,5-TNB	ND		1.0
RDX	ND		1.0
1,3-DNB	ND		1.0
2,4,6-TNT	ND		1.0
TETRYL	ND		1.0
NB	ND		1.0
2,4,DNT	ND		1.0
2,6-DNT	ND		1.0
2-am-4,6-DNT	ND		1.0
4-am-2,6-DNT	ND		1.0
4-NT	ND		1.0
2-NT	ND		1.0
3-NT	ND		1.0

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
1,2-DNB	94	30 - 150

* For advisory purposes only.

AMEC VALIDATED

Level III

Reported by: TS

Approved by: B

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Ogden Environmental and Energy Services Co., Inc.
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Package ID T701MT2
Task Order 313150002
SDG No. PF125
No. of Analyses 3

Laboratory Ceimic
Reviewer P. Meeks
Analysis/Method Metals

Date: July 16, 2001
Reviewer's Signature
P. Meeks

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	Qualifications were applied for
GC/MS Tune/Inst. Perform	1) Blank detects
Calibrations	2) Ag results 5 were rejected for low LCS %R
Blanks	3) Possible field QC contamination.
Surrogates	4) The result for PF133RE was rejected in favor
Matrix Spike/Dup LCS	of PF133
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	

COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

ROCKETDYNE
Shallow Groundwater

ANALYSIS: METALS

SAMPLE DELIVERY GROUP: PF125/PF133

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Project:	Rocketdyne Shallow Groundwater Program
Contract Task Order #:	313150002
SDG#:	PF125/PF133
Project Manager:	D. Hambrick
Matrix:	Water
Analysis:	Metals
QC Level:	III
No. of Samples:	3
No. of Reanalyses/Dilutions:	1
Reviewer:	P. Meeks
Date of Review:	July 10, 2001

The samples listed in Table 1 were validated based on the guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D metals and cyanide* (DVP-5, Rev.2), *USEPA SW-846 Methods 6010A, 7000A* (11/90), *and 7470A* (09/94), and the *National Functional Guidelines for Inorganic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on the Sample Result Forms with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Laboratory ID	Matrix	COC Method
PZ082GW01S01	PF133	010469-09	water	6010
PZ082GW01S01	PF133RE	010688-01	water	Arsenic only
PZ074GW01S01	PF142	010469-18	water	6010
PZ056GW01S01	PF143	010469-19	water	6010

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples arrived at the laboratory within the established temperature limit of 4±2°C. No sample preservation, handling or transport problems were noted for the metals samples. No sample qualifications were required.

2.1.2 Chain of Custody

The COCs in the package was legible and accounted for the analyses presented in the data package. The COCs were signed and dated by field and laboratory personnel. Sample receiving checklists were included for the samples. Custody seals were not present on the coolers. There was no documentation as to whether custody seals were present on the sample containers. The laboratory did not append the EPA ID of the reanalysis of PF133 with an "RE." The reviewer hand-corrected the EPA ID on the Form I for the reanalysis. No qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COCs and the date of analysis recorded in the raw data documented that all sample analyses were performed within the specified holding times of six months for ICP metals and 28 days for mercury. No qualifications were assigned to sample results.

2.2 CALIBRATION

All bracketing ICV and CCV results provided on the Form IIs showed acceptable %Rs, 90-110% for the ICP metals and 80-120% for mercury.

Silver was reported from an ICP sequence in which the instrument was standardized only for silver, boron, molybdenum, and the major interferents (aluminum, calcium, iron, and magnesium). In this sequence, the silver ICV and CCV recoveries were 95-99%. A cursory review of the raw data indicated that when silver was analyzed with the full suite of ICP metals, the silver ICV and CCVs were generally recovered below 90%. This incongruity can indicate a problem with the instrument's IEC or alignment of the photomultiplier tubes; therefore, the laboratory was contacted about the silver ICV and CCV results. At the time of this report, no information had been received from the laboratory regarding the source of the low silver recoveries. As the silver results were later rejected, "R," for a low LCS recovery, no qualifications were applied to the silver results.

2.3 BLANKS

Detects and negative results were reported in the calibration and method blanks associated with the samples in this SDG. The sample results were qualified for the blanks as follows:

Findings	Associated Samples	Qualification of Data
Barium was detected in CCB1, CCB2, and CCB3 at 5.5, 5.7, and 5.5 µg/L, respectively.	all site samples	Barium detected in the samples was qualified "UJ."
Cadmium was detected in CCB1, CCB2, and CCB3 at 1.2, 1.0, and 1.2 µg/L, respectively.	all site samples	Cadmium detected in the samples was qualified "UJ."
Lead was detected above the CRDL in CCB1, CCB2, and CCB3 at 3.5, 3.4, and 3.7 µg/L, respectively.	all site samples	Lead detected in the samples was qualified "UJ."

2.4 ICP INTERFERENCE CHECK SAMPLE (ICP ICS)

The results for the ICSAB analyses reported on the Form IVs were within established control limits, but there were detects in the ICSA analyses for arsenic, lead, and thallium, which are not present in the ICSA solution. The values of these results were greater than the applicable CRDLs. The validator reviewed the raw data for the site sample ICP analyses for the level of interferents, Al, Ca, Fe, and Mg, in the site sample matrices and determined that they were too low to cause possible interferences. No sample qualifications were required due to the ICS results.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

An aqueous ICP LCS sample was analyzed with this SDG. No aqueous mercury LCS was prepped and analyzed with the samples in this SDG. The LCS result reported on the Form VII was within the laboratory's control limits for the ICP metals, except for silver (31.8%). As the LCS recovery for silver was less than 50%, nondetected silver in all site samples was rejected, "R." No further qualifications were required.

2.6 LABORATORY DUPLICATES

No laboratory duplicate was analyzed in association with the samples in this SDG; therefore, no assessment was made with respect to this criteria.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No matrix spike was analyzed in association with the samples in this SDG; therefore, no assessment was made with respect to this criteria.

2.8 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of these samples; therefore, furnace atomic absorption QC is not applicable.

2.9 ICP SERIAL DILUTION

No ICP serial dilution was performed in association with the samples in this SDG; therefore, no assessment was made with respect to this criteria.

2.10 SAMPLE RESULT VERIFICATION

An EPA Level III review was performed for the samples in this data package; therefore, the sample results were not verified against the raw data. Unless otherwise specified, all qualifications were assigned to the sample results solely on the basis of summary form information. Two months after the original analyses, Montgomery Watson personnel requested that sample PF133 be reanalyzed for arsenic. A review of the raw data indicated that the reanalysis results for several other metals were significantly larger than the original analyses. The reviewer, therefore, rejected, "R," the reanalysis, PF133RE, in favor of the original analysis, PF133. No further qualifications were required.

2.11 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

2.11.1 Field Blanks and Equipment Rinsates

Sample PF148 (SDG PF145) was identified as the field blank and sample PF149 (SDG PF145) was identified as the equipment rinsate associated with the samples in this SDG. Aluminum and zinc were detected in PF148 at 113 and 23.1 µg/L, respectively, and zinc was detected in sample PF149 at 34.4 µg/L; therefore, zinc detected in the site samples was qualified as estimated, "J," and aluminum detected in samples PF133 and PF142 was qualified as estimated, "J."

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this package. Field duplicates are required at a rate of 10% per matrix for site samples; consequently, field duplicates are not required in every package.

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: PF133

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 010469 SAS No.: SDG NO.: PF125

Matrix (soil/water): WATER Lab Sample ID: 010469-09

Level (low/med): LOW Date Received: 06/01/01

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	175	B		P	J	F
7440-36-0	Antimony	1.8	U		P	U	
7440-38-2	Arsenic	81.7			P		
7440-39-3	Barium	25.2	B		P	UJ	B
7440-41-7	Beryllium	0.48	U		P		
7440-42-8	Boron	183	B		P		
7440-43-9	Cadmium	0.42	B		P	UJ	B
7440-70-2	Calcium	37200			P		
7440-47-3	Chromium	6.4	U		P	U	
7440-48-4	Cobalt	3.3	U		P	U	
7440-50-8	Copper	8.7	U		P	U	
7439-89-6	Iron	2390			P		
7439-92-1	Lead	10.6			P	UJ	B
7439-95-4	Magnesium	12500			P		
7439-96-5	Manganese	1210			P		
7439-98-7	Molybdenum	8.8	U		P	U	
7440-02-0	Nickel	7.3	U		P	U	
7440-09-7	Potassium	2460	B		P		
7782-49-2	Selenium	3.7	U		P	U	
7440-22-4	Silver	6.1	U		P	R	L
7440-23-5	Sodium	37900			P		
7440-28-0	Thallium	2.4	U		P	U	
7440-62-2	Vanadium	4.5	U		P	U	
7440-66-6	Zinc	23.0			P	J	F

AMEC VALIDATED

LEVEL III

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL MERCURY

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

PF133RE

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 010688 SAS No.: SDG NO.: PF133

Matrix (soil/water): WATER Lab Sample ID: 010688-01

Level (low/med): LOW Date Received: 08/14/01

% Solids: 0.0

PM 08/22/03

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7440-38-2	Arsenic	97.0			P	R	D

AMEC VALIDATED

LEVEL III

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

/p

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010B AND 7470A

Client: AMEC

Client Sample ID: PF133

Date Sampled: 05/30/01

Date Sample Received: 06/01/01

Matrix: Aqueous

Laboratory ID: 010469-09

Date Analysis Completed: 06/27/01

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit	Rev Qual	Qual Code
Mercury	0611	ND	0.0002	U	

ND = Not Detected

AMEC VALIDATED

LEVEL III

0777

Reported by: JM

Approved by: KBK

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TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: PF142

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 010469 SAS No.: SDG NO.: PF125

Matrix (soil/water): WATER Lab Sample ID: 010469-18

Level (low/med): LOW Date Received: 06/01/01

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	298			P	J	F
7440-36-0	Antimony	1.8	U		P	U	
7440-38-2	Arsenic	5.6	B		P		
7440-39-3	Barium	13.0	B		P	UJ	B
7440-41-7	Beryllium	0.48	U		P	U	
7440-42-8	Boron	493			P		
7440-43-9	Cadmium	0.59	B		P	UJ	B
7440-70-2	Calcium	63500			P		
7440-47-3	Chromium	6.4	U		P	U	
7440-48-4	Cobalt	3.3	U		P	U	
7440-50-8	Copper	8.7	U		P	U	
7439-89-6	Iron	490			P		
7439-92-1	Lead	2.5	B		P	UJ	B
7439-95-4	Magnesium	13600			P		
7439-96-5	Manganese	29.2			P		
7439-98-7	Molybdenum	8.8	U		P	U	
7440-02-0	Nickel	9.7	B		P		
7440-09-7	Potassium	3080	B		P		
7782-49-2	Selenium	3.7	U		P	U	
7440-22-4	Silver	6.1	U		P	R	L
7440-23-5	Sodium	72900			P		
7440-28-0	Thallium	2.4	U		P	U	
7440-62-2	Vanadium	4.5	U		P	U	
7440-66-6	Zinc	24.4			P	J	F

AMEC VALIDATED

Level III

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

0749

/p

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010B AND 7470A

Client: AMEC

Client Sample ID: PF142

Date Sampled: 05/30/01

Date Sample Received: 06/01/01

Matrix: Aqueous

Laboratory ID: 010469-18

Date Analysis Completed: 06/27/01

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit	Rev Qual	Qual Code
Mercury	0611	ND	0.0002	U	

ND = Not Detected

AMEC VALIDATED

LEVEL III

0778

Reported by: ZM

Approved by:

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Ceimic

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
PF143

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 010469 SAS No.: SDG NO.: PF125

Matrix (soil/water): WATER Lab Sample ID: 010469-19

Level (low/med): LOW Date Received: 06/01/01

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	1380			P		
7440-36-0	Antimony	1.8	U		P	U	
7440-38-2	Arsenic	8.9	B		P		
7440-39-3	Barium	23.2	B		P	UJ	B
7440-41-7	Beryllium	0.48	U		P	U	
7440-42-8	Boron	206			P		
7440-43-9	Cadmium	0.54	B		P	UJ	B
7440-70-2	Calcium	142000			P		
7440-47-3	Chromium	6.5	B		P		
7440-48-4	Cobalt	3.3	U		P	U	
7440-50-8	Copper	8.7	U		P	U	
7439-89-6	Iron	2130			P		
7439-92-1	Lead	6.9			P	UJ	B
7439-95-4	Magnesium	62300			P		
7439-96-5	Manganese	79.4			P		
7439-98-7	Molybdenum	8.8	U		P	U	
7440-02-0	Nickel	7.3	U		P	U	
7440-09-7	Potassium	10800			P		
7782-49-2	Selenium	3.7	U		P	U	
7440-22-4	Silver	6.1	U		P	R	L
7440-23-5	Sodium	136000			P		
7440-28-0	Thallium	2.4	U		P	U	
7440-62-2	Vanadium	6.1	B		P		
7440-66-6	Zinc	61.1			P	J	F

AMEC VALIDATED

LEVEL III

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

0750

/p

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

TOTAL METALS
SW846 METHOD 6010B AND 7470A

Client: AMEC

Client Sample ID: PF143

Date Sampled: 05/30/01

Laboratory ID: 010469-19

Date Sample Received: 06/01/01

Date Analysis Completed: 06/27/01

Matrix: Aqueous

Concentration in: mg/L (ppm)

Target Analyte	Preparation Batch	Sample Concentration	Quantitation Limit	Rw Qual	Qual Code
Mercury	0611	ND	0.0002	U	

ND = Not Detected

AMEC VALIDATED

LEVEL III

0779

Reported by: LM

Approved by:

10 Dean Knauss Drive, Narragansett, RI 02882 · Tel: (401) 782-8900 · Fax: (401) 782-8905

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Metals by Method ILM04
QC Level:	V[1]
SDG:	RJPF167
Matrix:	Water
No. of Samples:	9
Date Reviewed:	June 18, 2002
Reviewer:	A. Lang
Reference:	*USEPA SW-846 Methods 6010B, and 7471A (11/90)*
Samples Reviewed:	PF167, PF177, PF178, PF179, PF182, PF183, PF184, PF185, PF186

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received with temperatures within the QC limits of 4°±2° C. COCs match samples and account for analyses. No custody seals were present on the coolers. Analyses performed within holding times.	No qualifications were required.
3. Method Blanks	Al = 25.900 µg/L Fe = 18.100 µg/L Zn = 8.580 µg/L Hg = 0.182 µg/L	Aluminum detected in PF184, PF185, and PF186, was qualified "UJ." Iron detected in PF178, PF184, and PF185 was qualified "UJ." Zinc detected in PF167, PF177, PF178, PF179, PF184, PF185, and PF186 was qualified "UJ." Mercury detected in PF167, PF177, PF178, PF179, PF182, PF184, PF185, and PF186 was qualified "UJ."
5. LCS/BS	Aqueous LCSs were analyzed with the samples. The recoveries for all analytes were within the laboratory defined QC limits.	No qualifications were required.

	Findings	Qualifications
6. Duplicates	None performed.	No qualifications were required.
7. MS/MSDs	None performed.	No qualifications were required.
9. ICP Serial Dilution	None performed.	No qualifications were required.
10. Other	None	None
11. Field QC Samples ER: PF184 ER: PF185 FB: PF186 Field duplicates: PF178 & PF179	Calcium, magnesium, manganese, and sodium were detected in the equipment rinsates, but not at sufficient concentration to qualify site samples. Magnesium was detected in the field blank, but not at sufficient concentration to qualify site samples. Iron and manganese were detected in the field blank at 93.0 and 2.0 µg/L, respectively . Iron and chromium were detected in PF179, while they were not detected in PF178.	Iron detected in PF167 and PF179 was qualified "J." Manganese detected in PF177, PF178, and PF179 was qualified "J." No qualifications were required for the field duplicate pair.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

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TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

PF167

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-01

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	By Hand	Lead Code
7429-90-5	Aluminum	306			P		
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	49.2	U		P	U	
7440-39-3	Barium	83.0	B		P		
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	174000			P		
7440-47-3	Chromium	1.2	B		P		
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	5.9	U		P	U	
7439-89-6	Iron	429			P	J	F
7439-92-1	Lead	25.6	U		P	U ~~UJ~~	~~B~~
7439-95-4	Magnesium	9880			P		
7439-96-5	Manganese	185			P		
7439-97-6	Mercury	0.28			AV	UJ	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	2240	B		P		
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	3.4	B		P		
7440-23-5	Sodium	95000			P		
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	18.7	B		P	UJ	B

AMEC VALIDATED

LEVEL V

Color Before: COLORLESS Clarity Before: CLEAR Texture: Az

6/19/02

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

111

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
PF177

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-09

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	By Lual	Lual code
7429-90-5	Aluminum	864			P		
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	49.2	U		P	U	
7440-39-3	Barium	96.4	B		P		
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	159000			P		
7440-47-3	Chromium	2.2	B		P		
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	5.9	U		P	U	
7439-89-6	Iron	850			P		
7439-92-1	Lead	2.6	U		P	U ~~UJ~~	~~B~~
7439-95-4	Magnesium	23000			P		
7439-96-5	Manganese	8.1	B		P	J	F
7439-97-6	Mercury	0.21			AV	UJ	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	1690	B		P		
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	3.1	B		P		
7440-23-5	Sodium	103000			P		
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	33.4			P	UJ	B

AMEC VALIDATED
LEVEL V

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

6/19/02

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: PF178

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-10

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual code
7429-90-5	Aluminum	248			P		
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	49.2	U		P	U	
7440-39-3	Barium	24.5	B		P		
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	139000			P		
7440-47-3	Chromium	0.53	U		P	U	
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	5.9	U		P	U	
7439-89-6	Iron	69.4	B		P	UJ	B
7439-92-1	Lead	2.6	U		P	U ~~UJ~~	~~B~~
7439-95-4	Magnesium	24800			P		
7439-96-5	Manganese	6.5	B		P	J	F
7439-97-6	Mercury	0.25			AV	UT	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	4690	B		P		
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	2.4	B		P		
7440-23-5	Sodium	126000			P		
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	15.3	B		P	UJ	B

AMEC VALIDATED

LEVEL V

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

AZ 6/19/02

Comments:

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: PF179

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-11

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Lab Qual	Lab Qual Code
7429-90-5	Aluminum	323			P		
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	49.2	U		P	U	
7440-39-3	Barium	24.1	B		P		
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	141000			P		
7440-47-3	Chromium	0.73	B		P		
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	5.9	U		P	U	
7439-89-6	Iron	117			P	J	F
7439-92-1	Lead	2.6	U		P	UJ	B
7439-95-4	Magnesium	24500			P		
7439-96-5	Manganese	7.5	B		P	J	F
7439-97-6	Mercury	0.24			AV	UJ	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	4720	B		P		
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	2.9	B		P		
7440-23-5	Sodium	128000			P		
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	18.8	B		P	UJ	B

AMEC VALIDATED
LEVEL V
AZ
6/19/02

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO. PF182

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-14

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Lab Qual
7429-90-5	Aluminum	360			P		
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	49.2	U		P	U	
7440-39-3	Barium	8.4	B		P		
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	121000			P		
7440-47-3	Chromium	1.5	B		P		
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	11.0	B		P		
7439-89-6	Iron	727			P		
7439-92-1	Lead	25.6	U		P	UJ	B
7439-95-4	Magnesium	26000			P		
7439-96-5	Manganese	496			P		
7439-97-6	Mercury	0.26			AV	UJ	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	12400			P		
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	2.3	B		P		
7440-23-5	Sodium	105000			P		
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	285			P		

AMEC VALIDATED
LEVEL V
AZ
6/19/02

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

PF183

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-15

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	17.1			P

Qual Qual Code

AMEC VALIDATED

LEVEL V

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: PF184

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-16

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rpt Qual	Qual Code
7429-90-5	Aluminum	120	B		P	UJ	B
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	4.9	U		P	U	
7440-39-3	Barium	7.2	U		P	U	
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	504	B		P		
7440-47-3	Chromium	0.53	U		P	U	
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	5.9	U		P	U	
7439-89-6	Iron	77.2	B		P	UJ	B
7439-92-1	Lead	2.6	U		P	U ~~UJ~~	~~B~~
7439-95-4	Magnesium	277	B		P		
7439-96-5	Manganese	1.4	B		P		
7439-97-6	Mercury	0.26			AV	UJ	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	82.2	U		P	U	
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	1.2	U		P	U	
7440-23-5	Sodium	168	B		P	~~J~~	~~*2~~
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	36.6			P	UJ	B

AMEC VALIDATED LEVEL V

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

AR 6/19/02

Comments:

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

PF185

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-17

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rv Qual	Qual Code
7429-90-5	Aluminum	74.6	B		P	UJ	B
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	4.9	U		P	U	
7440-39-3	Barium	7.2	U		P	U	
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	511	B		P		
7440-47-3	Chromium	0.53	U		P	U	
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	5.9	U		P	U	
7439-89-6	Iron	36.0	B		P	UJ	B
7439-92-1	Lead	2.6	U		P	U ~~UJ~~	~~B~~
7439-95-4	Magnesium	283	B		P		
7439-96-5	Manganese	0.89	B		P		
7439-97-6	Mercury	0.29			AV	UJ	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	82.2	U		P	U	
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	1.2	U		P	U	
7440-23-5	Sodium	70.1	B		P	~~J~~	~~X2~~
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	29.9			P	UJ	B

AMEC VALIDATED LEVEL V

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

AC 6/19/02

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
PF186

Contract: Rocketdyne

Lab Code: CEIMIC Case No.: 020349 SAS No.: SDG NO.: PF167

Matrix (soil/water): WATER Lab Sample ID: 020349-18

Level (low/med): LOW Date Received: 04/12/02

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rw Qual	Qual Code
7429-90-5	Aluminum	25.6	B		P	UJ	B
7440-36-0	Antimony	2.5	U		P	U	
7440-38-2	Arsenic	4.9	U		P	U	
7440-39-3	Barium	7.2	U		P	U	
7440-41-7	Beryllium	0.11	U		P	U	
7440-43-9	Cadmium	0.34	U		P	U	
7440-70-2	Calcium	68.9	U		P	U	
7440-47-3	Chromium	0.53	U		P	U	
7440-48-4	Cobalt	9.4	U		P	U	
7440-50-8	Copper	5.9	U		P	U	
7439-89-6	Iron	93.0	B		P		
7439-92-1	Lead	2.6	U		P	U UJ	B
7439-95-4	Magnesium	96.2	B		P		
7439-96-5	Manganese	2.0	B		P		
7439-97-6	Mercury	0.23			AV	UJ	B
7440-02-0	Nickel	5.0	U		P	U	
7440-09-7	Potassium	82.2	U		P	U	
7782-49-2	Selenium	3.5	U		P	U	
7440-22-4	Silver	1.2	U		P	U	
7440-23-5	Sodium	40.6	U		P	U	
7440-28-0	Thallium	4.4	U		P	U	
7440-62-2	Vanadium	4.8	U		P	U	
7440-66-6	Zinc	17.1	B		P	UJ	B

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

AZ
6/19/02

Comments:

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Polyaromatic Hydrocarbons by SIM 8270
QC Level:	V[1]
SDG:	PF167
Matrix:	Water
No. of Samples:	6
No. of Reanalyses/Dilutions:	1
Date Reviewed:	June 21, 2002
Reviewer:	L. Calvin
Reference:	National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed:	PF167, PF178, PF179, PF184, PF185, PF185RE, PF186

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs were signed by both field and laboratory personnel. The sample receiving checklists noted that the samples were received within the temperature limits of 4°C ± 2°C and intact, with the exception of a broken container for sample PF186. Sufficient volume remained for extraction and analysis. The sample receiving checklist noted that custody seals were not present on the coolers. According to the extraction dates on the sample result forms, all samples were extracted within seven days of sample collection.	No qualifications were required.
3. Method Blanks	One water method blank was extracted and analyzed with the samples in this SDG. Di-n-butylphalate and bis(2-ethylhexyl)phthalate were reported in the method blank at concentrations of 0.2 µg/L and 3 µg/L, respectively. Both compounds were also reported in all associated samples.	Any sample results for di-n-butylphalate and bis(2-ethylhexyl)phthalate reported at concentrations less than ten times those in the method blank were qualified as estimated nondetects, "UJ."

	Findings	Qualifications
4. LCS/BS	One water LCS was extracted and analyzed with the samples in this SDG. All target compounds were spiked, and all recoveries were within the laboratory QC limits of 20-140%, with the exception of a recovery below the QC limits but greater than 10% for n-nitroso-dimethylamine.	Nondetect results for n-nitroso-dimethylamine were qualified as estimated, "UJ," in site samples PF167, PF178, and PF179. The remaining associated samples were identified as field QC samples, and required no qualification.
5. Surrogates	Recoveries for all base-neutral surrogates were within the laboratory-established QC limits, with the exception of recoveries above the QC limits for terphenyl-d14 in samples PF178, PF185, and PF185RE.	No qualifications were required.
6. MS/MSDs	There were no MS/MSD analyses performed with the samples of this SDG. Evaluation of method accuracy was based on the LCS results.	No qualifications were required.
8. Field QC Samples ER: PF184, PF185 FB: PF186 Duplicates: PF178, PF179	Both equipment rinsates reported detects for diethylphthalate and di-n-butylphalate. Pyrene was also reported in PF184 and naphthalene was reported in PF185. There were no reported detects for pyrene or naphthalene in the associated site samples. Naphthalene and di-n-butylphthalate were reported in the field blank; however, both compounds were either nondetects or qualified as nondetects in all associated site samples. Diethylphthalate was reported in both field duplicate samples, at the reporting limit in PF178 and below the reporting limit in PF179. The pair was considered to be in agreement.	Detects for diethylphthalate, all at concentrations less than ten times the equipment rinsate concentrations, were qualified as estimated, "J," in site samples PF167, PF178, and PF179. No qualifications were required. Qualifications are not routinely assigned based on field duplicate results.
8. Other	Although internal standard areas are not typically reviewed in a Level V data validation, the case narrative for this SDG stated that sample PF185 was reanalyzed due to a low internal standard area, with similar results in the reanalysis.	The reanalysis results (PF185RE) were rejected, "R," in favor of the original results. (section 8. continued next page)

	Findings	Qualifications
8. Other (continued)	The laboratory reported several target compounds above the linear range of the calibration in all samples, denoted with the "E" laboratory qualifier on the Form Is. As all of the aforementioned detects were phthalates, none of the samples were reanalyzed at dilutions. Several of the results were subsequently qualified as nondetects due to method blank contamination (see section 3).	No qualifications were assigned, as calibration and quantitation issues are beyond the scope of a Level V validation of the data.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

T701PA6

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

M WATSON SAMPLE NO.

PF167

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-01

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: IF159

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/17/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/02/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	L
91-20-3	Naphthalene	0.1	U	U	
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.2		J	F
84-74-2	Di-n-butylphthalate	0.3	B	UJ	B
117-81-7	bis(2-Ethylhexyl)phthalate	2	EB		

AMEC VALIDATED
LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

M WATSON SAMPLE NO.

PF178

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-10

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IF160

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/17/02

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/02/02

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	ver qual	qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	L
91-20-3	Naphthalene	0.1	U	U	
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.1		J	F
84-74-2	Di-n-butylphthalate	0.6	B	UJ	B
117-81-7	bis(2-Ethylhexyl)phthalate	2	EB		

MC 04.20.02

AMEC VALIDATED

LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

M WATSON SAMPLE NO.

PF179

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-11

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: IF161

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/17/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/02/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	L
91-20-3	Naphthalene	0.1	U	U	
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.07	J	J	F
84-74-2	Di-n-butylphthalate	0.6	B	UJ	B
117-81-7	bis(2-Ethylhexyl)phthalate	37	EB	J	F

AMEC VALIDATED
LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

M WATSON SAMPLE NO.

PF184

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-16

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IF162

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/17/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/02/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	ver qual	qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	U	
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1			
56-55-3	Benzo(a)anthracene	0.1	U	U	
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	27	E		
84-74-2	Di-n-butylphthalate	8	EB		
117-81-7	bis(2-Ethylhexyl)phthalate	6	EB	UJ	B

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

M WATSON SAMPLE NO.

PF185

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-17

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IF163

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/17/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/02/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	U
91-20-3	Naphthalene	0.07	J	J
91-57-6	2-Methylnaphthalene	0.1	U	U
208-96-8	Acenaphthylene	0.1	U	
83-32-9	Acenaphthene	0.1	U	
86-73-7	Fluorene	0.1	U	
85-01-8	Phenanthrene	0.1	U	
120-12-7	Anthracene	0.1	U	
206-44-0	Fluoranthene	0.1	U	
129-00-0	Pyrene	0.1	U	
56-55-3	Benzo(a)anthracene	0.1	U	
218-01-9	Chrysene	0.1	U	
205-99-2	Benzo(b)fluoranthene	0.1	U	
207-08-9	Benzo(k)fluoranthene	0.1	U	
50-32-8	Benzo(a)pyrene	0.1	U	
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U	
53-70-3	Dibenzo(a,h)anthracene	0.1	U	
191-24-2	Benzo(g,h,i)perylene	0.1	U	
84-66-2	Diethylphthalate	27	E	
84-74-2	Di-n-butylphthalate	9	EB	
117-81-7	bis(2-Ethylhexyl)phthalate	3	EB	UJ B

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

M WATSON SAMPLE NO.

PF185RE

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-17RE

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IF167

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/17/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/06/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
62-75-9	N-Nitrosodimethylamine	0.06	J	R	D
91-20-3	Naphthalene	0.06	J		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1			
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	29	E		
84-74-2	Di-n-butylphthalate	8	EB		
117-81-7	bis(2-Ethylhexyl)phthalate	3	EB		

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

M WATSON SAMPLE NO.

PF186

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-18

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IF164

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/17/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/02/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	U	
91-20-3	Naphthalene	0.06	J	J	
91-57-6	2-Methylnaphthalene	0.1	U	U	
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.1	U		
84-74-2	Di-n-butylphthalate	6	EB		
117-81-7	bis(2-Ethylhexyl)phthalate	1	B	UJ	B

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	PCBs by EPA Method 8082
QC Level:	V[1]
SDG:	PF167
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Date Reviewed:	June 17, 2002
Reviewer:	M. Pokorny
Reference:	National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed:	PF174

Data Validation Findings

	Findings	Qualifications
1. Sample Management	According to the laboratory sample receipt checklist, the sample was received intact and in good condition. Custody seals were not present on the cooler. The cooler temperature was within the limits of 4°±2°C. The sample in this SDG was accounted for on the COC. The water sample was extracted beyond the 14 day holding time and analyzed within 40 days of extraction.	Nondetects for all target compounds were qualified as estimated, "UJ," for missed holding time.
4. Method Blanks	One water method blank was analyzed with this SDG. No target analyte detects were reported in the method blank.	No qualifications were required.
5. LCS/BS	One water blank spike was analyzed in this SDG. All percent recoveries were within the laboratory QC limits.	No qualifications were required.
6. Surrogates	The surrogate recoveries were within laboratory QC limits.	No qualifications were required.
7. MS/MSDs	An MS/MSD was not analyzed with the sample from this SDG.	No qualifications were required.

	Findings	Qualifications
8. Field QC Samples ER: None FB: None Duplicates: None	As per the COC, the field QC samples were not analyzed for PCBs.	No qualifications were required.
9. Other	Reporting limits were adjusted for variation in sample volume.	No qualifications were required.
Comments	N/A	N/A

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
PESTICIDE ORGANICS ANALYSIS DATA SHEET

WATSON SAMPLE NO.

PF174

Lab Name: CEIMIC CORP Contract: 010701

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-06

Sample wt/vol: 850.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ Decanted: (Y/N) ___ Date Received: 04/12/02

Extraction: (Type) SEPF Date Extracted: 04/17/02

Concentrated Extract Volume: 10000(uL) Date Analyzed: 05/14/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	REV QUAL	QUAL CODE	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	UJ	H	1.2	U
11104-28-2	Aroclor-1221			2.4	U
11141-16-5	Aroclor-1232			1.2	U
53469-21-9	Aroclor-1242			1.2	U
12672-29-6	Aroclor-1248			1.2	U
11097-69-1	Aroclor-1254			1.2	U
11096-82-5	Aroclor-1260			1.2	U

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Total Fuel Hydrocarbons by GC/EPA Method 8015M
QC Level:	V[1]
SDG:	PF167
Matrix:	Water
No. of Samples:	6
No. of Reanalyses/Dilutions:	0
Date Reviewed:	June 21, 2002
Reviewer:	L. Calvin/D. Buckheister
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF167, PF177, PF178, PF179, PF184, PF185

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs were signed by both field and laboratory personnel. The sample receiving checklists noted that the samples were received within the temperature limits of 4°C ± 2°C and intact; however, custody seals were not present on the coolers. According to the extraction dates on the sample result forms, all samples were extracted within seven days of sample collection, with the exception of sample PF167. All samples were analyzed within 40 days of collection.	The nondetect sample results for PF167 were qualified as estimated, "UJ."
3. Method Blanks	One water method blank was extracted and analyzed with the samples in this SDG. Total petroleum hydrocarbons were not detected in the method blank.	No qualifications were required.
4. LCS/BS	One water LCS was extracted and analyzed with the samples in this SDG. The LCS was spiked for diesel range organics only. The recovery for diesel range organics was within the laboratory-established QC limits of 50-139%.	No qualifications were required.

	Findings	Qualifications
5. Surrogates	All sample surrogate recoveries were within the laboratory-established QC limits.	No qualifications were required.
6. MS/MSDs	There were no MS/MSD analyses performed with the samples of this SDG. Evaluation of method accuracy was based on the LCS results.	No qualifications were required.
8. Field QC Samples ER: PF184, PF185 FB: PF189 (SDG PF189) Duplicates: PF178/PF179	Total petroleum hydrocarbons were not detected in any of the field QC samples, including the field duplicate samples. The field duplicate pair was considered to be in good agreement.	No qualifications were required. (Qualifications are not routinely assigned based on field duplicate results.)
8. Other	N/A	N/A
Comments	The original report for SDG PF167 reported diesel range organics from C8-C30 for samples PF167, PF177, PF178, PF179, PF184, and PF185. The revised sample result summary forms reported the same range of total petroleum hydrocarbons. However, on the revised forms, the results were broken into the gasoline range (C8-C11), the kerosene range (C11-C14), the diesel range (C14-C20), and the lubricant oil range (C20-C30).	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

T701TF7

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Method SW846 8015B

Client: Montgomery Watson

Client Sample ID: PF167

Date Sampled: 04/09/02

Date Sample Received: 04/12/02

Matrix: Water

Laboratory ID: 020349-01

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/07/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	REV QUAL	QUAL CODE	Quantitation Limit
C08-C11 (Gasoline Range)	ND	UJ	~~J~~ H	0.10
C11-C14 (Kerosene Range)	ND	↓	↓	0.10
C14-C20 (Diesel Range)	ND			0.10
C20-C30 (Lubricant Oil Range)	ND			0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	49	10 - 106
n-Eicosane	100	59 - 129
p-Terphenyl-d14	105	58 - 121

AMEC VALIDATED

LEVEL V
Rev I

Reported by: _____

Approved by: _____ DAB 7/18/02

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Method SW846 8015B

Client: Montgomery Watson

Client Sample ID: PF177

Date Sampled: 04/10/02

Date Sample Received: 04/12/02

Matrix: Water

Laboratory ID: 020349-09

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/07/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	REV QUAL	QUAL CODE	Quantitation Limit
C08-C11 (Gasoline Range)	ND	UX		0.10
C11-C14 (Kerosene Range)	ND	↓		0.10
C14-C20 (Diesel Range)	ND			0.10
C20-C30 (Lubricant Oil Range)	ND			0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	51	10 - 106
n-Eicosane	97	59 - 129
p-Terphenyl-d14	102	58 - 121

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LEVEL V

DAB 7/23/02

Rev 1

Reported by: RLM

Approved by: DAB 7/10/02

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Method SW846 8015B

Client: Montgomery Watson

Client Sample ID: PF178

Date Sampled: 04/10/02

Date Sample Received: 04/12/02

Matrix: Water

Laboratory ID: 020349-10

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	REV QUAL	QUAL CODE	Quantitation Limit
C08-C11 (Gasoline Range)	ND	U		0.10
C11-C14 (Kerosene Range)	ND	↓		0.10
C14-C20 (Diesel Range)	ND			0.10
C20-C30 (Lubricant Oil Range)	ND			0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	50	10 - 106
n-Eicosane	83	59 - 129
p-Terphenyl-d14	87	58 - 121

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LEVEL V

Rev I

Reported by: Ren

Approved by: DAB 7/18/02

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Method SW846 8015B

Client: Montgomery Watson

Client Sample ID: PF179

Date Sampled: 04/10/02

Date Sample Received: 04/12/02

Matrix: Water

Laboratory ID: 020349-11

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	REV QUAL	QUAL CODE	Quantitation Limit
C08-C11 (Gasoline Range)	ND	U		0.10
C11-C14 (Kerosene Range)	ND	↓		0.10
C14-C20 (Diesel Range)	ND			0.10
C20-C30 (Lubricant Oil Range)	ND			0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	47	10 - 106
n-Eicosane	92	59 - 129
p-Terphenyl-d14	97	58 - 121

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LEVEL V

Rev I

Reported by: _____

Approved by: _____ 7/18/02

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Method SW846 8015B

Client: Montgomery Watson

Client Sample ID: PF184

Date Sampled: 04/11/02

Date Sample Received: 04/12/02

Matrix: Water

Laboratory ID: 020349-16

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	REV Qual	Qual Code	Quantitation Limit
C08-C11 (Gasoline Range)	ND	U		0.10
C11-C14 (Kerosene Range)	ND	↓		0.10
C14-C20 (Diesel Range)	ND	↓		0.10
C20-C30 (Lubricant Oil Range)	ND	↓		0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	52	10 - 106
n-Eicosane	97	59 - 129
p-Terphenyl-d14	101	58 - 121

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LEVEL V

Rev I

DAB

Reported by: Rlm

Approved by: [signature] 7/18/02

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Method SW846 8015B

Client: Montgomery Watson

Client Sample ID: PF185

Date Sampled: 04/11/02

Date Sample Received: 04/12/02

Matrix: Water

Laboratory ID: 020349-17

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	REV Qual	Qual Code	Quantitation Limit
C08-C11 (Gasoline Range)	ND	U		0.10
C11-C14 (Kerosene Range)	ND	↓		0.10
C14-C20 (Diesel Range)	ND			0.10
C20-C30 (Lubricant Oil Range)	ND			0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	49	10 - 106
n-Eicosane	94	59 - 129
p-Terphenyl-d14	99	58 - 121

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LEVEL V

Rev I

DAB

Reported by: Ren

Approved by: [signature] 7/18/02

Form I TPH

T201TF7

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified Method 8015B

Client: Montgomery Watson

Client Sample ID: PF167

Date Sampled: 04/09/02

Date Sample Received: 04/12/02

Matrix: Aqueous

Laboratory ID: 020349-01

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/07/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	rev qual	qual code	Quantitation Limit
Diesel Range Organics (C8 - C30)	**ND**	UJ	H	**0.10**

ND = Not detected
+ Dry weight basis.

The sample was screened for the following products:

Gasoline	Jet Fuel A	Diesel Fuel	Bunker Oil
Kerosene	Motor Oil	Fuel Oil #2	Naphtha
JP-4 Jet Fuel	Hydraulic Jack Oil	Fuel Oil #4	Creosote
JP-5 Jet Fuel	Transmission Fluid	Fuel Oil #5	Mineral Spirits
JP-8 Jet Fuel	Lubricating Oil	Fuel Oil #6	Mineral Oil

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Eicosane	**100**	**62 - 137**
p-terphenyl-d14	**105**	**55 - 131**

* These limits are provided for advisory purposes.

AMEC VALIDATED
LEVEL V

Reported by: RC

Approved by:

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified Method 8015B

Client: Montgomery Watson

Client Sample ID: PF177

Date Sampled: 04/10/02

Date Sample Received: 04/12/02

Matrix: Aqueous

Laboratory ID: 020349-09

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/07/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	qual code	Quantitation Limit
Diesel Range Organics (C8 - C30)	**ND**	U	**0.10**

ND = Not detected
+ Dry weight basis.

The sample was screened for the following products:

Gasoline	Jet Fuel A	Diesel Fuel	Bunker Oil
Kerosene	Motor Oil	Fuel Oil #2	Naphtha
JP-4 Jet Fuel	Hydraulic Jack Oil	Fuel Oil #4	Creosote
JP-5 Jet Fuel	Transmission Fluid	Fuel Oil #5	Mineral Spirits
JP-8 Jet Fuel	Lubricating Oil	Fuel Oil #6	Mineral Oil

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Eicosane	**97**	**62 - 137**
p-terphenyl-d14	**102**	**55 - 131**

* These limits are provided for advisory purposes.

AMEC VALIDATED
LEVEL V

Reported by: _____ Approved by: _____

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified Method 8015B

Client: Montgomery Watson

Client Sample ID: PF178

Date Sampled: 04/10/02

Date Sample Received: 04/12/02

Matrix: Aqueous

Laboratory ID: 020349-10

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL): 1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	ver qual	qual code	Quantitation Limit
Diesel Range Organics (C8 - C30)	**ND**	U		**0.10**

ND = Not detected
+ Dry weight basis.

The sample was screened for the following products:

Gasoline	Jet Fuel A	Diesel Fuel	Bunker Oil
Kerosene	Motor Oil	Fuel Oil #2	Naphtha
JP-4 Jet Fuel	Hydraulic Jack Oil	Fuel Oil #4	Creosote
JP-5 Jet Fuel	Transmission Fluid	Fuel Oil #5	Mineral Spirits
JP-8 Jet Fuel	Lubricating Oil	Fuel Oil #6	Mineral Oil

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Eicosane	**83**	**62 - 137**
p-terphenyl-d14	**87**	**55 - 131**

* These limits are provided for advisory purposes.

AMEC VALIDATED

LEVEL V

Reported by: _____ Approved by: _____

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified Method 8015B

Client: Montgomery Watson

Client Sample ID: PF179

Date Sampled: 04/10/02

Date Sample Received: 04/12/02

Matrix: Aqueous

Laboratory ID: 020349-11

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	ver qual	qual code	Quantitation Limit
Diesel Range Organics (C8 - C30)	**ND**	U		**0.10**

ND = Not detected
+ Dry weight basis.

The sample was screened for the following products:

Gasoline	Jet Fuel A	Diesel Fuel	Bunker Oil
Kerosene	Motor Oil	Fuel Oil #2	Naphtha
JP-4 Jet Fuel	Hydraulic Jack Oil	Fuel Oil #4	Creosote
JP-5 Jet Fuel	Transmission Fluid	Fuel Oil #5	Mineral Spirits
JP-8 Jet Fuel	Lubricating Oil	Fuel Oil #6	Mineral Oil

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Eicosane	**92**	**62 - 137**
p-terphenyl-d14	**97**	**55 - 131**

* These limits are provided for advisory purposes.

AMEC VALIDATED

LEVEL V

Reported by: _____ Approved by: _____

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified Method 8015B

Client: Montgomery Watson

Client Sample ID: PF184

Date Sampled: 04/11/02

Date Sample Received: 04/12/02

Matrix: Aqueous

Laboratory ID: 020349-16

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration+	~~qual~~ very qual Code	Quantitation Limit
Diesel Range Organics (C8 - C30)	**ND**	U	**0.10**

ND = Not detected
+ Dry weight basis.

The sample was screened for the following products:

Gasoline	Jet Fuel A	Diesel Fuel	Bunker Oil
Kerosene	Motor Oil	Fuel Oil #2	Naphtha
JP-4 Jet Fuel	Hydraulic Jack Oil	Fuel Oil #4	Creosote
JP-5 Jet Fuel	Transmission Fluid	Fuel Oil #5	Mineral Spirits
JP-8 Jet Fuel	Lubricating Oil	Fuel Oil #6	Mineral Oil

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Eicosane	**97**	**62 - 137**
p-terphenyl-d14	**101**	**55 - 131**

* These limits are provided for advisory purposes.

AMEC VALIDATED

LEVEL V

Reported by: _____ Approved by: _____

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified Method 8015B

Client: Montgomery Watson

Client Sample ID: PF185

Date Sampled: 04/11/02

Date Sample Received: 04/12/02

Matrix: Aqueous

Laboratory ID: 020349-17

Date Sample Extracted: 04/17/02

Date Sample Analyzed: 05/08/02

Associated Method Blank: F0417-B6

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	rev qual	qual code	Quantitation Limit
Diesel Range Organics (C8 - C30)	**ND**	U		**0.10**

ND = Not detected
+ Dry weight basis.

The sample was screened for the following products:

Gasoline	Jet Fuel A	Diesel Fuel	Bunker Oil
Kerosene	Motor Oil	Fuel Oil #2	Naphtha
JP-4 Jet Fuel	Hydraulic Jack Oil	Fuel Oil #4	Creosote
JP-5 Jet Fuel	Transmission Fluid	Fuel Oil #5	Mineral Spirits
JP-8 Jet Fuel	Lubricating Oil	Fuel Oil #6	Mineral Oil

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Eicosane	**94**	**62 - 137**
p-terphenyl-d14	**99**	**55 - 131**

* These limits are provided for advisory purposes.

AMEC VALIDATED

LEVEL V

Reported by: _____ Approved by: _____

Form I TPH

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DATA ASSESSMENT FORM

Project Title: Rocketdyne, SSFL RFI Program
Project Manager: D. Hambrick
Analysis/Method: Volatiles by Method 8260B
QC Level: V[1]
SDG: PF167
Matrix: Water
No. of Samples: 15
No. of Reanalyses/Dilutions: 2
Date Reviewed: 06/20/02
Reviewer: D. A. Buckheister
Reference: National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed: PF167, PF168, PF171, PF172, PF175, PF176, PF177, PF178, PF179, PF180, PF180DL, PF181, PF181DL, PF184, PF185, PF186, PF187

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC. A laboratory sample receipt checklist noted that the VOC sample vials were received intact. There were no custody seals on the coolers. The cooler temperatures were recorded as 6°C, within the temperature limits of 4 ± 2°C. Air bubbles were present in samples PF177 and PF187. The samples were analyzed within 14 days of sample collection.	All target compounds were qualified as estimated, "J," for detects and, "UJ," for nondetects," in samples PF177. Sample PF187 was identified as a field QC sample and required no qualification.
4. Method Blanks	Two method blanks (VBLKLM and VBLKQO) were analyzed with this SDG. No target compounds were reported in VBLKLM. Methylene chloride was reported in VBLKQO, below the reporting limit, at 1µg/L; however, this compound was rejected in associated samples PF180DL and PF181DL (see section 9.)	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	Two LCSs (VLCSLM and VLCSQO) were analyzed with this SDG. Methylene chloride was recovered below the QC limit but greater than 10% and 1,2–dibromo–3–chloropropane was recovered above the QC limit in VLCSLM. Several spike compounds were recovered above the QC limits in VLCSQO; however, these compounds were rejected in associated samples PF180DL and PF181DL (see section 9.) Tetrachloroethene, the only compound reported in PF180DL and PF181DL, was not reported on the Form 3 for VLCSQO. A cursory review of the raw data indicated that tetrachloroethene was spiked into VLCSQO and was recovered at approximately 122%. No QC limits were indicated for tetrachloroethene.	The nondetect results for methylene chloride were qualified as estimated, "UJ," in samples PF167, PF168, PF171, PF172, PF175, PF176, PF177, PF178, PF179, PF180, PF181, PF184, PF185, PF186, and PF187. There were no reported detects for and 1,2-dibromo-3-chloropropane in the aforementioned samples.
6. Surrogates	All surrogate recoveries were within the laboratory-established QC limits, with the exception of the bromofluorobenzene recoveries above the QC limits in samples PF180DL and PF181DL.	Tetrachloroethene results were qualified as estimated, "J," in samples PF180DL and PF181DL.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.

	Findings	Qualifications
8. Field QC Samples ER: PF184, PF185 TB: PF187 FB: PF186 FD: PF180 and PF181	There were no reportable detects in the trip blank. 2-Butanone and chloroform were reported in PF184 at 15µg/L and 2µg/L, respectively. Acetone, 2-butanone, chloroform, and tetrachloroethene were reported in PF185 at 3µg/L, 16µg/L, 2µg/L, and 2µg/L, respectively. It was unclear if one equipment rinsate was associated with a particular set of samples in this SDG. All samples were therefore reviewed as if associated with both equipment rinsates. 2-Butanone and chloroform were reported in PF186 at 6µg/L and 2µg/L, respectively. 2-Butanone and chloroform were not reported in any of the site samples. Cis-1, 2-dichloroethene and trichloroethene were reported in PF180 at 5µg/L and 4µg/L, respectively. Tetrachloroethene was reported from PF180DL at 280µg/L. Cis–1, 2-dichloroethene and trichloroethene were both reported in PF181 at 5µg/L. Tetrachloroethene was reported from PF181DL at 300µg/L. The reviewer-calculated RPD for tetrachloroethene was 6.7%.	Acetone was qualified as estimated, "J," in sample PF172. Tetrachloroethene was qualified as estimated, "J," in sample PF177.
9. Other	1,1,2-Trichlorotrifluoroethane was reported at a concentration above the linear range of the calibration standards in sample PF172. PF172 was not reanalyzed at a dilution. No notations regarding this sample were made in the case narrative. Tetrachloroethene was reported above the linear range of the calibration standards in samples PF180 and PF181. The samples were reanalyzed as PF180DL and PF181DL at 5× dilutions. All of the samples in this SDG were analyzed for added compounds chlorotrifluoroethene, 1,1,2–trichlorotrifluoroethane, and 2–chloroethyl vinyl ether. TICs were not provided with the samples in this SDG.	1,1,2-Trichlorotrifluoroethane was qualified as estimated, "J," in sample PF172. Tetrachloroethene was rejected, "R," in PF180 and PF181 and reported from PF180DL and PF181DL. All remaining compounds were rejected, "R," in PF180DL and PF181DL and reported from the undiluted analyses.

	Findings	Qualifications
Comments	Several compounds with %Ds > 20% in the continuing calibration were listed in the case narrative from the laboratory. Review of calibrations is beyond the scope of a Level V Validation Compounds reported below the reporting limits were qualified as estimated, "J," by the laboratory.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

T701V015

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF167

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0599

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	UJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
110-75-8	2-Chloroethylvinyl ether	10	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF167

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0599

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

AMEC VALIDATED
FORM I VOA

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF168

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0600

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U
75-71-8	Dichlorodifluoromethane	5	U	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	1	J	J
75-09-2	Methylene Chloride	5	U	UJ L
156-60-5	trans-1,2-Dichloroethene	5	U	U
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
67-66-3	Chloroform	5	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	5	U	
110-75-8	2-Chloroethylvinyl ether	10	U	
75-27-4	Bromodichloromethane	5	U	
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	15	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF168

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0600

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF171

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0601

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	u	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	UJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	u	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	12			
110-75-8	2-Chloroethylvinyl ether	10	U	u	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF171

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0601

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF172

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0602

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	3	J	J	
75-71-8	Dichlorodifluoromethane	5	U	U	
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	730	E	J	* 11
67-64-1	Acetone	16		J	F
75-35-4	1,1-Dichloroethene	5	U	U	
75-09-2	Methylene Chloride	5	U	UJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	1	J	J	
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	2	J	J	
110-75-8	2-Chloroethylvinyl ether	10	U	U	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	14			
108-90-7	Chlorobenzene	5	U	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF172

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0602

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Review Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF175

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0603

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	u	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	uJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	u	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	9			
67-66-3	Chloroform	5	U	u	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	160			
110-75-8	2-Chloroethylvinyl ether	10	U	u	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF175

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0603

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF176

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0604

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	2	J	J	
67-64-1	Acetone	10	U	U	
75-35-4	1,1-Dichloroethene	5	U	U	
75-09-2	Methylene Chloride	5	U	UJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	9			
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	160			
110-75-8	2-Chloroethylvinyl ether	10	U	U	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF176

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0604

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	RPV Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF177

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0605

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*1
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	2	J	J	
67-64-1	Acetone	10	U	UJ	
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	UJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	UJ	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	8		J	
110-75-8	2-Chloroethylvinyl ether	10	U	UJ	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	4	J	J	F
108-90-7	Chlorobenzene	5	U	UJ	
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF177

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0605

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF178

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0606

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Eadc
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	2	J	J	
67-64-1	Acetone	10	U	U	
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	U	L
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	8			
110-75-8	2-Chloroethylvinyl ether	10	U	U	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF178

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0606

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF179

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0607

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	2	J	J	
67-64-1	Acetone	10	U	U	
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	UJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	8			
110-75-8	2-Chloroethylvinyl ether	10	U	U	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF179

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0607

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF180

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0608

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	UJ	L
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5			
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	4	J	J	
110-75-8	2-Chloroethylvinyl ether	10	U	U	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	340	E	R	-D
108-90-7	Chlorobenzene	5	U	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF180

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0608

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF180DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-12DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0641

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/24/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	25	U	R	D
75-71-8	Dichlorodifluoromethane	25	U		
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	25	U		
67-64-1	Acetone	50	U		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	8	DJB	R	D
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	50	U		
156-59-2	cis-1,2-Dichloroethene	25	U		
67-66-3	Chloroform	25	U		
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	25	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
75-27-4	Bromodichloromethane	25	U		
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	280	D	J	S
108-90-7	Chlorobenzene	25	U		
630-20-6	1,1,1,2-Tetrachloroethane	25	U	R	D
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	75	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF180DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-12DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0641

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/24/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	25	U	R	D
95-63-6	1,2,4-Trimethylbenzene	25	U		
541-73-1	1,3-Dichlorobenzene	25	U		
106-46-7	1,4-Dichlorobenzene	25	U		
95-50-1	1,2-Dichlorobenzene	25	U		
96-12-8	1,2-Dibromo-3-Chloropropane	25	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF181

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-13

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0609

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U	U	L
156-60-5	trans-1,2-Dichloroethene	5	U	U	
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	5			
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5			
110-75-8	2-Chloroethylvinyl ether	10	U	U	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	320	E	E	D
108-90-7	Chlorobenzene	5	U	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF181

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-13

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0609

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
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MW SAMPLE NO.

PF181DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-13DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0642

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/24/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	25	U	R	D
75-71-8	Dichlorodifluoromethane	25	U		
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	25	U		
67-64-1	Acetone	50	U		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	7	DJB		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	50	U		
156-59-2	cis-1,2-Dichloroethene	5	DJ		
67-66-3	Chloroform	25	U		
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	25	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
75-27-4	Bromodichloromethane	25	U		
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	300	D	J	S
108-90-7	Chlorobenzene	25	U		
630-20-6	1,1,1,2-Tetrachloroethane	25	U	R	D
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	75	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF181DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-13DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0642

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/24/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	25	U	R	D
95-63-6	1,2,4-Trimethylbenzene	25	U		
541-73-1	1,3-Dichlorobenzene	25	U		
106-46-7	1,4-Dichlorobenzene	25	U		
95-50-1	1,2-Dichlorobenzene	25	U		
96-12-8	1,2-Dibromo-3-Chloropropane	25	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF184

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-16

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0610

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	15			
156-59-2	cis-1,2-Dichloroethene	5	U	U	
67-66-3	Chloroform	2	J	J	
71-55-6	1,1,1-Trichloroethane	5	U	U	
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
110-75-8	2-Chloroethylvinyl ether	10	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF184

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-16

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0610

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	u	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF185

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167 ER

Matrix: (soil/water) WATER Lab Sample ID: 020349-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0611

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
79-38-9	Chlorotrifluoroethene	5	U	U	
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	3	J	J	
75-35-4	1,1-Dichloroethene	5	U	U	
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	16			
156-59-2	cis-1,2-Dichloroethene	5	U	U	
67-66-3	Chloroform	2	J	J	
71-55-6	1,1,1-Trichloroethane	5	U	U	
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
110-75-8	2-Chloroethylvinyl ether	10	U		
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	2	J	J	
108-90-7	Chlorobenzene	5	U	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF185

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167 ER

Matrix: (soil/water) WATER Lab Sample ID: 020349-17

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0611

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	u	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF186

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-18

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0612 FB

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual Code
79-38-9	Chlorotrifluoroethene	5	U	u
75-71-8	Dichlorodifluoromethane	5	U	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	6	J	J
156-59-2	cis-1,2-Dichloroethene	5	U	u
67-66-3	Chloroform	2	J	J
71-55-6	1,1,1-Trichloroethane	5	U	u
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	5	U	
110-75-8	2-Chloroethylvinyl ether	10	U	
75-27-4	Bromodichloromethane	5	U	
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	15	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF186

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-18

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0612

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	u	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF187

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0613 TB

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual Code
79-38-9	Chlorotrifluoroethene	5	U	u
75-71-8	Dichlorodifluoromethane	5	U	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
67-66-3	Chloroform	5	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	5	U	
110-75-8	2-Chloroethylvinyl ether	10	U	
75-27-4	Bromodichloromethane	5	U	
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-90-7	Chlorobenzene	5	U	
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	15	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF187

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF167

Matrix: (soil/water) WATER Lab Sample ID: 020349-19

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0613

Level: (low/med) LOW Date Received: 04/12/02

% Moisture: not dec. _____ Date Analyzed: 04/23/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	U	
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V
SDG:	PF152
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	June 16, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF157, PF157DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the VOC sample vials were received intact and without headspace, and that custody seals were not present on the coolers. Of the five volatile analyses requested on the COC, only sample PF157 (and its dilution) were validated for this SDG. The cooler temperature was recorded at 6°C, within the temperature limits of 4° ±2°C. The sample analyses were performed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	One water method blank (VBLKQG) was analyzed with this SDG. Acetone and methylene chloride were reported in the method blank at 3µg/L and 2µg/L, respectively. Both compounds were also reported in sample PF152 at concentrations less than 10× the method blank concentrations.	Results for acetone and methylene chloride in sample PF152 were qualified as nondetects, "U," and raised to the reporting limits.

	Findings	Qualifications
5. LCS/BS	One LCS (VLCSQG) was analyzed with this SDG. Methylene chloride was recovered below the laboratory-established QC limits.	The nondetect result for methylene chloride was qualified as estimated, "UJ," in site sample PF157.
6. Surrogates	Surrogate recoveries for both sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples TB: PF169 (SDG PF152) ER: PF184, PF185 (SDG PF167) FB: None FD: None	Trip blank PF169 was included in the unvalidated portion of this SDG. Methylene chloride was reported in the trip blank at 1µg/L. 2-Butanone and chloroform were reported in equipment rinsate PF184 at 15µg/L and 2µg/L, respectively. Acetone, 2-butanone, chloroform, and tetrachloroethene were reported in equipment rinsate PF185 at 3µg/L, 16µg/L, 2µg/L, and 2µg/L, respectively. None of the aforementioned compounds were reported or were reportable (see section 4.) in the associated site samples.	No qualifications were required.
9. Other	Sample PF157 required a 2× dilution in order to report cis-1,2-dichloroethene within the linear range of the calibration. Compounds reported below the reporting limits were qualified as estimated, "J," by the laboratory. TICs were not provided by the laboratory for the samples in this SDG. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the Form VIIIs provided by the laboratory indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard.	The result in sample PF157 for cis-1,2-dichloroethene was rejected, "R," in favor of the diluted result in sample PF157DL. All remaining dilution results were rejected, "R," in favor of the undiluted results.
Comments	None.	None.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF157

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF152

Matrix: (soil/water) WATER Lab Sample ID: 020296-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0435

Level: (low/med) LOW Date Received: 04/04/02

% Moisture: not dec. _____ Date Analyzed: 04/17/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	16			
75-71-8	Dichlorodifluoromethane	5	U	U	
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	81			
74-83-9	Bromomethane	5	U	U	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5			
67-64-1	Acetone	10 4	J	U	B
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5 1	J	J	BL
156-60-5	trans-1,2-Dichloroethene	29			
75-34-3	1,1-Dichloroethane	5	U	U	
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	220	E	R	D
67-66-3	Chloroform	5	U	U	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	1	J	J	
110-75-8	2-Chloroethylvinyl ether	10	U	U	
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	15	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF157

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF152

Matrix: (soil/water) WATER Lab Sample ID: 020296-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0435

Level: (low/med) LOW Date Received: 04/04/02

% Moisture: not dec. _____ Date Analyzed: 04/17/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual code
108-67-8	1,3,5-Trimethylbenzene	5	U	U
95-63-6	1,2,4-Trimethylbenzene	5	U	↓
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF157DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF152

Matrix: (soil/water) WATER Lab Sample ID: 020296-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0437

Level: (low/med) LOW Date Received: 04/04/02

% Moisture: not dec. _____ Date Analyzed: 04/17/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual Code
79-38-9	Chlorotrifluoroethene	16	D	R	D
75-71-8	Dichlorodifluoromethane	10	U		
74-87-3	Chloromethane	10	U		
75-01-4	Vinyl Chloride	77	D		
74-83-9	Bromomethane	10	U		
75-00-3	Chloroethane	10	U		
75-69-4	Trichlorofluoromethane	10	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	DJ		
67-64-1	Acetone	6	DJ		
75-35-4	1,1-Dichloroethene	10	U		
75-09-2	Methylene Chloride	13	D		
156-60-5	trans-1,2-Dichloroethene	29	D		
75-34-3	1,1-Dichloroethane	10	U		
78-93-3	2-Butanone	20	U		
156-59-2	cis-1,2-Dichloroethene	210	D		
67-66-3	Chloroform	10	U	R	D
71-55-6	1,1,1-Trichloroethane	10	U		
56-23-5	Carbon Tetrachloride	10	U		
107-06-2	1,2-Dichloroethane	10	U		
71-43-2	Benzene	10	U		
79-01-6	Trichloroethene	10	U		
110-75-8	2-Chloroethylvinyl ether	20	U		
75-27-4	Bromodichloromethane	10	U		
108-88-3	Toluene	10	U		
10061-02-6	trans-1,3-Dichloropropene	10	U		
79-00-5	1,1,2-Trichloroethane	10	U		
127-18-4	Tetrachloroethene	10	U		
108-90-7	Chlorobenzene	10	U		
630-20-6	1,1,1,2-Tetrachloroethane	10	U		
100-41-4	Ethylbenzene	10	U		
1330-20-7	Xylenes (total)	30	U		
75-25-2	Bromoform	10	U		
79-34-5	1,1,2,2-Tetrachloroethane	10	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF157DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF152

Matrix: (soil/water) WATER Lab Sample ID: 020296-08DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0437

Level: (low/med) LOW Date Received: 04/04/02

% Moisture: not dec. _____ Date Analyzed: 04/17/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-67-8	1,3,5-Trimethylbenzene	10	U	R	D
95-63-6	1,2,4-Trimethylbenzene	10	U		
541-73-1	1,3-Dichlorobenzene	10	U		
106-46-7	1,4-Dichlorobenzene	10	U		
95-50-1	1,2-Dichlorobenzene	10	U		
96-12-8	1,2-Dibromo-3-Chloropropane	10	U		

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V
SDG:	PF170
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	July 28, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF161, PF161DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the VOC sample vials were received intact and without headspace, and that custody seals were not present on the coolers. Of the nine volatile analyses requested on the COC, only sample PF161 (and its dilution) were validated for this SDG. The cooler temperature was recorded at 6°C, within the temperature limits of 4° ±2°C. The sample analyses were performed within 14 days of sample collection.	No qualifications were required.

	Findings	Qualifications
4. Method Blanks	Two water method blanks (VBLKQG and VBLKQH) were analyzed with this SDG. Acetone and methylene chloride were reported in VBLKQG at 3µg/L and 2µg/L, respectively. Both compounds were also reported in sample PF161 at concentrations below the reporting limits. Methylene chloride was also reported in VBLKQH; however, that compound was not retained in the associated dilution analysis, PF161DL.	Results for acetone and methylene chloride in sample PF161 were qualified as nondetects, "U," and raised to the reporting limits.
5. LCS/BS	Two LCSs (VLCSQD and VLCSQG) were analyzed with this SDG. Methylene chloride was recovered below the laboratory-established QC limits but ≥10% in both LCSs; however, the methylene chloride result was retained only in the undiluted analysis of PF161.	The nondetect result for methylene chloride was qualified as estimated, "UJ," in site sample PF161.
6. Surrogates	Surrogate recoveries for both sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples TB: PF170 ER: PF184, PF185 (SDG PF167) FB: None FD: None	Trip blank PF170 was included in the unvalidated portion of this SDG. There were no target compounds reported in the trip blank. 2-Butanone and chloroform were reported in equipment rinsate PF184 at 15µg/L and 2µg/L, respectively. Acetone, 2-butanone, chloroform, and tetrachloroethene were reported in equipment rinsate PF185 at 3µg/L, 16µg/L, 2µg/L, and 2µg/L, respectively. None of the aforementioned compounds were reported or were reportable (see section 4.) in the associated site sample analyses.	No qualifications were required.

	Findings	Qualifications
9. Other	Sample PF161 required a 2× dilution in order to report cis-1,2-dichloroethene and trichloroethene within the linear range of the calibration. Compounds reported below the reporting limits were qualified as estimated, "J," by the laboratory. TICs were not provided by the laboratory for the samples in this SDG. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the Form VIIIs provided by the laboratory indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	The results in sample PF161 for cis-1,2-dichloroethene and trichloroethene were rejected, "R," in favor of the diluted results in sample PF161DL. All remaining dilution results were rejected, "R," in favor of the undiluted results. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF161

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF170

Matrix: (soil/water) WATER Lab Sample ID: 020318-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0441

Level: (low/med) LOW Date Received: 04/06/02

% Moisture: not dec. _____ Date Analyzed: 04/18/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	12		J	*9
75-71-8	Dichlorodifluoromethane	5	U	UJ	
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	10		J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	52		J	
67-64-1	Acetone	10 / 4	JB	UJ	B *9
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5 / 1	JB	UJ	B *9
156-60-5	trans-1,2-Dichloroethene	7		J	*9
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	320	E	R	D
67-66-3	Chloroform	5	U	UJ	*9
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	1800	E	R	D
110-75-8	2-Chloroethylvinyl ether	10	U	UJ	*9
75-27-4	Bromodichloromethane	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
75-25-2	Bromoform	15	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

KRM 11-11-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF161

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF170

Matrix: (soil/water) WATER Lab Sample ID: 020318-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0441

Level: (low/med) LOW Date Received: 04/06/02

% Moisture: not dec. _____ Date Analyzed: 04/18/02

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual Code
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*9
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KPM 11-11-03

AMEC VALIDATED
LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF161DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF170

Matrix: (soil/water) WATER Lab Sample ID: 020318-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0447

Level: (low/med) LOW Date Received: 04/06/02

% Moisture: not dec. _____ Date Analyzed: 04/18/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	100	U	R	D
75-71-8	Dichlorodifluoromethane	100	U		
74-87-3	Chloromethane	100	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	100	U		
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	37	DJ		
67-64-1	Acetone	200	U		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	160	DB		
156-60-5	trans-1,2-Dichloroethene	100	U		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	200	U		
156-59-2	cis-1,2-Dichloroethene	230	D	J	*9
67-66-3	Chloroform	100	U	R	D
71-55-6	1,1,1-Trichloroethane	100	U		
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	1400	D	J	*9
110-75-8	2-Chloroethylvinyl ether	200	U	R	D
75-27-4	Bromodichloromethane	100	U		
108-88-3	Toluene	100	U		
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-90-7	Chlorobenzene	100	U		
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
75-25-2	Bromoform	300	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		

KRM 11-4-02

AMEC VALIDATED
LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF161DL

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF170

Matrix: (soil/water) WATER Lab Sample ID: 020318-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q0447

Level: (low/med) LOW Date Received: 04/06/02

% Moisture: not dec. _____ Date Analyzed: 04/18/02

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual Code
108-67-8	1,3,5-Trimethylbenzene	100	U	R	D
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

AMEC VALIDATED
LEVEL V

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303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	PF192
Matrix:	Water
No. of Samples:	6
Date Reviewed:	April 08, 2003
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF192, PF193, PF194, PF195, PF196, PF197

Data Validation Findings

	Findings	Qualifications
1. Sample Management	Temperatures were within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses. Custody seals were not present on the cooler. The holding times were met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 87-110%.	No qualifications were required.
6. Duplicates	Not performed.	No qualifications were required.
7. MS/MSDs PF197	MS/MSD analyses were not requested for this sample. Due to the sample's high conductivity and multiple peaks eluting within the perchlorate retention time window, the analyst performed an MS analysis on sample PF197. The recovery was above the control limits of 75-125%, at 126%.	Perchlorate detected in samples PF193 and PF194 were qualified as estimated, "J."

	Findings	Qualifications
10. Other	Due to the high sample conductivity, all samples in this SDG were initially analyzed at 5× dilutions. All samples were then analyzed without dilution. Both sets of results were similar and the laboratory reported the neat analyses. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
11. Field QC Samples Field duplicates: none	The samples in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF192

Date Sampled: 02/21/03

Laboratory ID: 030161-01

Date Sample Received: 02/22/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	03/10/03	03/10/03	UJ	*10

ND = Not Detected

KRM 11-11-03

Reported by: TS

Approved by: BS

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CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF193

Date Sampled: 02/21/03

Laboratory ID: 030161-02

Date Sample Received: 02/22/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	2.351	ug/L	1.0	03/10/03	03/10/03	J	Q

KRM 11-11-03

Reported by: _____

Approved by: _____

AMEC VALIDATED

LEVEL V

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF194

Date Sampled: 02/21/03

Laboratory ID: 030161-03

Date Sample Received: 02/22/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Cod
Perchlorate	2.277	ug/L	1.0	03/10/03	03/10/03	J	Q,*

KRM 11-11-03

Reported by: _____

Approved by: _____

AMEC VALIDATED

LEVEL V

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF195

Date Sampled: 02/21/03

Laboratory ID: 030161-04

Date Sample Received: 02/22/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	03/10/03	03/10/03	UJ	#9 #10

ND = Not Detected

KRM 11-11-03

Reported by: _____

Approved by: _____

AMEC VALIDATED

LEVEL V

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF196

Date Sampled: 02/21/03

Laboratory ID: 030161-05

Date Sample Received: 02/22/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	03/10/03	03/10/03	UJ	K9*H

ND = Not Detected

KRM 11-11-03

Reported by: _____

Approved by: _____

AMEC VALIDATED

LEVEL V

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF197

Date Sampled: 02/21/03

Laboratory ID: 030161-06

Date Sample Received: 02/22/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	03/10/03	03/10/03	UJ	KQ AHO

ND = Not Detected

KRM 11-11-03

Reported by: _____

Approved by: _____

AMEC VALIDATED

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Perchlorate by 314.0
QC Level: V[1]
SDG: PF198
Matrix: Water
No. of Samples: 3
Date Reviewed: April 08, 2003
Reviewer: P. Meeks
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed: PF198, PF199, PF200

Data Validation Findings

	Findings	Qualifications
1. Sample Management	Temperatures were within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses. Custody seals were present on the cooler. The holding times were met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 87-110%.	No qualifications were required.
6. Duplicates	Not performed.	No qualifications were required.
7. MS/MSDs PF199	MS/MSD analyses were not requested for this sample. Due to the sample's high conductivity, the analyst performed MS/MSD analyses on sample PF199. Both recoveries were within the control limits of 75-125% and the RPD was less than the control limit of 20%.	
10. Other	Perchlorate was reported below the reporting limit in sample PF198. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Perchlorate in sample PF198 was qualified as estimated, "J." Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."

	Findings	Qualifications
11. Field QC Samples Field duplicates: none	The samples in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

CEIMIC
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"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF198

Date Sampled: 02/26/03

Laboratory ID: 030181-01

Date Sample Received: 02/28/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	0.359J	ug/L	1	03/13/03	03/13/03	J	*10

Reported by: BS

Approved by: TS

AMEC VALIDATED

LEVEL V

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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF199

Date Sampled: 02/26/03

Laboratory ID: 030181-02

Date Sample Received: 02/28/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1	03/13/03	03/13/03	UJ	*10

ND = Not Detected

KRM 11-11-03

Reported by: BS

Approved by: TS

AMEC VALIDATED

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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF200

Date Sampled: 02/26/03

Laboratory ID: 030181-03

Date Sample Received: 02/28/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Lab Qual	Qual Code
Perchlorate	ND	ug/L	1	03/13/03	03/13/03	UJ	*10

ND = Not Detected

ICRM 11-11-03

Reported by: BS

Approved by: TS

AMEC VALIDATED

LEVEL V

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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Perchlorate by 314.0
QC Level: V[1]
SDG: PF221
Matrix: Water
No. of Samples: 3
Date Reviewed: May 19, 2003
Reviewer: A. Lamirato
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed: PF221, PF224, PF225

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses presented in this SDG. No custody seals were present on the cooler. The 28 day perchlorate analytical holding time was met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recoveries were within the laboratory-established control limits of 94-109%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs PF221 PF225	MS/MSD analyses were not requested for any samples in this SDG. Due to high conductivity, MS analyses were performed for samples PF221 and PF225. The recoveries were within the control limits of 75-125%.	No qualifications were required.
10. Other	Perchlorate was reported below the reporting limit in sample PF225. Sample PF225 was reported from a 2× dilution. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Perchlorate in sample PF225 was qualified as estimated, "J." Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."

	Findings	Qualifications
11. Field QC Samples Field duplicates: none	The samples in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF221

Date Sampled: 04/01/03

Laboratory ID: 030325-01

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed		
Perchlorate	ND	ug/L	1.0	04/10/03	04/10/03	VJ	*10

ND = Not Detected

KRM 11-11-03

AMEC VALIDATED

Reported by: TS

Approved by: BS

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF224

Date Sampled: 04/01/03

Laboratory ID: 030325-04

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Qual Code
Perchlorate	ND	ug/L	1.0	04/10/03	04/10/03	UJ *10

ND = Not Detected

KRM 11-11-03

AMEC VALIDATED LEVEL V

Reported by: TS

Approved by: BS

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF225

Date Sampled: 04/01/03

Laboratory ID: 030325-05

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	
Perchlorate	0.796J	ug/L	2.0	04/10/03	04/11/03	J

AMEC VALIDATED

LEVEL V

Reported by: TS

Approved by: BS

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	PF203
Matrix:	Water
No. of Samples:	15
Date Reviewed:	April 29, 2003
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF203, PF204, PF205, PF206, PF207, PF208, PF209, PF210, PF211, PF212, PF213, PF214, PF217, PF219, PF220

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples received intact at Del Mar Analytical at 1 °C. All samples were then transferred to Ceimic and were received within the QC limits of 4°±2°C. Except for samples PF215 and PF216, the COC matched the samples and accounted for the analyses. According to a memo from Montgomery Watson personnel dated 04/30/03, samples PF215 and PF216 were incorrectly sent to Ceimic and were subsequently transferred back to Del Mar Analytical. No custody seals were present on the cooler. The 28 day perchlorate holding time was met.	As the samples were noted to have been received intact, no qualifications were required for the low temperature.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recoveries were within the laboratory-established control limits of 87-110%.	No qualifications were required.
6. Duplicates PF213, PF217, PF219	Duplicate analyses were not requested for any samples in this SDG. Due to matrix interference, samples PF213, PF217, and PF219 were analyzed twice at the same dilution. The RPDs were within the control limit of ±20%.	No qualifications were required.

	Findings	Qualifications
7. MS/MSDs PF203, PF205, PF208, PF211, PF212, PF213, PF214, PF217, PF219	MS/MSD analyses were not requested for any samples in this SDG. Due to high conductivities and matrix interference, MS or MS/MSD analyses were performed for samples PF203, PF205, PF208, PF211, PF212, PF213, PF214, PF217, and PF219. The MS analyses of samples PF205, PF211, PF212, and PF214 were not performed at the same dilutions as the unspiked analyses (see section 10). One recovery for PF211 was below the control limit at 56% and one recovery for PF214 was above the control limit at 180%. All remaining recoveries were within the control limits of 75-125%. The RPDs for PF211 and PF214 were greater than the control limit. All remaining RPDs were less than the control limit of 20%.	Nondetected perchlorate in sample PF211 was qualified as estimated, "UJ." No qualifications were applied for inconsistent MS/MSD recoveries.
10. Other	Perchlorate was reported below the reporting limit in sample PF213. The results for perchlorate in samples PF205, PF208, PF211, PF212, and PF214 were reported as nondetect from 5× dilutions. The matrix spike analyses performed for samples PF205, PF211, PF212, and PF214 were performed at higher dilutions, 10×, 10×, 25×, 100×, and 20×, respectively. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Perchlorate in sample PF213 was qualified as estimated, "J." As perchlorate recoveries in the spiked samples were acceptable, and confirmed that perchlorate was not present in samples PF205, PF208, PF211, PF212, and PF214, at the higher dilutions, the reviewer raised the reporting limits for these samples to reflect the higher dilutions, 10µg/L, 10µg/L, 25µg/L, 100µg/L, and 20µg/L , respectively. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
11. Field QC Samples Field duplicates: none	The samples in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF203

Date Sampled: 03/26/03

Laboratory ID: 030324-01

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	04/08/03	04/08/03	UJ	*IC

ND = Not Detected

RPM 11-11-03

Reported by: TS

Approved by: JS

LEVEL V

AMEC VALIDATED

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF204

Date Sampled: 03/26/03

Laboratory ID: 030324-02

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	04/08/03	04/08/03	UJ	*10

ND = Not Detected

KRM 11-11-03

Reported by: _____

Approved by: _____

LEVEL V

AMEC VALIDATED

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF205

Date Sampled: 03/28/03

Laboratory ID: 030324-03

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	~~1.0~~ 5.0	04/07/03	04/08/03	UJ	$#

ND = Not Detected

PM 04/30/03

KRM 11-11-03

Reported by: _____

Approved by: _____

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF206

Date Sampled: 03/28/03

Laboratory ID: 030324-04

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Cod
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	UJ	*10

ND = Not Detected

KRM 11-11-03

Reported by: TS

Approved by: JS

LEVEL V

AMEC VALIDATED

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF207

Date Sampled: 03/28/03

Laboratory ID: 030324-05

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	UJ	A10

ND = Not Detected

Form 11-11-03

Reported by: TS

Approved by: BS

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF208

Date Sampled: 03/28/03

Laboratory ID: 030324-06

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Cod
Perchlorate	ND	ug/L	~~5.0~~ 4.0	04/07/03	04/08/03	UJ	$\$_1$

ND = Not Detected

PM 05/19/03

KRM 11-11-03

Reported by: TS

Approved by: BS

LEVEL V
AMEC VALIDATED

CEIMIC
Corporation
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF209

Date Sampled: 03/28/03

Laboratory ID: 030324-07

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	UJ	#10

ND = Not Detected

KRM 11-11-03

Reported by: TS

Approved by: BS

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF210

Date Sampled: 03/28/03

Laboratory ID: 030324-08

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	UJ	#10

ND = Not Detected

KRM 11-11-03

Reported by: TS

Approved by: BS

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF211

Date Sampled: 03/28/03

Laboratory ID: 030324-09

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	2.5 ~~5.0~~	04/07/03	04/08/03	UJ	$ G #10

ND = Not Detected

PM 04/30/03

KRM 11-11-03

Reported by: TS

Approved by: JS

FINAL

AMEC VALIDATED

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF212

Date Sampled: 03/28/03

Laboratory ID: 030324-10

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	~~100~~ 5.0	04/07/03	04/08/03	UJ	$*

ND = Not Detected

pm 04/30/03

KRM 11-11-03

Reported by: TS

Approved by: JS

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF213

Date Sampled: 03/28/03

Laboratory ID: 030324-11

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Cod
Perchlorate	0.803J	ug/L	1.0	04/08/03	04/09/03	J	*1

Reported by: TS

Approved by: [signature]

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF214

Date Sampled: 03/28/03

Laboratory ID: 030324-12

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	2.0 ~~5.0~~	04/07/03	04/08/03	U	#10 $,Q

ND = Not Detected

PM 04/30/03

KPM 11-11-03

Reported by: TS

Approved by: BS

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF217

Date Sampled: 03/31/03

Laboratory ID: 030324-15

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Cod
Perchlorate	12.740	ug/L	5.0	04/07/03	04/08/03	J	₹10

KPM 11-11-03

Reported by: TS

Approved by: BS

LEVEL V
AMEC VALIDATED

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF219

Date Sampled: 03/31/03

Laboratory ID: 030324-17

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Raw Qual	Qual Code
Perchlorate	7.687	ug/L	5.0	04/07/03	04/08/03	J	*10

KRM 11-11-03

Reported by: TS

Approved by: BS

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF220

Date Sampled: 03/31/03

Laboratory ID: 030324-18

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	UJ	#10

ND = Not Detected

KRM 11-11-03

Reported by: TS

Approved by: BS

LEVEL V
AMEC VALIDATED

301

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	PF237
Matrix:	Water
No. of Samples:	4
Date Reviewed:	April 30, 2003
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF237, PF239, PF240, PF241

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses presented in this SDG. No custody seals were present on the cooler. The 28 day perchlorate analytical holding time was met.	No qualifications were required..
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recoveries were within the laboratory-established control limits of 87-110%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs PF239	MS/MSD analyses were not requested for any samples in this SDG. Due to high conductivity, an MS analysis was performed for sample PF239. The recovery was within the control limits of 75-125%.	No qualifications were required.
10. Other	Perchlorate was reported below the reporting limit in sample PF237. Sample PF239 was reported from a 2× dilution. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Perchlorate in sample PF237 was qualified as estimated, "J." Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."

	Findings	Qualifications
11. Field QC Samples Field duplicates: none	The samples in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF237

Date Sampled: 04/04/03

Laboratory ID: 030347-01

Date Sample Received: 4/7/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Code
Perchlorate	0.562J	ug/L	1.0	04/17/03	04/17/03	J	*10

AMEC VALIDATED

LEVEL V

Reported by: TS

Approved by: BS

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF239

Date Sampled: 04/04/03

Laboratory ID: 030347-03

Date Sample Received: 4/7/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	2.0	04/16/03	04/17/03	UJ	*10

ND = Not Detected

IRM 11-11-03

AMEC VALIDATED

LEVEL V

Reported by: TS

Approved by: JS

CEIMIC
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF240

Date Sampled: 04/04/03

Laboratory ID: 030347-04

Date Sample Received: 4/7/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	04/17/03	04/17/03	UJ	*D

ND = Not Detected

ICRM 11-11-03

AMEC VALIDATED

Reported by: TS

Approved by: BS

CEIMIC
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"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF241

Date Sampled: 04/04/03

Laboratory ID: 030347-05

Date Sample Received: 4/7/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	04/17/03	04/17/03	UJ	#10

ND = Not Detected

KRM 11-11-03

AMEC VALIDATED
LEVEL V

Reported by: TS

Approved by: BS

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DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL RFI
Project Manager: D. Hambrick
Analysis/Method: Perchlorate by 314.0
QC Level: V[1]
SDG: PF232
Matrix: Water
No. of Samples: 2
Date Reviewed: May 19, 2003
Reviewer: A. Lamirato
Reference: *USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed: PF233, PF234

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses presented in this SDG. No custody seals were present on the cooler. The 28 day perchlorate analytical holding time was met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 94-109%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs PF233 PF234	MS/MSD analyses were not requested for any samples in this SDG. Due to high conductivity, MS analyses were performed for samples PF233 and PF234. The recoveries were within the control limits of 75-125%.	No qualifications were required.

	Findings	Qualifications
10. Other	Samples PF233 and PF234 were reported from 2× dilutions. "After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ". No further qualifications were required."	No qualifications were required.
11. Field QC Samples Field duplicates: PF233/PF234 Equipment rinsate: PF238	The samples in this SDG had no associated field QC samples. Sample PF233/PF234 were identified as a field duplicate pair. The RPD was 5%. Sample PF238 was identified as the equipment rinsate associated with the samples in this SDG. Perchlorate was not detected in PF238.	No qualifications were required.
Comments	None	None

Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

CEIMIC
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF233

Date Sampled: 04/03/03

Laboratory ID: 030341-02

Date Sample Received: 4/4/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Qual	Qual
Perchlorate	2.157	ug/L	2.0	04/16/03	04/16/03	J	X10

KRM 11-11-03

AMEC VALIDATED

LEVEL V

Reported by: TS

Approved by: JS

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF234

Date Sampled: 04/03/03

Laboratory ID: 030341-03

Date Sample Received: 4/4/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	
Perchlorate	2.056	ug/L	2.0	04/16/03	04/17/03	J

*10

ERM 11-11-03

AMEC VALIDATED

LEVEL V

Reported by: _____

Approved by: _____

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	General Minerals by IC
QC Level:	V[1]
SDG:	PF167
Matrix:	Water
No. of Samples:	1
Date Reviewed:	July 12, 2002
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF173

Data Validation Findings

	Findings	Qualifications
1. Sample Management	Temperatures were within the QC limits of 4°±2°C. The COC matched the sample and accounts for the analysis. Custody seals were not present on the cooler. Holding time was met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 87-110%..	No qualifications were required.
6. Duplicates	Not performed.	No qualifications were required.
7. MS/MSDs	Not performed.	No qualifications were required.
10. Other	None	No qualifications were required.
11. Field QC Samples Field duplicates: none	The sample in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

CEIMIC
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"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF173

Date Sampled: 04/09/02

Laboratory ID: 020349-05

Date Sample Received: 04/12/02

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Cod
Perchlorate	ND	ug/L	2	04/22/02	04/23/02	U	

ND = Not Detected

Reported by: KBR

Approved by: RL

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LEVEL V

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	PF226
Matrix:	Water
No. of Samples:	1
Date Reviewed:	May 06, 2003
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF230

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The sample was received within the QC limits of 4°±2°C. The COC accounted for the sample and analysis presented in this SDG. No custody seals were present on the cooler. The 28 day perchlorate analytical holding time was met.	No qualifications were required..
3. Method Blanks	Perchlorate was not detected in either of the method blanks.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 94-109%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs PF230	MS/MSD analyses were not requested for the sample in this SDG; however, an MS analysis was performed for sample PF230. The recovery was within the control limits of 75-125%.	No qualifications were required.
10. Other	After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."

	Findings	Qualifications
11. Field QC Samples Field duplicates: none	The samples in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF230

Date Sampled: 03/28/03

Laboratory ID: 030326-04

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Cod
Perchlorate	1.546	ug/L	1.0	04/10/03	04/10/03	J	*10

ICRM 11-11-03

Reported by: TS

Approved by: JS

AMEC VALIDATED

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	PF243
Matrix:	Water
No. of Samples:	2
Date Reviewed:	May 19, 2003
Reviewer:	A. Lamirato
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF243, PF248

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses presented in this SDG. No custody seals were present on the cooler. The 28 day perchlorate analytical holding time was met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 94-109%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs None	None.	No qualifications were required.
10. Other	After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
11. Field QC Samples Field duplicates: None	Sample PF248 was identified as an equipment rinsate. Perchlorate was not detected in PF248.	No qualifications were required.
Comments	None	None

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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF243

Date Sampled: 04/07/03

Laboratory ID: 030364-01

Date Sample Received: 4/9/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed
Perchlorate	ND	ug/L	1.0	04/17/03	04/17/03

ND = Not Detected

KRM 11-11-03

AMEC VALIDATED

LEVEL V

Reported by: _____

Approved by: _____

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF248

Date Sampled: 04/08/03

Laboratory ID: 030364-06

Date Sample Received: 4/9/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed		
Perchlorate	ND	ug/L	1.0	04/17/03	04/17/03	UJ	*10

ND = Not Detected

KRM 11-11-03

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Reported by: _____ Approved by: _____

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	PF203
Matrix:	Water
No. of Samples:	15
Date Reviewed:	April 29, 2003
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF203, PF204, PF205, PF206, PF207, PF208, PF209, PF210, PF211, PF212, PF213, PF214, PF217, PF219, PF220

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples received intact at Del Mar Analytical at 1 °C. All samples were then transferred to Ceimic and were received within the QC limits of 4°±2°C. Except for samples PF215 and PF216, the COC matched the samples and accounted for the analyses. According to a memo from Montgomery Watson personnel dated 04/30/03, samples PF215 and PF216 were incorrectly sent to Ceimic and were subsequently transferred back to Del Mar Analytical. No custody seals were present on the cooler. The 28 day perchlorate holding time was met.	As the samples were noted to have been received intact, no qualifications were required for the low temperature.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recoveries were within the laboratory-established control limits of 87-110%.	No qualifications were required.
6. Duplicates PF213, PF217, PF219	Duplicate analyses were not requested for any samples in this SDG. Due to matrix interference, samples PF213, PF217, and PF219 were analyzed twice at the same dilution. The RPDs were within the control limit of ±20%.	No qualifications were required.

	Findings	Qualifications
7. MS/MSDs PF203, PF205, PF208, PF211, PF212, PF213, PF214, PF217, PF219	MS/MSD analyses were not requested for any samples in this SDG. Due to high conductivities and matrix interference, MS or MS/MSD analyses were performed for samples PF203, PF205, PF208, PF211, PF212, PF213, PF214, PF217, and PF219. The MS analyses of samples PF205, PF211, PF212, and PF214 were not performed at the same dilutions as the unspiked analyses (see section 10). One recovery for PF211 was below the control limit at 56% and one recovery for PF214 was above the control limit at 180%. All remaining recoveries were within the control limits of 75-125%. The RPDs for PF211 and PF214 were greater than the control limit. All remaining RPDs were less than the control limit of 20%.	Nondetected perchlorate in sample PF211 was qualified as estimated, "UJ." No qualifications were applied for inconsistent MS/MSD recoveries.
10. Other	Perchlorate was reported below the reporting limit in sample PF213. The results for perchlorate in samples PF205, PF208, PF211, PF212, and PF214 were reported as nondetect from 5× dilutions. The matrix spike analyses performed for samples PF205, PF211, PF212, and PF214 were performed at higher dilutions, 10×, 10×, 25×, 100×, and 20×, respectively.	Perchlorate in sample PF213 was qualified as estimated, "J." As perchlorate recoveries in the spiked samples were acceptable, and confirmed that perchlorate was not present in samples PF205, PF208, PF211, PF212, and PF214, at the higher dilutions, the reviewer raised the reporting limits for these samples to reflect the higher dilutions, 10µg/L, 10µg/L, 25µg/L, 100µg/L, and 20µg/L , respectively.
11. Field QC Samples Field duplicates: none	The samples in this SDG had no associated field QC samples.	No qualifications were required.
Comments	None	None

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CEIMIC
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF203

Date Sampled: 03/26/03

Laboratory ID: 030324-01

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	04/08/03	04/08/03	U	

ND = Not Detected

Reported by: TS

Approved by: JS

LEVEL V

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CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF204

Date Sampled: 03/26/03

Laboratory ID: 030324-02

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1.0	04/08/03	04/08/03	U	

ND = Not Detected

Reported by: _____

Approved by: _____

LEVEL V
AMEC VALIDATED

CEIMIC
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"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF205

Date Sampled: 03/28/03

Laboratory ID: 030324-03

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	~~5.0~~ 4.0	04/07/03	04/08/03	U	$

ND = Not Detected

PM 04/30/03

Reported by: _____ Approved by: _____

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF206

Date Sampled: 03/28/03

Laboratory ID: 030324-04

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	U	

ND = Not Detected

Reported by: TS

Approved by: BS

CEIMIC
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"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF207

Date Sampled: 03/28/03

Laboratory ID: 030324-05

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qua Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	U	

ND = Not Detected

Reported by: TS

Approved by: BS

CEIMIC
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"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF208

Date Sampled: 03/28/03

Laboratory ID: 030324-06

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Cod
Perchlorate	ND	ug/L	10 ~~5.0~~	04/07/03	04/08/03	U	$

ND = Not Detected

PM 05/19/03

Reported by: TS

Approved by: BS

LEVEL V
AMEC VALIDATED

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF209

Date Sampled: 03/28/03

Laboratory ID: 030324-07

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	U	

ND = Not Detected

Reported by: TS

Approved by: [signature]

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF210

Date Sampled: 03/28/03

Laboratory ID: 030324-08

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	U	

ND = Not Detected

Reported by: TS

Approved by: BS

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF211

Date Sampled: 03/28/03

Laboratory ID: 030324-09

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	2.5 ~~5.0~~	04/07/03	04/08/03	UJ	$, G

ND = Not Detected

PM 04/30/03

Reported by: TS

Approved by: BS

FINAL

AMEC VALIDATED

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF212

Date Sampled: 03/28/03

Laboratory ID: 030324-10

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Ra Qual	Qual Code
Perchlorate	ND	ug/L	~~100~~ ~~5.0~~	04/07/03	04/08/03	U	$

ND = Not Detected

RM 04/30/03

Reported by: TS

Approved by: JS

AMEC VALIDATED

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF213

Date Sampled: 03/28/03

Laboratory ID: 030324-11

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	0.803J	ug/L	1.0	04/08/03	04/09/03	J	*10

Reported by: TS

Approved by: [signature]

CEIMIC
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF214

Date Sampled: 03/28/03

Laboratory ID: 030324-12

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	2.0 ~~5.0~~	04/07/03	04/08/03	U	$, ~~8~~

ND = Not Detected

PM 04/30/03

Reported by: TS

Approved by: BS

CEIMIC
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF217

Date Sampled: 03/31/03

Laboratory ID: 030324-15

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	12.740	ug/L	5.0	04/07/03	04/08/03		

Reported by: TS

Approved by: BS

CEIMIC Corporation

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF219

Date Sampled: 03/31/03

Laboratory ID: 030324-17

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	7.687	ug/L	5.0	04/07/03	04/08/03		

Reported by: TS

Approved by: BS

CEIMIC
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF220

Date Sampled: 03/31/03

Laboratory ID: 030324-18

Date Sample Received: 4/3/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	5.0	04/07/03	04/08/03	U	

ND = Not Detected

Reported by: TS

Approved by: BS

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	General Minerals by EPA 300.1, 9045, and
QC Level:	V[1]
SDG:	PF316
Matrix:	Water
No. of Samples:	4
Date Reviewed:	June 16, 2003
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF320, PF321, PF322, PF323

Data Validation Findings

	Findings	Qualifications
1. Sample Management	Temperatures were within the QC limits of 4°±2°C. The COC accounted for the samples and analyses presented in this SDG; however, a memo from Montgomery Watson personnel dated 06/18/03 changed the EPA IDs for all samples in this SDG and changed the SDG from PF249 to PF316. No custody seals were present on the cooler. Analytical holding times were met, except for pH.	The reviewer hand-corrected the EPA IDs for all samples in this SDG. The pH result for site sample PF320 was qualified as estimated, "J." As PF323 was identified as a field QC sample, no further qualifications were required.
3. Method Blanks	There were no detects in any of the method blanks.	No qualifications were required.
5. LCS/BS	The hexavalent chromium and fluoride recoveries were within the laboratory-established control limits. LCS is not applicable to pH.	No qualifications were required.
6. Duplicates PF323 (pH only)	As PF323 was identified as a field QC sample, the results were not assessed.	No qualifications were required.

	Findings	Qualifications
7. MS/MSDs PF2322 (hexavalent chromium only)	The recovery was with in the control limits of 75-125%.	No qualifications were required.
10. Other	After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
11. Field QC Samples ER: PF323 Field duplicates: none	Hexavalent chromium and fluoride were not detected in equipment rinsate PF323.	No qualifications were required.
Comments	None	None

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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: ~~PF253~~ PF320

Date Sampled: 04/22/03 Laboratory ID: 030451-05

Date Sample Received: 4/23/03

Matrix: Water

QM 6/23/03

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Lab Qual	Qual Code
pH	6.47	pH Units		04/25/03	04/25/03	J	H ~~X~~ 10

KRM
11-11-03

Reported by: AJ Approved by: KL

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: ~~PF254~~ PF321

Date Sampled: 04/22/03

Laboratory ID: 030451-06

Date Sample Received: 4/23/03

Matrix: Water

PM 6/23/03

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Raw Qual	Qual Code
Fluoride	0.334	mg/L	0.1	04/29/03	04/29/03	J	*10

KRM 11-11-03

Reported by: JS

Approved by: TS

AMEC VALIDATED

LEVEL V

CEIMIC
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INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: ~~PF255~~ PF322

Date Sampled: 04/22/03 Laboratory ID: 030451-07

Date Sample Received: 4/23/03

Matrix: Water

PM 06/23/03

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Hexavalent Chromium	ND	mg/L	0.05	04/23/03	04/23/03	UJ	*10

ND = Not Detected

ICRM 11-11-03

Reported by: AJ Approved by:

CEIMIC
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"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: ~~PF256~~ PF323

Date Sampled: 04/22/03

Laboratory ID: 030451-08

Date Sample Received: 4/23/03

Matrix: Water

pm 06/23/03

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Hexavalent Chromium	ND	mg/L	0.05	04/23/03	04/23/03	UJ	*10
pH	4.10	pH Units		04/25/03	04/25/03		

ND = Not Detected

KRM 11-11-03

Reported by: AJ

Approved by: KL

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: ~~PF256~~ PF323

Date Sampled: 04/22/03

Laboratory ID: 030451-08

Date Sample Received: 4/23/03

Matrix: Water

PM 06/23/03

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Fluoride	ND	mg/L	0.1	04/29/03	04/29/03	UJ	#10

ND = Not Detected

KRM 11-11-03

Reported by: JS

Approved by: TS

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	IMC0388
Matrix:	Water
No. of Samples:	19
Date Reviewed:	June 13, 2003
Reviewer:	A. Lamirato
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	MJ191, MJ192, MJ193, MJ194, MJ195, MJ196, MJ197, MJ198, MJ199, MJ200, MJ201, MJ202, MJ203, MJ204, MJ205, MJ206, MJ207, MJ208, MJ209

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses presented in this SDG. No custody seal information was provided by the laboratory. The 28 day perchlorate analytical holding time was met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blank.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 85-115%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs MJ196, MJ198, MJ201, MJ202, MJ209	MS/MSD analyses were not requested for any samples in this SDG, but were performed on sample MJ198. The MS recovery was above the control limits of 75-125% and the MSD recovery was acceptable. The RPD was within the control limits of ±25%. Due to high conductivity, MS analyses were performed for samples MJ196, MJ201, MJ202, and MJ209. The recoveries were above the control limits of 75-125%.	Perchlorate detected in samples MJ198, MJ201,and MJ202 was qualified as estimated, "J." Perchlorate detected in samples MJ201 and MJ202 were qualified as estimated, "J." As MJ209 was identified as an equipment rinsate, it was not assessed for this criterion.

	Findings	Qualifications
10. Other	None.	No qualifications were required.
11. Field QC Samples Field duplicates: None Equipment rinsate: MJ209	Sample MJ209 was identified as the equipment rinsate associated with the samples in this SDG. Perchlorate was not detected in MJ209.	No qualifications were required.
Comments	None	None

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Del Mar Analytical

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-San Diego
1230 Columbia Street, Suite 750
San Diego, CA 92101
Attention: Lisa J. Tucker

Project ID: Boeing SSFL

Report Number: IMC0388

Sampled: 03/04/03-03/06/03
Received: 03/07/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IMC0388-01 (MJ191 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-02 (MJ192 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-03 (MJ193 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-04 (MJ194 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/18/2003	U
Sample ID: IMC0388-05 (MJ195 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/18/2003	U
Sample ID: IMC0388-06 (MJ196 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/18/2003	U J Q
Sample ID: IMC0388-07 (MJ197 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-08 (MJ198 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	**11**	1	3/18/2003	3/19/2003	J Q

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4/13/03

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MWH-San Diego
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Attention: Lisa J. Tucker

Project ID: Boeing SSFL

Report Number: IMC0388

Sampled: 03/04/03-03/06/03
Received: 03/07/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IMC0388-09 (MJ199 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-10 (MJ200 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-11 (MJ201 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	57	1	3/18/2003	3/19/2003	J Q
Sample ID: IMC0388-12 (MJ202 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	6.2	1	3/18/2003	3/19/2003	J Q
Sample ID: IMC0388-13 (MJ203 - Water)				**Sampled: 03/06/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-14 (MJ204 - Water)				**Sampled: 03/06/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-15 (MJ205 - Water)				**Sampled: 03/06/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-16 (MJ206 - Water)				**Sampled: 03/04/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U

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Attention: Lisa J. Tucker

Project ID: Boeing SSFL

Report Number: IMC0388

Sampled: 03/04/03-03/06/03
Received: 03/07/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IMC0388-17 (MJ207 - Water)				**Sampled: 03/04/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-18 (MJ208 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U
Sample ID: IMC0388-19 (MJ209 - Water)				**Sampled: 03/05/03**				
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C18030	4.0	ND	1	3/18/2003	3/19/2003	U

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LEVEL V

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	IMC1010
Matrix:	Water
No. of Samples:	15
Date Reviewed:	June 13, 2003
Reviewer:	A. Lamirato
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	MJ210, MJ211, MJ212, MJ213, MJ214, MJ215, MJ216, MJ217, MJ218, MJ219, MJ220, MJ221, MJ222, MJ223, MJ224

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the QC limits of 4°±2°C. The COC matched the samples and accounted for the analyses presented in this SDG. No custody seal information was provided by the laboratory. The 28 day perchlorate analytical holding time was met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blanks.	No qualifications were required.
5. LCS/BS	The recoveries were within the laboratory-established control limits of 85-115%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs MJ210, MJ211, MJ212, MJ213, MJ214, MJ218, MJ220	MS/MSD analyses were performed on sample MJ220. The MS/MSD recoveries were within the control limits of 75-125%. The RPD was within the control limits of ±25%. Due to high conductivity, MS analyses were performed for samples MJ210, MJ211, MJ212, MJ213, MJ214, and MJ218. The recoveries were above the control limits of 75-125% for samples MJ213 and MJ214.	Perchlorate detected in samples MJ213 and MJ214 was qualified as estimated, "J."
10. Other	None.	No qualifications were required.

	Findings	Qualifications
11. Field QC Samples Field duplicates: None Equipment rinsate: MJ209	Sample MJ209 was identified as the equipment rinsate associated with the samples in this SDG. Perchlorate was not detected in MJ209.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

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Project ID: BOEING SSFL RFI

Report Number: IMC1010

Sampled: 03/15/03
Received: 03/15/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IMC1010-01 (MJ210 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	40	**170**	10	3/20/2003	3/21/2003	
Sample ID: IMC1010-02 (MJ211 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	40	**86**	10	3/20/2003	3/21/2003	
Sample ID: IMC1010-03 (MJ212 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	4.0	**6.1**	1	3/20/2003	3/21/2003	
Sample ID: IMC1010-04 (MJ213 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	4.0	**54**	1	3/20/2003	3/21/2003	J Q
Sample ID: IMC1010-05 (MJ214 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	4.0	**19**	1	3/20/2003	3/21/2003	J Q
Sample ID: IMC1010-06 (MJ215 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	4.0	ND	1	3/20/2003	3/21/2003	U
Sample ID: IMC1010-07 (MJ216 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	4.0	ND	1	3/20/2003	3/21/2003	U
Sample ID: IMC1010-08 (MJ217 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	4.0	ND	1	3/20/2003	3/21/2003	U

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Project ID: BOEING SSFL RFI

Report Number: IMC1010

Sampled: 03/15/03
Received: 03/15/03

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IMC1010-09 (MJ218 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C20031	4.0	**4.3**	1	3/20/2003	3/21/2003	
Sample ID: IMC1010-10 (MJ219 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C21059	4.0	ND	1	3/21/2003	3/21/2003	U
Sample ID: IMC1010-11 (MJ220 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C21059	4.0	ND	1	3/21/2003	3/21/2003	U
Sample ID: IMC1010-12 (MJ221 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C21059	4.0	ND	1	3/21/2003	3/21/2003	U
Sample ID: IMC1010-13 (MJ222 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C21059	4.0	ND	1	3/21/2003	3/21/2003	U
Sample ID: IMC1010-14 (MJ223 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C21059	4.0	ND	1	3/21/2003	3/21/2003	U
Sample ID: IMC1010-15 (MJ224 - Water)								
Reporting Units: ug/l								
Perchlorate	EPA 314.0	3C21059	4.0	ND	1	3/21/2003	3/21/2003	U

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL RFI
Project Manager:	D. Hambrick
Analysis/Method:	Perchlorate by 314.0
QC Level:	V[1]
SDG:	PF289
Matrix:	Water
No. of Samples:	3
Date Reviewed:	October 28, 2003
Reviewer:	P. Meeks
Reference:	*USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review* (2/94)
Samples Reviewed:	PF297, PF302, PF303

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The samples were received within the QC limits of 4°±2°C. The COC accounted for the samples and analyses presented in this SDG. No custody seals were present on the coolers. The 28-day analytical holding time was met.	No qualifications were required.
3. Method Blanks	Perchlorate was not detected in the method blanks.	No qualifications were required.
5. LCS/BS	The recovery was within the laboratory-established control limits of 94-109%.	No qualifications were required.
6. Duplicates None	None.	No qualifications were required.
7. MS/MSDs None	Due to matrix interference, MS analyses were performed for all samples in this SDG. The recoveries were above the control limits of 80-120% for samples PF297 and PF302.	Perchlorate detected in samples PF297 and PF302 was qualified as estimated, "J."

	Findings	Qualifications
10. Other	Due to matrix interference sample PF297 and PF302 were analyzed at 5× and 25× dilutions, respectively. The peak identified as perchlorate in sample PF297 coeluted with a matrix peak. Perchlorate was reported in PF297 below the reporting limit. The laboratory reported the result for PF302 to six significant figures. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Perchlorate detected in PF297 was qualified as estimated, "J." The reviewer hand-corrected the result to reflect the correct number of significant figures. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
11. Field QC Samples Field duplicates: None Equipment rinsate: MJ209 (SDG IMC1010)	Sample MJ209 was identified as the equipment rinsate associated with the samples in this SDG. Perchlorate was not detected in MJ209.	No qualifications were required.
Comments	None	None

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CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF-297

Date Sampled: 06/06/03

Laboratory ID: 030691-09

Date Sample Received: 6/9/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	2.312J	ug/L	5	06/25/03	06/25/03	J	Q, +10

Reported by: _____

Approved by: _____

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LEVEL V

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF-302

Date Sampled: 06/06/03

Laboratory ID: 030691-13

Date Sample Received: 6/9/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	512. ~~190~~	ug/L	25	06/25/03	06/25/03	J	$, Q, X

PM 10/28/03

KDM 11-11-03

Reported by: ____________

Approved by: ____________

AMEC VALIDATED

LEVEL V

CEIMIC
Corporation
"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Montgomery Watson

Client Sample ID: PF-303

Date Sampled: 06/06/03

Laboratory ID: 030691-14

Date Sample Received: 6/9/03

Matrix: Water

Target Analyte	Result	Units	Method Reporting Limit	Date Prep'd	Date Analyzed	Rev Qual	Qual Code
Perchlorate	ND	ug/L	1	06/25/03	06/25/03	UJ	*D

ND = Not Detected

KRM 11-11-03

Reported by: BS

Approved by: TS

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LEVEL V

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DATA ASSESSMENT FORM

Project Title:	Rocketdyne Shallow Ground water
Project Manager:	D. Hambrick
Analysis/Method:	Metals by Method ILM04
QC Level:	V[1]
SDG:	PF226
Matrix:	Water
No. of Samples:	3
Date Reviewed:	June 5, 2003
Reviewer:	P. Meeks
Reference:	*USEPA SW-846 Methods 3050B, 6010B, 7471A*
Samples Reviewed:	PF226, PF227, PF229

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The cooler was received within the temperature QC limits of 4°±2° C. The COC accounted for the samples and analyses presented in this SDG. No custody seals were present on the coolers. The analyses were performed within the six month holding time for ICP metals and 28 days for mercury.	No qualifications were required.
3. Method Blanks	One aqueous method blank was analyzed in association with the sample in this SDG. The following detects were reported: B = 32.8 µg/L Ca = 134 µg/L Cr = 0.6806 µg/L Mg = 31.7193 µg/L Ag = 1.5489 µg/L V = 2.4324 µg/L	Boron, calcium and magnesium were not detected at sufficient concentrations to qualify the site samples. Chromium, silver, and vanadium detected in the site samples were qualified as estimated, "UJ."

	Findings	Qualifications
5. LCS/BS	One aqueous LCS sample was analyzed with the sample. The LCS was not fortified with boron or molybdenum. The recoveries were within the control limits of 80-120%.	No qualifications were required.
6. Duplicates	None.	No qualifications were required.
7. MS/MSDs	None.	No qualifications were required.
9. ICP Serial Dilution	None.	No qualifications were required.
10. Other	At a Level V validation, site samples are not usually assessed for the laboratory QC samples that evaluate instrument performance. The QC samples which are not assessed include initial and continuing calibration information, initial and continuing calibration blank information, and the ICP Interference Check Solution, ICS.	
	In the ICSA results the reviewer noted negative values greater than the applicable CRDLs for boron and chromium.	As the concentrations of interfering analytes were insufficient in the site samples, no qualifications were required.
	The reviewer noted that boron was detected in the LCS at 47.1 µg/L, but the LCS was not fortified with boron.	Boron detected in the site samples was greater than 5× the amount in the LCS; therefore, no qualifications were required.
	After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
11. Field QC Samples FB: none ER: none Field Duplicates: none	None.	No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
PF226

Lab Name: Ceimic Corporation Contract: Boeing SSFL

Lab Code: CEIMIC Case No.: Boeing SAS No.: SDG No.: PF226

Matrix (soil/water): WATER Lab Sample ID: 030326-01

Level (low/med): LOW Date Received: 4/3/2003

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	120	B		P	J	*10
7440-36-0	Antimony	5.6	U		P	UJ	*10
7440-38-2	Arsenic	6.9	U		P	UJ	
7440-39-3	Barium	14	B		P	J	
7440-41-7	Beryllium	0.28	U		P	UJ	
7440-42-8	Boron	392			P	J	
7440-43-9	Cadmium	0.31	U		P	UJ	
7440-70-2	Calcium	81000			P	J	
7440-47-3	Chromium	1.4	B		P	UJ	B
7440-48-4	Cobalt	1.0	U		P	UJ	
7440-50-8	Copper	4.5	B		P	J	
7439-89-6	Iron	210			P		
7439-92-1	Lead	5.2	B		P		
7439-95-4	Magnesium	26000			P		
7439-96-5	Manganese	88			P		
7439-98-7	Molybdenum	31	B		P		
7439-97-6	Mercury	0.023	U		CV	UJ	
7440-02-0	Nickel	2.6	U		P	UJ	
7440-09-7	Potassium	11000			P	J	
7782-49-2	Selenium	6.7	U		P	UJ	
7440-22-4	Silver	2.1	B		P	UJ	B
7440-23-5	Sodium	130000			P	J	
7440-28-0	Thallium	7.4	U		P	UJ	
7440-62-2	Vanadium	2.1	B		P	UJ	B
7440-66-6	Zinc	27	U		P	UJ	

KM 11/10/03

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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LEVEL V

Form I - IN

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
PF227

Lab Name: Ceimic Corporation Contract: Boeing SSFL

Lab Code: CEIMIC Case No.: Boeing SAS No.: SDG No.: PF226

Matrix (soil/water): WATER Lab Sample ID: 030326-02

Level (low/med): LOW Date Received: 4/3/2003

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	99	U		P	U J	* 10
7440-36-0	Antimony	5.6	U		P		
7440-38-2	Arsenic	6.9	U		P		
7440-39-3	Barium	12	U		P		
7440-41-7	Beryllium	0.28	U		P		
7440-42-8	Boron	1840			P	J	
7440-43-9	Cadmium	0.31	U		P	UJ	
7440-70-2	Calcium	59000			P	J	
7440-47-3	Chromium	1.2	B		P	UJ	B
7440-48-4	Cobalt	1.3	B		P	J	
7440-50-8	Copper	3.0	B		P		
7439-89-6	Iron	91	B		P		
7439-92-1	Lead	3.4	U		P	UJ	
7439-95-4	Magnesium	25000			P	J	
7439-96-5	Manganese	15	B		P		
7439-98-7	Molybdenum	78	B		P		
7439-97-6	Mercury	0.023	U		CV	UJ	
7440-02-0	Nickel	2.6	U		P	UJ	
7440-09-7	Potassium	11000			P	J	
7782-49-2	Selenium	6.7	U		P	UJ	
7440-22-4	Silver	1.3	B		P	UJ	B
7440-23-5	Sodium	170000			P	J	
7440-28-0	Thallium	7.4	U		P	UJ	
7440-62-2	Vanadium	2.8	B		P	UJ	B
7440-66-6	Zinc	27	U		P	UJ	

KM 11/10/03

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

AMEC VALIDATED

LEVEL V

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
PF229

Lab Name: Ceimic Corporation Contract: Boeing SSFL

Lab Code: CEIMIC Case No.: Boeing SAS No.: . SDG No.: PF226

Matrix (soil/water): WATER Lab Sample ID: 030326-03

Level (low/med): LOW Date Received: 4/3/2003

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	550			P	J	
7440-36-0	Antimony	16	B		P	J	*10
7440-38-2	Arsenic	6.9	U		P	UJ	
7440-39-3	Barium	37	B		P	J	
7440-41-7	Beryllium	0.28	U		P	UJ	
7440-42-8	Boron	302			P	J	
7440-43-9	Cadmium	0.31	U		P	UJ	
7440-70-2	Calcium	120000			P	J	
7440-47-3	Chromium	2.1	B		P	UJ	B
7440-48-4	Cobalt	1.0	U		P	UJ	
7440-50-8	Copper	4.3	B		P	J	
7439-89-6	Iron	970			P	J	
7439-92-1	Lead	3.4	U		P	UJ	
7439-95-4	Magnesium	25000			P	J	
7439-96-5	Manganese	160			P	J	
7439-98-7	Molybdenum	1.6	U		P	UJ	
7439-97-6	Mercury	0.023	U		CV		
7440-02-0	Nickel	2.6	U		P		
7440-09-7	Potassium	5500			P	J	
7782-49-2	Selenium	6.7	U		P	UJ	
7440-22-4	Silver	2.3	B		P	UJ	B
7440-23-5	Sodium	74000			P	J	
7440-28-0	Thallium	7.4	U		P	UJ	
7440-62-2	Vanadium	3.7	B		P	UJ	B
7440-66-6	Zinc	27	U		P	UJ	

KM 11/10/03

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

AMEC VALIDATED

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Metals by Method ILM04
QC Level:	V[1]
SDG:	PF249
Matrix:	Water
No. of Samples:	2
Date Reviewed:	June 13, 2003
Reviewer:	P. Meeks
Reference:	*USEPA SW-846 Methods 3050B, 6010B*
Samples Reviewed:	PF250, PF256

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The cooler was received within the temperature QC limits of 4°±2° C. The COC accounted for the samples and analyses presented in this SDG. No custody seals were present on the coolers. The analyses were performed within the six month holding time for ICP metals.	No qualifications were required.
3. Method Blanks	One aqueous method blank was analyzed in association with the sample in this SDG. The following detects were reported: Ca = 153.3785 µg/L Mg = 27.4670 µg/L Na = 131.8291 µg/L Zn = 103.6915 µg/L	Zinc was not detected in either sample. Calcium, magnesium, and sodium detected in the sample PF256 were qualified as estimated, "UJ."
5. LCS/BS	One aqueous LCS sample was analyzed with the sample. The recoveries were within the control limits of 80-120%.	No qualifications were required.

	Findings	Qualifications
6. Duplicates PF256	PF256 was analyzed by the laboratory as a laboratory duplicate. As PF256 was identified as a field QC sample, the duplicate results are not applicable to the site sample in this SDG.	No qualifications were required.
7. MS/MSDs	None.	No qualifications were required.
9. ICP Serial Dilution	None.	No qualifications were required.
10. Other	At a Level V validation, site samples are not usually assessed for the laboratory QC samples that evaluate instrument performance. The QC samples which are not assessed include initial and continuing calibration information, initial and continuing calibration blank information, and the ICP Interference Check Solution, ICS. In the ICSA results the reviewer noted positive and negative values greater than the applicable CRDLs for arsenic, chromium, lead, and thallium. The sample results for arsenic and molybdenum were reported by the laboratory as nondetects at the IDLs (5.6 and 1.6 µg/L, respectively). A review of the raw data indicated that the actual results for arsenic and molybdenum in PF250, were negative results greater than these IDLs. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	As the concentrations of interfering analytes were insufficient, no qualifications were required. The reviewer raised the reporting limits for arsenic and molybdenum in PF250 to the level of interference (19 and 4.0 µg/L, respectively) and qualified these results as estimated, "UJ." Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
11. Field QC Samples FB: none ER: PF256 Field Duplicates: none	Potassium was detected in equipment rinsate PF256 at 150 µg/L.	Potassium was detected at a concentration insufficient to qualify PF250. No qualifications were required.
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
~~PF250~~ PF317

Lab Name: Ceimic Corporation Contract: Boeing SSFL-HWMF pm 06/23/03

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF249

Matrix (soil/water): WATER Lab Sample ID: 030451-02

Level (low/med): LOW Date Received: 4/23/2003

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	100	B		P	J	*10
7440-36-0	Antimony	19 ~~5.6~~	U		P	UJ	*10, $
7440-38-2	Arsenic	6.9	U		P	UJ	
7440-39-3	Barium	140	B		P	J	
7440-41-7	Beryllium	0.28	U		P	UJ	
7440-42-8	Boron	34.5	B		P	J	
7440-43-9	Cadmium	0.31	U		P	UJ	
7440-70-2	Calcium	81000			P	J	
7440-47-3	Chromium	0.97	B		P	J	
7440-48-4	Cobalt	1.0	U		P	UJ	
7440-50-8	Copper	3.0	U		P	UJ	
7439-89-6	Iron	100			P	J	
7439-92-1	Lead	3.4	U		P	UJ	
7439-95-4	Magnesium	39000			P	J	
7439-96-5	Manganese	7.7	B		P	J	
7439-98-7	Molybdenum	4.0 ~~1.6~~	U		P	UJ	*10, $
7440-02-0	Nickel	2.6	U		P	UJ	
7440-09-7	Potassium	3200	B		P	J	
7782-49-2	Selenium	6.7	U		P	UJ	
7440-22-4	Silver	0.58	U		P	UJ	
7440-23-5	Sodium	63000			P	J	
7440-28-0	Thallium	7.4	U		P	UJ	
7440-62-2	Vanadium	8.4	B		P	J	
7440-66-6	Zinc	27	U		P	UJ	

km 11/10/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts: N/A

Comments:

AMEC VALIDATED

LEVEL V

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
~~PF250~~ PF317

Lab Name: Ceimic Laboratories Contract: Boeing SSFL

PM 06/23/03

Lab Code: CEIMIC Case No.: SACRAM SAS No.: _____ SDG No.: PF249

Matrix (soil/water): WATER Lab Sample ID: 030451-02

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

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7439-93-2	Lithium	20	U		P	UJ	*10
7440-67-7	Zirconium	20	U		P	UJ	*10

KM 11/10/05

AMEC VALIDATED

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

LEVEL V

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
~~PF256~~
PF323

Lab Name: Ceimic Corporation Contract: Boeing SSFL-HWMF PM 06/23/03

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF249

Matrix (soil/water): WATER Lab Sample ID: 030451-08

Level (low/med): LOW Date Received: 4/23/2003

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7429-90-5	Aluminum	99	U		P	UJ	#10
7440-36-0	Antimony	5.6	U		P		
7440-38-2	Arsenic	6.9	U		P		
7440-39-3	Barium	12	U		P		
7440-41-7	Beryllium	0.28	U		P		
7440-42-8	Boron	29.2	U		P		
7440-43-9	Cadmium	0.31	U		P		
7440-70-2	Calcium	250	B		P	UJ	B
7440-47-3	Chromium	0.63	U		P	UJ	
7440-48-4	Cobalt	1.0	U		P		
7440-50-8	Copper	3.0	U		P		
7439-89-6	Iron	34	U		P		
7439-92-1	Lead	3.4	U		P		
7439-95-4	Magnesium	56	B		P	UJ	B
7439-96-5	Manganese	3.1	U		P	UJ	
7439-98-7	Molybdenum	1.6	U		P		
7439-97-6	Mercury	0.025	U		CV		
7440-02-0	Nickel	2.6	U		P		
7440-09-7	Potassium	150	B		P	J	
7782-49-2	Selenium	6.7	U		P	UJ	
7440-22-4	Silver	0.58	U		P	UJ	
7440-23-5	Sodium	140	B		P	UJ	B
7440-28-0	Thallium	7.4	U		P	UJ	
7440-62-2	Vanadium	1.9	U		P		
7440-66-6	Zinc	27	U		P		

KM 11/10/03

Color Before: COLORLESS Clarity Before: CLEAR Texture: N/A

Color After: COLORLESS Clarity After: CLEAR Artifacts: N/A

Comments:

AMEC VALIDATED
LEVEL V

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
~~PF256~~
PF323
pm 06/23/03

Lab Name: Ceimic Laboratories Contract: Boeing SSFL

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF249

Matrix (soil/water): WATER Lab Sample ID: 030451-08

Level (low/med): LOW Date Received:

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M	Rev Qual	Qual Code
7439-93-2	Lithium	20	U		P	UJ	#10
7440-67-7	Zirconium	20	U		P	UJ	

KM 11/10/03

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Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
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DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Semivolatiles by Method 8270C SIM
QC Level:	V[1]
SDG:	PF221
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	July 08, 2003
Reviewer:	K. Shadowlight
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF221, PF221DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by laboratory personnel only. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the cooler. The cooler temperature was recorded at 6°C, within the temperature limits of 4 ±2°C. According to the extraction and analysis dates on the sample result form, the sample was extracted within seven days of sample collection and analyzed within 40 days of extraction.	No qualifications were required.

	Findings	Qualifications
4. Method Blanks	One method blank(SBLKIQ) was extracted and analyzed with this SDG. Diethylphthalate and di-n-butylphthalate were each reported at concentrations below the reporting limit and bis(2-ethylhexyl) phthalate was detected above the reporting limit at a concentration of 0.5µg/L in the method blank. The result for bis (2-ethylhexyl) phthalate in sample PF221 was reported at a concentration less than ten times the amount reported in the method blank.	The results for diethylphthalate and di-n-butylphthalate reported in sample PF221 at concentrations below the reporting limit were qualified as nondetects "U" and the results were raised to the reporting limits. The result was qualified as an estimated nondetect, "UJ," and the reporting limit was raised to the level of interference in PF221.
5. LCS/BS	One LCS (SLCSIQ) was extracted and analyzed with the samples in this SDG. According to the case narrative for this SDG, the blank spike was fortified with acenaphthene and pyrene only. Both recoveries were within the laboratory QC limits of 20-140%.	No qualifications were required.
6. Surrogates	Surrogate recoveries for the sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: PF248 (SDG PF243) FB: None FD: None	There were no reportable target compounds in sample PF248. There were no other identified field QC samples associated with this SDG.	No qualifications were required.

	Findings	Qualifications
9. Other	Sample PF221 was reanalyzed at a 5× dilution in order to report bis (2-ethylhexyl) phthalate within linear range of the calibration; however, as the original concentration was qualified as a nondetect for method blank contamination, the reanalysis was deemed unneccessary. TICs are not routinely reported for this method. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	The reanalysis PF221DL was rejected, "R" in favor of the original analysis. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the r aw instrument output is performed.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF221

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF221

Matrix: (soil/water) WATER Lab Sample ID: 030325-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG910

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/06/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/07/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine		0.1	U	UJ	*9
91-20-3	Naphthalene		0.1	U		
91-57-6	2-Methylnaphthalene		0.1	U		
208-96-8	Acenaphthylene		0.1	U		
83-32-9	Acenaphthene		0.1	U		
86-73-7	Fluorene		0.1	U		
85-01-8	Phenanthrene		0.1	U		
120-12-7	Anthracene		0.1	U		
206-44-0	Fluoranthene		0.1	U		
129-00-0	Pyrene		0.1	U		
56-55-3	Benzo(a)anthracene		0.1	U		
218-01-9	Chrysene		0.1	U		
205-99-2	Benzo(b)fluoranthene		0.1	U		
207-08-9	Benzo(k)fluoranthene		0.1	U		
50-32-8	Benzo(a)pyrene		0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene		0.1	U		
53-70-3	Dibenzo(a,h)anthracene		0.1	U		
191-24-2	Benzo(g,h,i)perylene		0.1	U		
84-66-2	Diethylphthalate	0.1	0.07	JB	UJ	B
84-74-2	Di-n-butylphthalate	0.1	0.06	JB	UJ	B
117-81-7	bis(2-Ethylhexyl)phthalate		4	EB	UJ	B

DRM 4/10/03

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LEVEL V

KS 07/11/03

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF221DL

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF221

Matrix: (soil/water) WATER Lab Sample ID: 030325-01DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG921

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/06/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/08/03

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.5	U	R	D
91-20-3	Naphthalene	0.5	U		
91-57-6	2-Methylnaphthalene	0.5	U		
208-96-8	Acenaphthylene	0.5	U		
83-32-9	Acenaphthene	0.5	U		
86-73-7	Fluorene	0.5	U		
85-01-8	Phenanthrene	0.5	U		
120-12-7	Anthracene	0.5	U		
206-44-0	Fluoranthene	0.5	U		
129-00-0	Pyrene	0.5	U		
56-55-3	Benzo(a)anthracene	0.5	U		
218-01-9	Chrysene	0.5	U		
205-99-2	Benzo(b)fluoranthene	0.5	U		
207-08-9	Benzo(k)fluoranthene	0.5	U		
50-32-8	Benzo(a)pyrene	0.5	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	U		
53-70-3	Dibenzo(a,h)anthracene	0.5	U		
191-24-2	Benzo(g,h,i)perylene	0.5	U		
84-66-2	Diethylphthalate	0.5	U		
84-74-2	Di-n-butylphthalate	0.5	U		
117-81-7	bis(2-Ethylhexyl)phthalate	3	DB		

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LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Semivolatiles by Method 8270C SIM
QC Level:	V[1]
SDG:	PF226
Matrix:	Water
No. of Samples:	3
No. of Reanalyses/Dilutions:	1
Date Reviewed:	July 08, 2003
Reviewer:	K. Shadowlight
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF226, PF227, PF229, PF229RE

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the cooler. The cooler temperature was recorded at 5°C, within the temperature limits of 4 ±2°C. According to the extraction and analysis date on the sample result forms, the samples were extracted within seven days of sample collection and analyzed within 40 days of extraction.	No qualifications were required.

	Findings	Qualifications
4. Method Blanks	One method blank(SBLKIQ) was extracted and analyzed with this SDG. Diethylphthalate and di-n-butylphthalate were each reported at concentrations below the reporting limit and bis(2-ethylhexyl) phthalate was detected above the reporting limit at a concentration of 0.5µg/L in the method blank. The results for diethylphthalate, di-n-butylphthalate, and bis (2-ethylhexyl) phthalate in samples PF226, PF227, and PF229 were reported at concentrations less than ten times the amounts reported in the method blank.	The results for the aforementioned target compounds were qualified as estimated, "UJ," and the reporting limits were raised to the levels of interference.
5. LCS/BS	One LCS (SLCSIQ) was extracted and analyzed with the samples in this SDG. According to the case narrative for this SDG, the blank spike was fortified with acenaphthene and pyrene only. Both recoveries were within the laboratory QC limits of 20-140%.	No qualifications were required.
6. Surrogates	Surrogate recoveries for the sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: PF248 (SDG PF243) FB: None FD: None	There were no reportable target compounds in sample PF248. There were no other identified field QC samples associated with this SDG.	No qualifications were required.

	Findings	Qualifications
9. Other	Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard, with the exception of sample PF229. The area count for internal standard perylene-d12 in sample PF229 was below the lower limit. The sample was reanalyzed (PF229RE) and yielded an even lower result, suggesting a possible matrix effect on the internal standard. TICs are not routinely reported for this method. Compounds reported below the reporting limit were qualified as estimated, "J" by the laboratory. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Sample PF229RE was rejected, "R," in favor of the original analysis. The five target compounds that reference perylene-d12 for quantitation were qualified as estimated, "UJ" for nondetects and "J" for detects, in sample PF229. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF226

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF226

Matrix: (soil/water) WATER Lab Sample ID: 030326-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG907

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/06/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/07/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	*4
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.1	B	UJ	B
84-74-2	Di-n-butylphthalate	0.3	B		
117-81-7	bis(2-Ethylhexyl)phthalate	0.7	B		

KRM 11/10/03

AMEC VALIDATED

LEVEL V

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF227

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF226

Matrix: (soil/water) WATER Lab Sample ID: 030326-02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG908

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/06/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/07/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	*4
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.1	B	UJ	B
84-74-2	Di-n-butylphthalate	0.3	B		
117-81-7	bis(2-Ethylhexyl)phthalate	0.7	B		

KRm 11/10/03

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF229

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF226

Matrix: (soil/water) WATER Lab Sample ID: 030326-03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG909

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/06/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/07/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U	UJ	I
207-08-9	Benzo(k)fluoranthene	0.07	J	J	I
50-32-8	Benzo(a)pyrene	0.1	U	UJ	I
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U	UJ	
53-70-3	Dibenzo(a,h)anthracene	0.1	U	UJ	I
191-24-2	Benzo(g,h,i)perylene	0.1	U	UJ	I
84-66-2	Diethylphthalate	0.1	B	UJ	B
84-74-2	Di-n-butylphthalate	0.3	B		
117-81-7	bis(2-Ethylhexyl)phthalate	1	B		

*Q

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LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF229RE

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF226

Matrix: (soil/water) WATER Lab Sample ID: 030326-03RE

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG922

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/06/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/08/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual code
62-75-9	N-Nitrosodimethylamine	0.1	U	R	D
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.1	B		
84-74-2	Di-n-butylphthalate	0.3	B		
117-81-7	bis(2-Ethylhexyl)phthalate	1	B		

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LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Semivolatiles by Method 8270C SIM
QC Level:	V[1]
SDG:	PF232
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	July 08, 2003
Reviewer:	K. Shadowlight
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF235, PF235DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the cooler. The cooler temperature was recorded at 6°C, within the temperature limits of 4 ±2°C. According to the extraction and analysis dates on the sample result form, the sample was extracted within seven days of sample collection and analyzed within 40 days of extraction.	No qualifications were required.

	Findings	Qualifications
4. Method Blanks	One method blank(SBLKIS) was extracted and analyzed with this SDG. Diethylphthalate was reported at a concentration below the reporting limit and di-n-butylphthalate and bis(2-ethylhexyl) phthalate were detected above the reporting limit at a concentrations of 0.1µg/L and 1.0µg/L, respectively. The results for di-n-butyl phthalate and bis (2-ethylhexyl) phthalate in sample PF235 were reported at concentrations less than ten times the amount reported in the method blank. The result for diethylphthalate exceeded 10× the method blank concentration.	The results for di-n-butyl phthalate and bis (2-ethylhexyl) phthalate were qualified as estimated, "UJ," and the reporting limits were raised to the levels of interference.
5. LCS/BS	One LCS (SLCSIS) was extracted and analyzed with the samples in this SDG. Bis (2-ethylhexyl) phthalate was recovered above the QC limits in the LCS; however, as there were no reportable detects for bis(2-ethylhexyl)phthalate in this SDG, no qualifications were required for the elevated recovery. The remaining recoveries were within the laboratory QC limits of 20-140%.	No qualifications were required.
6. Surrogates	Surrogate recoveries for the sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: PF248 (SDG PF243) FB: None FD: None	There were no reportable target compounds in sample PF248. There were no other identified field QC samples associated with this SDG.	No qualifications were required.

	Findings	Qualifications
9. Other	Sample PF235 was reanalyzed at a 5× dilution in order to report diethylphthalate and bis (2-ethylhexyl) phthalate within linear ranges of the calibration; however, as bis (2-ethylhexyl phthalate was qualified as method blank contamination, the original result was retained. TICs are not routinely reported for this method. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. Compounds reported below the reporting limit were qualified as estimated, "J" by the laboratory. "After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	The result for diethylphthalate was rejected, "R" in sample PF235 in favor of the diluted result in PF235DL. The remaining results in PF235DL were rejected, "R." Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF235

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF232

Matrix: (soil/water) WATER Lab Sample ID: 030341-04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG938

Level: (low/med) LOW Date Received: 04/04/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/07/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/08/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	#9
91-20-3	Naphthalene	0.07	J	J	
91-57-6	2-Methylnaphthalene	0.1	U	UJ	
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	5	EB	R	D
84-74-2	Di-n-butylphthalate	0.6	B	UJ	B
117-81-7	bis(2-Ethylhexyl)phthalate	2	EB		

KBm 11/10/03

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LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF235DL

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF232

Matrix: (soil/water) WATER Lab Sample ID: 030341-04DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG959

Level: (low/med) LOW Date Received: 04/04/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/07/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/09/03

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual code
62-75-9	N-Nitrosodimethylamine	0.5	U	R	D
91-20-3	Naphthalene	0.5	U		
91-57-6	2-Methylnaphthalene	0.5	U		
208-96-8	Acenaphthylene	0.5	U		
83-32-9	Acenaphthene	0.5	U		
86-73-7	Fluorene	0.5	U		
85-01-8	Phenanthrene	0.5	U		
120-12-7	Anthracene	0.5	U		
206-44-0	Fluoranthene	0.5	U		
129-00-0	Pyrene	0.5	U		
56-55-3	Benzo(a)anthracene	0.5	U		
218-01-9	Chrysene	0.5	U		
205-99-2	Benzo(b)fluoranthene	0.5	U		
207-08-9	Benzo(k)fluoranthene	0.5	U		
50-32-8	Benzo(a)pyrene	0.5	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	U		
53-70-3	Dibenzo(a,h)anthracene	0.5	U		
191-24-2	Benzo(g,h,i)perylene	0.5	U	R	D
84-66-2	Diethylphthalate	5	DB		
84-74-2	Di-n-butylphthalate	0.8	DB	R	D
117-81-7	bis(2-Ethylhexyl)phthalate	2	DB	R	D

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LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Semivolatiles by Method 8270C SIM
QC Level:	V[1]
SDG:	PF243
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	2
Date Reviewed:	July 08, 2003
Reviewer:	K. Shadowlight
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF243, PF243DL, PF244, PF244DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both the field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the cooler. The cooler temperature was recorded at 5°C, within the temperature limits of 4 ±2°C. According to the extraction and analysis dates on the sample result forms, the samples were extracted within seven days of sample collection and analyzed within 40 days of extraction.	No qualifications were required.

	Findings	Qualifications
4. Method Blanks	One method blank(SBLKIW) was extracted and analyzed with this SDG. Diethylphthalate, di-n-butylphthalate, and bis(2-ethylhexyl) phthalate were detected above the reporting limit at concentrations of 0.6µg/L and 0.6µg/L, and 9.0µg/L, respectively. The results for diethyphthalate, di-n-butyl phthalate and bis (2-ethylhexyl) phthalate in samples in PF243 and PF244 were reported at concentrations less than ten times the amounts reported in the method blank.	The results for the aforementioned target compounds were qualified as estimated nondetects, "UJ," and the results were raised to the levels of interference.
5. LCS/BS	One LCS (SLCSIW) was extracted and analyzed with the samples in this SDG. Naphthalene and bis (2-ethylhexyl) phthalate were recovered above QC limits in the LCS; however, as there were no reportable detects for naphthalene or bis (2-ethylhexyl) phthalate in samples PF243 or PF244 (see section 4), no qualifications were required for the elevated recoveries. The remaining recoveries were within the laboratory QC limits of 20-140%.	No qualifications were required.
6. Surrogates	Surrogate recoveries for the retained sample analyses were within the laboratory QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: PF248 FB: None FD: None	There were no reportable target compounds in sample PF248. There were no other identified field QC samples associated with this SDG.	No qualifications were required.

	Findings	Qualifications
9. Other	Sample PF243 and PF244 were reanalyzed at a 50× and 5× dilution,respectively, in order to report bis (2-ethylhexyl) phthalate within linear range of the calibration; however, as the original results were qualified as nondetects for method blank contamination, the reanalyses were deemed unneccessary. TICs are not routinely reported for this method. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	The reanalyses PF243DL and PF244DL were rejected,"R," in favor of the original analyses. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF243

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF243

Matrix: (soil/water) WATER Lab Sample ID: 030364-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG983

Level: (low/med) LOW Date Received: 04/09/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/09/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/10/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	*9
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.3	B	UJ	B
84-74-2	Di-n-butylphthalate	0.4	B		
117-81-7	bis(2-Ethylhexyl)phthalate	22	EB		

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KRM 11/10/03

LEVEL V

LEVEL A

WS 07/14/04

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF243DL

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF243

Matrix: (soil/water) WATER Lab Sample ID: 030364-01DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG998

Level: (low/med) LOW Date Received: 04/09/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/09/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/11/03

Injection Volume: 2.0(uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	RW Qual	Qual bdc
62-75-9	N-Nitrosodimethylamine	5	U	R	D
91-20-3	Naphthalene	5	U		
91-57-6	2-Methylnaphthalene	5	U		
208-96-8	Acenaphthylene	5	U		
83-32-9	Acenaphthene	5	U		
86-73-7	Fluorene	5	U		
85-01-8	Phenanthrene	5	U		
120-12-7	Anthracene	5	U		
206-44-0	Fluoranthene	5	U		
129-00-0	Pyrene	5	U		
56-55-3	Benzo(a)anthracene	5	U		
218-01-9	Chrysene	5	U		
205-99-2	Benzo(b)fluoranthene	5	U		
207-08-9	Benzo(k)fluoranthene	5	U		
50-32-8	Benzo(a)pyrene	5	U		
193-39-5	Indeno(1,2,3-cd)pyrene	5	U		
53-70-3	Dibenzo(a,h)anthracene	5	U		
191-24-2	Benzo(g,h,i)perylene	5	U		
84-66-2	Diethylphthalate	5	U		
84-74-2	Di-n-butylphthalate	5	U		
117-81-7	bis(2-Ethylhexyl)phthalate	25	DB		

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LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF244

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF243

Matrix: (soil/water) WATER Lab Sample ID: 030364-02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG984

Level: (low/med) LOW Date Received: 04/09/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/09/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/10/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	#9
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.2	B	UJ	B
84-74-2	Di-n-butylphthalate	0.5	B		
117-81-7	bis(2-Ethylhexyl)phthalate	2	EB		

KRM 11/18/03

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LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF244DL

Lab Name: CEIMIC CORP Contract: M WATSON

Lab Code: CEIMIC Case No.: BOEING SAS No.: SDG No.: PF243

Matrix: (soil/water) WATER Lab Sample ID: 030364-02DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IG999

Level: (low/med) LOW Date Received: 04/09/03

% Moisture: ______ decanted: (Y/N)___ Date Extracted:04/09/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/11/03

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Rev Qual	Qual Code
62-75-9	N-Nitrosodimethylamine	0.5	U	R	D
91-20-3	Naphthalene	0.5	U		
91-57-6	2-Methylnaphthalene	0.5	U		
208-96-8	Acenaphthylene	0.5	U		
83-32-9	Acenaphthene	0.5	U		
86-73-7	Fluorene	0.5	U		
85-01-8	Phenanthrene	0.5	U		
120-12-7	Anthracene	0.5	U		
206-44-0	Fluoranthene	0.5	U		
129-00-0	Pyrene	0.5	U		
56-55-3	Benzo(a)anthracene	0.5	U		
218-01-9	Chrysene	0.5	U		
205-99-2	Benzo(b)fluoranthene	0.5	U		
207-08-9	Benzo(k)fluoranthene	0.5	U		
50-32-8	Benzo(a)pyrene	0.5	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	U		
53-70-3	Dibenzo(a,h)anthracene	0.5	U		
191-24-2	Benzo(g,h,i)perylene	0.5	U		
84-66-2	Diethylphthalate	0.5	U		
84-74-2	Di-n-butylphthalate	0.5	DB		
117-81-7	bis(2-Ethylhexyl)phthalate	2	DB		

AMEC VALIDATED

LEVEL V

FORM I SV

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Semivolatiles by Method 8270C
QC Level:	V[1]
SDG:	PF316
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Date Reviewed:	June 13, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF319, PF323

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the coolers. The cooler temperatures were recorded at 6°C, within the temperature limits of 4 ±2°C. According to the extraction dates on the sample result forms, both samples were extracted within seven days of sample collection.	No qualifications were required.
4. Method Blanks	One method blank(SBLKAC) was extracted and analyzed with the samples in this SDG. Napthalene and bis(2-ethylhexyl)phthalate were both detected below the reporting limit at concentrations of 1µg/L. Neither target compound was detected in the associated samples.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	One LCS (SLCSAC) was extracted and analyzed with the samples in this SDG. Hexachlorocyclopentadiene was recovered above the QC limits, but was not detected in the associated samples. All remaining recoveries were within the laboratory-established QC limits.	No qualifications were required.
6. Surrogates	Surrogate recoveries for the sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER:PF323 FB: None FD: None	Di-n-butylphthalate was detected in equipment rinsate PF323 at a concentration of 3µg/L, but was not detected in the associated site sample. There were no other identified field QC samples associated with this SDG.	No qualifications were required.
9. Other	Compounds reported below the reporting limits were qualified as estimated, "J," by the laboratory. TICs were not provided by the laboratory for the samples in this SDG. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The report ed values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF~~252~~-319

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF~~249~~ 314

Matrix: (soil/water) WATER Lab Sample ID: 030451-04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AF027

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/24/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Rev1 MC 06.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
110-86-1	Pyridine	5	U	UJ	*9
62-75-9	N-Nitrosodimethylamine	5	U		
108-95-2	Phenol	5	U		
95-57-8	2-Chlorophenol	5	U		
111-44-4	bis(-2-Chloroethyl)Ether	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
100-51-6	Benzyl Alcohol	5	U		
95-48-7	2-Methylphenol	5	U		
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U		
106-44-5	4-Methylphenol	5	U		
621-64-7	N-Nitroso-di-n-propylamine	5	U		
67-72-1	Hexachloroethane	5	U		
98-95-3	Nitrobenzene	5	U		
78-59-1	Isophorone	5	U		
88-75-5	2-Nitrophenol	5	U		
105-67-9	2,4-Dimethylphenol	5	U		
111-91-1	bis(-2-Chloroethoxy)methane	5	U		
65-85-0	Benzoic Acid	10	U		
120-83-2	2,4-Dichlorophenol	5	U		
120-82-1	1,2,4-Trichlorobenzene	5	U		
91-20-3	Naphthalene	5	U		
106-47-8	4-Chloroaniline	5	U		
87-68-3	Hexachlorobutadiene	5	U		
59-50-7	4-Chloro-3-Methylphenol	5	U		
91-57-6	2-Methylnaphthalene	5	U		
77-47-4	Hexachlorocyclopentadiene	10	U		
88-06-2	2,4,6-Trichlorophenol	5	U		
95-95-4	2,4,5-Trichlorophenol	10	U		
91-58-7	2-Chloronaphthalene	5	U		
88-74-4	2-Nitroaniline	10	U		
131-11-3	Dimethylphthalate	5	U		

km 11/10/03

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF~~252~~ 319

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF~~249~~ 316

Matrix: (soil/water) WATER Lab Sample ID: 030451-04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AF027

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/24/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Rev' MC 20.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
606-20-2	2,6-Dinitrotoluene	5	U	UJ	*9
208-96-8	Acenaphthylene	5	U		
99-09-2	3-Nitroaniline	10	U		
83-32-9	Acenaphthene	5	U		
51-28-5	2,4-Dinitrophenol	10	U		
100-02-7	4-Nitrophenol	10	U		
132-64-9	Dibenzofuran	5	U		
121-14-2	2,4-Dinitrotoluene	5	U		
84-66-2	Diethylphthalate	5	U		
86-73-7	Fluorene	5	U		
7005-72-3	4-Chlorophenyl-phenylether	5	U		
100-01-6	4-Nitroaniline	10	U		
122-67-1	Azobenzene	5	U		
534-52-1	4,6-Dinitro-2-methylphenol	10	U		
86-30-6	N-nitrosodiphenylamine (1)	5	U		
101-55-3	4-Bromophenyl-phenylether	5	U		
118-74-1	Hexachlorobenzene	5	U		
87-86-5	Pentachlorophenol	10	U		
85-01-8	Phenanthrene	5	U		
120-12-7	Anthracene	5	U		
86-74-8	Carbazole	5	U		
84-74-2	Di-n-butylphthalate	5	U		
206-44-0	Fluoranthene	5	U		
129-00-0	Pyrene	5	U		
85-68-7	Butylbenzylphthalate	5	U		
91-94-1	3,3'-Dichlorobenzidine	5	U		
56-55-3	Benzo(a)anthracene	5	U		
218-01-9	Chrysene	5	U		
117-81-7	bis(2-Ethylhexyl)phthalate	5	U		
117-84-0	Di-n-octylphthalate	5	U		
205-99-2	Benzo(b)fluoranthene	5	U		
207-08-9	Benzo(k)fluoranthene	5	U		
50-32-8	Benzo(a)pyrene	5	U		

(1) - Cannot be separated from Diphenylamine

LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF~~252~~319

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF~~249~~316

Matrix: (soil/water) WATER Lab Sample ID: 030451-04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AF027

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/24/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Rev 1 MC 06.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
193-39-5	Indeno(1,2,3-cd)pyrene	5	U	UJ	#9
53-70-3	Dibenzo(a,h)anthracene	5	U		
191-24-2	Benzo(g,h,i)perylene	5	U		

KRM 11/10/03

LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF~~256~~ 323

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF~~249~~316

Matrix: (soil/water) WATER Lab Sample ID: 030451-08

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AF028

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/24/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

RW1 MC 04.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Prelim qual	Final Code
110-86-1	Pyridine	5	U	UJ	X9
62-75-9	N-Nitrosodimethylamine	5	U		
108-95-2	Phenol	5	U		
95-57-8	2-Chlorophenol	5	U		
111-44-4	bis(-2-Chloroethyl)Ether	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
100-51-6	Benzyl Alcohol	5	U		
95-48-7	2-Methylphenol	5	U		
108-60-1	2,2'-oxybis(1-Chloropropane)	5	U		
106-44-5	4-Methylphenol	5	U		
621-64-7	N-Nitroso-di-n-propylamine	5	U		
67-72-1	Hexachloroethane	5	U		
98-95-3	Nitrobenzene	5	U		
78-59-1	Isophorone	5	U		
88-75-5	2-Nitrophenol	5	U		
105-67-9	2,4-Dimethylphenol	5	U		
111-91-1	bis(-2-Chloroethoxy)methane	5	U		
65-85-0	Benzoic Acid	10	U		
120-83-2	2,4-Dichlorophenol	5	U		
120-82-1	1,2,4-Trichlorobenzene	5	U		
91-20-3	Naphthalene	5	U		
106-47-8	4-Chloroaniline	5	U		
87-68-3	Hexachlorobutadiene	5	U		
59-50-7	4-Chloro-3-Methylphenol	5	U		
91-57-6	2-Methylnaphthalene	5	U		
77-47-4	Hexachlorocyclopentadiene	10	U		
88-06-2	2,4,6-Trichlorophenol	5	U		
95-95-4	2,4,5-Trichlorophenol	10	U		
91-58-7	2-Chloronaphthalene	5	U		
88-74-4	2-Nitroaniline	10	U		
131-11-3	Dimethylphthalate	5	U		

kem 11/10/03

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF~~256~~ 323

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF~~249~~ 316

Matrix: (soil/water) WATER Lab Sample ID: 030451-08

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AF028

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/24/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Rev 1 MC 06.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
606-20-2	2,6-Dinitrotoluene	5	U	UJ	*9
208-96-8	Acenaphthylene	5	U		
99-09-2	3-Nitroaniline	10	U		
83-32-9	Acenaphthene	5	U		
51-28-5	2,4-Dinitrophenol	10	U		
100-02-7	4-Nitrophenol	10	U		
132-64-9	Dibenzofuran	5	U		
121-14-2	2,4-Dinitrotoluene	5	U		
84-66-2	Diethylphthalate	5	U		
86-73-7	Fluorene	5	U		
7005-72-3	4-Chlorophenyl-phenylether	5	U		
100-01-6	4-Nitroaniline	10	U		
122-67-1	Azobenzene	5	U		
534-52-1	4,6-Dinitro-2-methylphenol	10	U		
86-30-6	N-nitrosodiphenylamine (1)	5	U		
101-55-3	4-Bromophenyl-phenylether	5	U		
118-74-1	Hexachlorobenzene	5	U		
87-86-5	Pentachlorophenol	10	U		
85-01-8	Phenanthrene	5	U		
120-12-7	Anthracene	5	U		
86-74-8	Carbazole	5	U		
84-74-2	Di-n-butylphthalate	3	J	J	
206-44-0	Fluoranthene	5	U	UJ	
129-00-0	Pyrene	5	U		
85-68-7	Butylbenzylphthalate	5	U		
91-94-1	3,3'-Dichlorobenzidine	5	U		
56-55-3	Benzo(a)anthracene	5	U		
218-01-9	Chrysene	5	U		
117-81-7	bis(2-Ethylhexyl)phthalate	5	U		
117-84-0	Di-n-octylphthalate	5	U		
205-99-2	Benzo(b)fluoranthene	5	U		
207-08-9	Benzo(k)fluoranthene	5	U		
50-32-8	Benzo(a)pyrene	5	U		

(1) - Cannot be separated from Diphenylamine

KRM 11/10/03

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF~~256~~ 323

Lab Name: CEIMIC CORP Contract: MW

Lab Code: CEIMIC Case No.: SACRAM SAS No.: SDG No.: PF~~249~~ 316

Matrix: (soil/water) WATER Lab Sample ID: 030451-08

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AF028

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/24/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Rev 1 MC on 20.07

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
193-39-5	Indeno(1,2,3-cd)pyrene	5	U	UJ	*9
53-70-3	Dibenzo(a,h)anthracene	5	U		
191-24-2	Benzo(g,h,i)perylene	5	U		

KRM 11/10/03

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Semivolatiles by Method 8270C
QC Level:	V[1]
SDG:	PF304
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	August 25, 2003
Reviewer:	M. Pokorny
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF307, PF307DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the coolers. The cooler temperature was recorded at 4°C, within the temperature limits of 4 ±2°C. According to the extraction dates on the sample result forms, the sample was extracted within seven days of sample collection.	No qualifications were required.
4. Method Blanks	One method blank(SBLKIR) was extracted and analyzed with the samples in this SDG. Diethylphthalate, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate were detected in the blank at concentrations of 0.09µg/L, 0.2µg/L, and 2µg/L, respectively. All three compounds were reported in the sample of this SDG.	Diethylphthalate, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate were qualified as estimated nondetects, "UJ," and raised to the levels of contamination for sample PF307. No further qualifications were required.

	Findings	Qualifications
5. LCS/BS	One LCS (SLCSIR) was extracted and analyzed with the samples in this SDG. Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were recovered above the QC limits, but were not reported in the associated samples (see Section 4). All remaining recoveries were within the laboratory-established QC limits.	No qualifications were required.
6. Surrogates	Surrogate recoveries for the sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: None FB: None FD: None		No qualifications were required.
9. Other	Sample PF307 had bis(2-ethylhexyl)phthalate reported above the calibration range of the instrument and was reanalyzed at a 3-fold dilution (PF307DL); however, bis(2-ethylhexyl)phthalate was reported in the method blank at a similar level. TICs were not provided by the laboratory for the samples in this SDG. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Sample PF307DL was rejected, "R," in favor of the undiluted analysis, PF307. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF307

Lab Name: CEIMIC CORP Project: MW

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IH458

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/03

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
62-75-9	N-Nitrosodimethylamine	0.1	U	UJ	*
91-20-3	Naphthalene	0.1	U		
91-57-6	2-Methylnaphthalene	0.1	U		
208-96-8	Acenaphthylene	0.1	U		
83-32-9	Acenaphthene	0.1	U		
86-73-7	Fluorene	0.1	U		
85-01-8	Phenanthrene	0.1	U		
120-12-7	Anthracene	0.1	U		
206-44-0	Fluoranthene	0.1	U		
129-00-0	Pyrene	0.1	U		
56-55-3	Benzo(a)anthracene	0.1	U		
218-01-9	Chrysene	0.1	U		
205-99-2	Benzo(b)fluoranthene	0.1	U		
207-08-9	Benzo(k)fluoranthene	0.1	U		
50-32-8	Benzo(a)pyrene	0.1	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.1	U		
53-70-3	Dibenzo(a,h)anthracene	0.1	U		
191-24-2	Benzo(g,h,i)perylene	0.1	U		
84-66-2	Diethylphthalate	0.3	B	UJ	B
84-74-2	Di-n-butylphthalate	0.7	B		
117-81-7	bis(2-Ethylhexyl)phthalate	3	EB		

AMEC VALIDATED

LEVEL V

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF307DL

Lab Name: CEIMIC CORP Project: MW

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-04DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: IH460

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/03

Injection Volume: 2.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
62-75-9	N-Nitrosodimethylamine	0.3	U	R	D
91-20-3	Naphthalene	0.3	U		
91-57-6	2-Methylnaphthalene	0.3	U		
208-96-8	Acenaphthylene	0.3	U		
83-32-9	Acenaphthene	0.3	U		
86-73-7	Fluorene	0.3	U		
85-01-8	Phenanthrene	0.3	U		
120-12-7	Anthracene	0.3	U		
206-44-0	Fluoranthene	0.3	U		
129-00-0	Pyrene	0.3	U		
56-55-3	Benzo(a)anthracene	0.3	U		
218-01-9	Chrysene	0.3	U		
205-99-2	Benzo(b)fluoranthene	0.3	U		
207-08-9	Benzo(k)fluoranthene	0.3	U		
50-32-8	Benzo(a)pyrene	0.3	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.3	U		
53-70-3	Dibenzo(a,h)anthracene	0.3	U		
191-24-2	Benzo(g,h,i)perylene	0.3	U		
84-66-2	Diethylphthalate	0.3	DJB		
84-74-2	Di-n-butylphthalate	0.6	DB		
117-81-7	bis(2-Ethylhexyl)phthalate	2	DB		

AMEC VALIDATED

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Total Fuel Hydrocarbons by EPA Method 8015M
QC Level:	V[1]
SDG:	PF316
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Date Reviewed:	June 13, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed:	PF318, PF323

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the coolers. The cooler temperatures were recorded at 6°C, within the temperature limits of 4 ±2°C. According to the extraction dates on the sample result forms, both samples were extracted within seven days of sample collection.	No qualifications were required.
3. Method Blanks	One water method blank (F0423-B5) was extracted and analyzed with the samples in this SDG. None of the target compound hydrocarbon ranges were detected in the method blank.	No qualifications were required.

	Findings	Qualifications
4. LCS/BS	One water LCS was extracted and analyzed with the samples in this SDG. The recoveries for all spiked target compound hydrocarbon ranges were within the laboratory-established QC limits (see section 8).	No qualifications were required.
5. Surrogates	All sample surrogate recoveries were within the laboratory-established QC limits.	No qualifications were required.
6. MS/MSDs	There were no MS/MSD analyses performed with the samples of this SDG. Evaluation of method accuracy was based on the LCS results.	No qualifications were required.
8. Field QC Samples ER: PF323 FB: None Duplicates: None	None of the target compound hydrocarbon ranges were detected in the equipment rinsate. There were no identified field QC samples associated with this SDG.	No qualifications were required.
9. Other	The reviewer noted that the gasoline and kerosene hydrocarbon ranges were spiked at one half the reporting limit in the LCS. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified SW846 Method 8015B

Client: Montgomery Watson

Client Sample ID: PF~~251~~ 318

Date Sampled: 04/22/03

Date Sample Received: 04/23/03

Matrix: Water

Laboratory ID: 030451-03

Date Sample Extracted: 04/23/03

Date Sample Analyzed: 04/28/03

Associated Method Blank: F0423-B5

Final Extract Volume (mL): 1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Rev'l MC 04.20.03

Target Analyte	rev qual	qual code	Sample Concentration	Quantitation Limit
C08-C11 (Gasoline Range)	UJ	9	ND	0.10
C11-C14 (Kerosene Range)			ND	0.10
C14-C20 (Diesel Range)			ND	0.10
C20-C30 (Lubricant Oil Range)			ND	0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	87	10 - 106
n-Eicosane	94	59 - 129
p-Terphenyl-d14	92	58 - 121

KRM 11/10/03

AMEC VALIDATED

LEVEL V

Reported by: RG

Approved by:

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified SW846 Method 8015B

Client: Montgomery Watson

Client Sample ID: PF~~256~~ 323

Date Sampled: 04/22/03

Date Sample Received: 04/23/03

Matrix: Water

Raw 1
MC 04.20.03

Laboratory ID: 030451-08

Date Sample Extracted: 04/23/03

Date Sample Analyzed: 04/28/03

Associated Method Blank: F0423-B5

Final Extract Volume (mL):1.0

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	ver qual	qual code	Sample Concentration	Quantitation Limit
C08-C11 (Gasoline Range)	UJ	*9	ND	0.10
C11-C14 (Kerosene Range)			ND	0.10
C14-C20 (Diesel Range)			ND	0.10
C20-C30 (Lubricant Oil Range)			ND	0.10

ND = Not detected

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)
n-Decane	80	10 - 106
n-Eicosane	92	59 - 129
p-Terphenyl-d14	90	58 - 121

KRM 11/10/03

AMEC VALIDATED

LEVEL V

Reported by: _____

Approved by: _____

Form I TPH

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Total Fuel Hydrocarbons by EPA Method 8015M
QC Level:	V[1]
SDG:	PF226
Matrix:	Water
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Date Reviewed:	July 10, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines For Organic Data Review (2/94)
Samples Reviewed:	PF226, PF227, PF229

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the sample containers were received intact and that custody seals were not present on the coolers. The cooler temperature was recorded as 5°C, within the temperature limits of 4 ±2°C. According to the extraction and analysis dates on the sample result forms, the samples were extracted within seven days of sample collection and analyzed within 40 days of extraction.	No qualifications were required.
3. Method Blanks	One water method blank (F0406-B3) was extracted and analyzed with the samples in this SDG. None of the target compound hydrocarbon ranges were detected in the method blank.	No qualifications were required.

	Findings	Qualifications
4. LCS/BS	One water LCS (F0406-LCS3) was extracted and analyzed with the samples in this SDG. The recoveries for all spiked target compound hydrocarbon ranges were within the laboratory-established QC limits (see section 8).	No qualifications were required.
5. Surrogates	All sample surrogate recoveries were within the laboratory-established QC limits.	No qualifications were required.
6. MS/MSDs	There were no MS/MSD analyses performed with the samples of this SDG. Evaluation of method accuracy was based on the LCS results.	No qualifications were required.
8. Field QC Samples ER: PF248 (SDG PF243) FB: None Duplicates: None	None of the target compound hydrocarbon ranges were detected in the equipment rinsate. There were no other identified field QC samples associated with this SDG.	No qualifications were required.
9. Other	The reviewer noted that the gasoline and kerosene hydrocarbon ranges were spiked at one half the reporting limit in the LCS. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None	None

[1] Level V validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified EPA Method 8015B

Client: Montgomery Watson

Client Sample ID: PF226

Date Sampled: 04/02/03

Date Sample Received: 04/03/03

Matrix: Water

Laboratory ID: 030326-01

Date Sample Extracted: 04/06/03

Date Sample Analyzed: 04/07/03

Associated Method Blank: F0406-B3

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	new qual	qual code	Sample Concentration	Quantitation Limit
C08-C11 (Gasoline Range)	UJ	*	ND	0.10
C11-C14 (Kerosene Range)			ND	0.10
C14-C20 (Diesel Range)			ND	0.10
C20-C30 (Lubricant Oil Range)			ND	0.10

ND = Not detected

RM 11/10/03

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Decane	44	10 - 106
n-Eicosane	80	59 - 129
p-Terphenyl-d14	97	58 - 121

* These limits are provided for advisory purposes.

AMEC VALIDATED
LEVEL V

Reported by: _____ Approved by: _____

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified EPA Method 8015B

Client: Montgomery Watson

Client Sample ID: PF227

Date Sampled: 04/02/03

Date Sample Received: 04/03/03

Matrix: Water

Laboratory ID: 030326-02

Date Sample Extracted: 04/06/03

Date Sample Analyzed: 04/07/03

Associated Method Blank: F0406-B3

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	rev qual	qual code	Sample Concentration	Quantitation Limit
C08-C11 (Gasoline Range)	U	Q	ND	0.10
C11-C14 (Kerosene Range)			ND	0.10
C14-C20 (Diesel Range)			ND	0.10
C20-C30 (Lubricant Oil Range)			ND	0.10

ND = Not detected

KM 11/19/03

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Decane	56	10 - 106
n-Eicosane	85	59 - 129
p-Terphenyl-d14	104	58 - 121

* These limits are provided for advisory purposes.

AMEC VALIDATED

LEVEL V

Reported by: RCM

Approved by:

Form I TPH

TOTAL PETROLEUM HYDROCARBONS (TPH)
(Extractables)
by Modified EPA Method 8015B

Client: Montgomery Watson

Client Sample ID: PF229

Date Sampled: 04/02/03

Date Sample Received: 04/03/03

Matrix: Water

Laboratory ID: 030326-03

Date Sample Extracted: 04/06/03

Date Sample Analyzed: 04/07/03

Associated Method Blank: F0406-B3

Dilution Factor: 1

Concentration in: mg/L (ppm)

Target Analyte	ver qual	qual code	Sample Concentration	Quantitation Limit
C08-C11 (Gasoline Range)	U	*9	ND	0.10
C11-C14 (Kerosene Range)			ND	0.10
C14-C20 (Diesel Range)			ND	0.10
C20-C30 (Lubricant Oil Range)			ND	0.10

ND = Not detected

RM 11/19/03

Surrogate Spike Recovery

Surrogate Compound	Recovery(%)	QC Limits(%)*
n-Decane	53	10 - 106
n-Eicosane	89	59 - 129
p-Terphenyl-d14	109	58 - 121

* These limits are provided for advisory purposes.

AMEC VALIDATED

LEVEL V

Reported by: RCm

Approved by: [signature]

Form I TPH

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne, Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	PF203
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	June 3, 2003
Reviewer:	M. Pokorny
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF205, PF205DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the sample was received intact, with a cooler temperature within the limits of 4°C ± 2°C. Custody seals were noted to be intact on the coolers. The analysis of the sample was performed within 14 days of sample collection; however, it was noted by the laboratory that the pH of the sample was greater than 2, indicating that the sample was not properly preserved. The holding time for an unpreserved sample is seven days and the holding time was exceeded by one day.	No qualifications were required. All retained target compounds were qualified as estimated, "UJ," for nondetects and "J," for detects for samples PF205 and PF205DL.
4. Method Blanks	Two method blanks were analyzed with this SDG. No target compounds were reported in the method blanks.	No qualifications were required.
5. LCS/BS	Two LCSs were analyzed with this SDG. All spike compounds were recovered within the QC limits except for the recovery of chlorotrifluoroethene above the QC limit for VLCSO4.	No qualifications were required since chlorotrifluoroethene was not reported from the sample analysis associated with VLCSO4.

	Findings	Qualifications
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for both samples.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: None TB: None FB: None FD: None	None.	No qualifications were required.
9. Other	The detects for dichlorodifluoromethane and 1,1,2-trichlorotrifluorothane were above the calibration range of the instrument for sample PF205 and were diluted out in sample PF205DL. Chlorotrifluoroethene, cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were above the calibration range of the instrument for sample PF205. The sample was reanalyzed at a 1000-fold dilution, PF205DL. TICs were not provided with the samples in this SDG. The laboratory reported results in three significant figures on the sample Form Is. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Dichlorodifluoromethane and 1,1,2-trichlorotrifluorothane were qualified as estiamted, "J," in sample PF205. Chlorotrifluoroethene, cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were rejected, "R," in sample PF205 and were reported from PF205DL. All target compounds except for chlorotrifluoroethene, cis-1,2-dichloroethene, 1,2-dichloroethene (total), and trichloroethene were rejected, "R," in sample PF205DL. No qualifications were required. Results were changed to two significant figures on the sample Form Is. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF205

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF203

Matrix: (soil/water) WATER Lab Sample ID: 030324-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OA901

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: not dec. _____ Date Analyzed: 04/10/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
79-38-9	Chlorotrifluoroethene	60000	E	R	D
75-71-8	Dichlorodifluoromethane	5800	E	J	*9
74-87-3	Chloromethane	5.0Ø	U	UJ	
75-01-4	Vinyl Chloride	140			
74-83-9	Bromomethane	5.0Ø	U	UJ	
75-00-3	Chloroethane	5.0Ø	U	UJ	
75-69-4	Trichlorofluoromethane	5.0Ø	U	UJ	
76-13-1	1,1,2-Trichlorotrifluoroetha	690	E	J	*9
67-64-1	Acetone	10	U	UJ	
75-35-4	1,1-Dichloroethene	5.0Ø	U	UJ	
75-09-2	Methylene Chloride	5.0Ø	U	UJ	
75-15-0	Carbon Disulfide	5.0Ø	U	UJ	
156-60-5	trans-1,2-Dichloroethene	6.9Ø			
75-34-3	1,1-Dichloroethane	44			
78-93-3	2-Butanone	10	U	UJ	
156-59-2	cis-1,2-Dichloroethene	2200	E	R	D
540-59-0	1,2-Dichloroethene (total)	2200	E	R	D
67-66-3	Chloroform	5.0Ø	U	UJ	*9 H
71-55-6	1,1,1-Trichloroethane	5.0Ø	U	UJ	
56-23-5	Carbon Tetrachloride	5.0Ø	U	UJ	
107-06-2	1,2-Dichloroethane	5.0Ø	U	UJ	
71-43-2	Benzene	5.0Ø	U	UJ	
79-01-6	Trichloroethene	7600	E	R	D
78-87-5	1,2-Dichloropropane	5.0Ø	U	UJ	*9 H
75-27-4	Bromodichloromethane	5.0Ø	U	UJ	
110-75-8	2-Chloroethlyvinyl ether	50	U	UJ	
10061-01-5	cis-1,3-Dichloropropene	5.00	U	UJ	
108-88-3	Toluene	1.3Ø	J	J	
10061-02-6	trans-1,3-Dichloropropene	5.00	U	UJ	
79-00-5	1,1,2-Trichloroethane	5.00	U	UJ	
127-18-4	Tetrachloroethene	2.3 ~~2.29~~	J	J	
108-10-1	4-Methyl-2-Pentanone	10	U	UJ	
591-78-6	2-Hexanone	10	U	UJ	

FORM I VOA

MP 6.3.03

KM 11/10/03

AMEC VALIDATED LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF205

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF203

Matrix: (soil/water) WATER Lab Sample ID: 030324-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OA901

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: not dec. _____ Date Analyzed: 04/10/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	RSV QUAL	QUAL CODE
124-48-1	Dibromochloromethane	5.0Ø	U	UJ	*1H
108-90-7	Chlorobenzene	5.0Ø	U		
630-20-6	1,1,1,2-Tetrachloroethane	5.0Ø	U		
100-41-4	Ethylbenzene	5.0Ø	U		
1330-20-7	Xylenes (total)	15	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	5.0Ø	U		
100-42-5	Styrene	5.0Ø	U		
75-25-2	Bromoform	5.0Ø	U		
79-34-5	1,1,2,2-Tetrachloroethane	5.0Ø	U		
96-18-4	1,2,3-Trichloropropane	5.0Ø	U		
108-67-8	1,3,5-Trimethylbenzene	5.0Ø	U		
95-63-6	1,2,4-Trimethylbenzene	5.0Ø	U		
541-73-1	1,3-Dichlorobenzene	5.0Ø	U		
106-46-7	1,4-Dichlorobenzene	5.0Ø	U		
95-50-1	1,2-Dichlorobenzene	5.0Ø	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5.0Ø	U		

MWP 6-3-03 - KRM 11/10/03

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF205DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF203

Matrix: (soil/water) WATER Lab Sample ID: 030324-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OA908

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: not dec. _____ Date Analyzed: 04/11/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1000.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
79-38-9	Chlorotrifluoroethene	25000	D	J	#7 H
75-71-8	Dichlorodifluoromethane	5000	U	R	D
74-87-3	Chloromethane	5000	U	R	D
75-01-4	Vinyl Chloride	5000	U		
74-83-9	Bromomethane	5000	U		
75-00-3	Chloroethane	5000	U		
75-69-4	Trichlorofluoromethane	5000	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5000	U	R	D
67-64-1	Acetone	10000	U	R	D
75-35-4	1,1-Dichloroethene	5000	U		
75-09-2	Methylene Chloride	5000	U		
75-15-0	Carbon Disulfide	5000	U		
156-60-5	trans-1,2-Dichloroethene	5000	U		
75-34-3	1,1-Dichloroethane	5000	U		
78-93-3	2-Butanone	10000	U		
156-59-2	cis-1,2-Dichloroethene	1900	DJ	J	#7 H
540-59-0	1,2-Dichloroethene (total)	1900	DJ	J	#7 H
67-66-3	Chloroform	5000	U	R	D
71-55-6	1,1,1-Trichloroethane	5000	U		
56-23-5	Carbon Tetrachloride	5000	U		
107-06-2	1,2-Dichloroethane	5000	U		
71-43-2	Benzene	5000	U		
79-01-6	Trichloroethene	3400	DJ	J	#7 H
78-87-5	1,2-Dichloropropane	5000	U	R	D
75-27-4	Bromodichloromethane	5000	U		
110-75-8	2-Chloroethlyvinyl ether	50000	U		
10061-01-5	cis-1,3-Dichloropropene	5000	U		
108-88-3	Toluene	5000	U		
10061-02-6	trans-1,3-Dichloropropene	5000	U		
79-00-5	1,1,2-Trichloroethane	5000	U		
127-18-4	Tetrachloroethene	5000	U		
108-10-1	4-Methyl-2-Pentanone	10000	U		
591-78-6	2-Hexanone	10000	U		

FORM I VOA

KRM 11/10/03

AMEC VALIDATED

LEVEL IV

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF205DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF203

Matrix: (soil/water) WATER Lab Sample ID: 030324-03DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: OA908

Level: (low/med) LOW Date Received: 04/03/03

% Moisture: not dec. _____ Date Analyzed: 04/11/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1000.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
124-48-1	Dibromochloromethane	5000	U	R	D
108-90-7	Chlorobenzene	5000	U		
630-20-6	1,1,1,2-Tetrachloroethane	5000	U		
100-41-4	Ethylbenzene	5000	U		
1330-20-7	Xylenes (total)	15000	U		
108-38-3	m,p-Xylenes	10000	U		
95-47-6	o-Xylene	5000	U		
100-42-5	Styrene	5000	U		
75-25-2	Bromoform	5000	U		
79-34-5	1,1,2,2-Tetrachloroethane	5000	U		
96-18-4	1,2,3-Trichloropropane	5000	U		
108-67-8	1,3,5-Trimethylbenzene	5000	U		
95-63-6	1,2,4-Trimethylbenzene	5000	U		
541-73-1	1,3-Dichlorobenzene	5000	U		
106-46-7	1,4-Dichlorobenzene	5000	U		
95-50-1	1,2-Dichlorobenzene	5000	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5000	U		

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	PF316
Matrix:	Water
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Date Reviewed:	June 13, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF316, PF323, PF324

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the VOC sample vials were received intact and without headspace, and that custody seals were not present on the coolers. The cooler temperatures were recorded at 6°C, within the temperature limits of 4° ±2°C.	No qualifications were required.
	Although all samples were analyzed within 14 days of sample collection, the case narrative for this SDG noted that sample PF324 was not properly preserved, as the pH was >2. The seven-day holding time for unpreserved waters was not met for sample PF324.	As sample PF324 was identified as a trip blank, qualifications were not assigned for the missed holding time.
4. Method Blanks	One water method blank (VBLKQQ) was analyzed with this SDG. No target compounds were reported in the method blank.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	One LCS (VLCSQQ) was analyzed with this SDG. Chlorotrifluoroethene was recovered below the QC limits but greater than 10%, and acetone was recovered above the QC limits. Recoveries for all remaining spiked compounds were within the laboratory-established QC limits.	The nondetect result for chlorotrifluoroethene was qualified as estimated, "UJ," in site sample PF316. As samples PF323 and PF324 were identified as field QC samples, no further qualifications were required.
6. Surrogates	Surrogate recoveries for all samples were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples TB: PF324 ER: PF323 FB: None FD: None	Acetone was detected in equipment rinsate PF323 at a concentration of 5µg/L and chloroform was detected below the reporting limit at 2µg/L; however, neither compound was detected in associated site sample PF316. There were no other target compounds detected in either the equipment rinsate or trip blank PF324.	No qualifications were required.
9. Other	All of the samples in this SDG were analyzed for added compounds chlorotrifluoroethene, 1,1,2–trichlorotrifluoroethane, and 2–chloroethyl vinyl ether. Compounds reported below the reporting limits were qualified as estimated, "J," by the laboratory. TICs were not provided by the laboratory for the samples in this SDG. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF~~249~~ 316

Lab Name: CEIMIC CORP Project: HWMF CLOSURE

Lab Code: CEIMIC Case No.: SACRAM SDG No.: PF~~249~~ 316

Matrix: (soil/water) WATER Lab Sample ID: 030451-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7322

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: not dec. _____ Date Analyzed: 05/01/03

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

Rev1 MC 04.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	L #9
75-71-8	Dichlorodifluoromethane	5	U	UJ	
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluorothan	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
78-87-5	1,2-Dichloropropane	5	U		
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

KRM 11-10-03
MC 04.13.03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF~~249~~ 314

Lab Name: CEIMIC CORP Project: HWMF CLOSURE

Lab Code: CEIMIC Case No.: SACRAM SDG No.: PF~~249~~ 314

Matrix: (soil/water) WATER Lab Sample ID: 030451-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7322

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: not dec. _____ Date Analyzed: 05/01/03

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

Rev 1
MC on 20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	new qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	#9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KRM
11-10-05

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.
PF~~256~~ 323

Lab Name: CEIMIC CORP Project: HWMF CLOSURE

Lab Code: CEIMIC Case No.: SACRAM SDG No.: PF~~249~~ 314

Matrix: (soil/water) WATER Lab Sample ID: 030451-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7323

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: not dec. _____ Date Analyzed: 05/01/03

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

BR

Rev 1 MC 04.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluorothan	5	U		
67-64-1	Acetone	5		J	
75-35-4	1,1-Dichloroethene	5	U	UJ	
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	2	J	J	
71-55-6	1,1,1-Trichloroethane	5	U	UJ	
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
78-87-5	1,2-Dichloropropane	5	U		
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

kem 11-10-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF~~256~~ 323

Lab Name: CEIMIC CORP Project: HWMF CLOSURE

Lab Code: CEIMIC Case No.: SACRAM SDG No.: PF~~249~~ 314

Matrix: (soil/water) WATER Lab Sample ID: 030451-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7323

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: not dec. _____ Date Analyzed: 05/01/03

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

Rev 1
AC 04.20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF~~257~~ 314

Lab Name: CEIMIC CORP Project: HWMF CLOSURE

Lab Code: CEIMIC Case No.: SACRAM SDG No.: PF~~249~~314

Matrix: (soil/water) WATER Lab Sample ID: 030451-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7324

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: not dec. _____ Date Analyzed: 05/01/03

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

Rev 1 MC 06.20.03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	reviewer qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ *9
75-71-8	Dichlorodifluoromethane	5	U	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
76-13-1	1,1,2-Trichlorotrifluorothan	5	U	
67-64-1	Acetone	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
75-15-0	Carbon Disulfide	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	5	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
540-59-0	1,2-Dichloroethene (total)	5	U	
67-66-3	Chloroform	5	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	5	U	
78-87-5	1,2-Dichloropropane	5	U	
75-27-4	Bromodichloromethane	5	U	
110-75-8	2-Chloroethylvinyl ether	50	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
127-18-4	Tetrachloroethene	5	U	
108-10-1	4-Methyl-2-Pentanone	5	U	
591-78-6	2-Hexanone	5	U	

LEVEL V

KRM 11-10-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MWH SAMPLE NO.

PF~~257~~324

Lab Name: CEIMIC CORP Project: HWMF CLOSURE

Lab Code: CEIMIC Case No.: SACRAM SDG No.: PF~~249~~316

Matrix: (soil/water) WATER Lab Sample ID: 030451-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7324

Level: (low/med) LOW Date Received: 04/23/03

% Moisture: not dec. _____ Date Analyzed: 05/01/03

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

Rev 1 MC 04.20.05

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KRM 11-10-03

AMEC VALIDATED

FORM I VOA

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne, Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	PF067
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	2
Date Reviewed:	June 9, 2003
Reviewer:	M. Pokorny
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF068, PF068DL, PF077, PF077DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by field and laboratory personnel. The laboratory's sample receiving checklist noted that the samples were received intact, with a cooler temperature above the limits of 4°C ± 2°C at 24°C. Custody seals were noted to be intact on the cooler. The analyses of the samples were performed within 14 days of sample collection.	All retained target compound results were qualified as estimated, "UJ," for nondetects and "J," for detects for all of the retained analyses of the samples of this SDG.
4. Method Blanks	Two method blanks were analyzed with this SDG. No target compounds were reported in the method blanks.	No qualifications were required.
5. LCS/BS	Two LCSs were analyzed with this SDG. LCSQT had 21 spiked compounds recovered above the QC limits, and dichlorodifluoromethane recovered below the laboratory-established QC limits, but greater than 10%.	The trans-1,2-dichloroethene, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) detects for sample PF068(DL) were qualified as estimated, "J." The nondetect for dichlorofluoromethane was qualified as estimated, "UJ," for sample PF068.

	Findings	Qualifications
5. LCS/BS (continued)	LCSQU had dichlorodifluoromethane and chloromethane recovered below the laboratory-established QC limits, but greater than 10%.	The dichlorodifluoromethane and chloromethane nondetects for PF077 were qualified as estimated, "UJ."
6. Surrogates	The surrogate bromofluorobenzene was recovered within the laboratory-established QC limits for all analyses.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples ER: None TB: None FB: None FD: None	None.	No qualifications were required.
9. Other	Cis-1,2-dichloroethene and 1,2-dichloroethene (total) were detected above the calibration range of the instrument for sample PF068. The sample was reanalyzed at a 2-fold dilution, PF068DL. Vinyl chloride, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) were detected above the calibration range of the instrument for sample PF077. The sample was reanalyzed at a 20-fold dilution, PF077DL. TICs were reported in sample PF077. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Cis-1,2-dichloroethene and 1,2-dichloroethene (total) were rejected, "R," in sample PF068 and were reported from PF068DL. All remaining target compounds were rejected, "R," in sample PF068DL. Vinyl chloride, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) were rejected, "R," in sample PF077 and were reported from PF077DL. All remaining target compounds were rejected, "R," in sample PF077DL. The TICs were qualified as tentatively identified and estimated, "NJ." Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO. PF068

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3843

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5	U		UJ	L
74-87-3	Chloromethane	5	U		UJ	
75-01-4	Vinyl Chloride	21			J	
74-83-9	Bromomethane	5	U		UJ	
75-00-3	Chloroethane	5	U			
75-69-4	Trichlorofluoromethane	5	U			
67-64-1	Acetone	5	U			
75-35-4	1,1-Dichloroethene	5	U			
75-09-2	Methylene Chloride	5	U			
156-60-5	trans-1,2-Dichloroethene	72			J	L
75-34-3	1,1-Dichloroethane	5	U		UJ	
78-93-3	2-Butanone	5	U		UJ	
156-59-2	cis-1,2-Dichloroethene	220	E		R	D
540-59-0	1,2-Dichloroethene (total)	310	E		R	D
67-66-3	Chloroform	5	U		UJ	
71-55-6	1,1,1-Trichloroethane	5	U			
56-23-5	Carbon Tetrachloride	5	U			
107-06-2	1,2-Dichloroethane	5	U			
71-43-2	Benzene	5	U			
79-01-6	Trichloroethene	20			J	
75-27-4	Bromodichloromethane	5	U		UJ	
108-88-3	Toluene	5	U			
10061-02-6	trans-1,3-Dichloropropene	5	U			
79-00-5	1,1,2-Trichloroethane	5	U			
127-18-4	Tetrachloroethene	5	U			
108-90-7	Chlorobenzene	5	U			
630-20-6	1,1,1,2-Tetrachloroethane	5	U			
100-41-4	Ethylbenzene	5	U			
1330-20-7	Xylenes (total)	5	U			
108-38-3	m,p-Xylenes	5	U			
95-47-6	o-Xylene	5	U			
75-25-2	Bromoform	5	U			
79-34-5	1,1,2,2-Tetrachloroethane	5	U			

KPM 11-10-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF068

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3843

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*9*1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KRM 11-10-03

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF068

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3843

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (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.					
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29.					
30.					

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF068DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3846

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	10	U	R	D
74-87-3	Chloromethane	10	U		
75-01-4	Vinyl Chloride	19	D		
74-83-9	Bromomethane	10	U		
75-00-3	Chloroethane	10	U		
75-69-4	Trichlorofluoromethane	10	U		
67-64-1	Acetone	10	U		
75-35-4	1,1-Dichloroethene	10	U		
75-09-2	Methylene Chloride	10	U		
156-60-5	trans-1,2-Dichloroethene	67	D		
75-34-3	1,1-Dichloroethane	10	U		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	220	D	J	L,#1
540-59-0	1,2-Dichloroethene (total)	300	D	J	L,#1
67-66-3	Chloroform	10	U	R	D
71-55-6	1,1,1-Trichloroethane	10	U		
56-23-5	Carbon Tetrachloride	10	U		
107-06-2	1,2-Dichloroethane	10	U		
71-43-2	Benzene	10	U		
79-01-6	Trichloroethene	19	D		
75-27-4	Bromodichloromethane	10	U		
108-88-3	Toluene	10	U		
10061-02-6	trans-1,3-Dichloropropene	10	U		
79-00-5	1,1,2-Trichloroethane	10	U		
127-18-4	Tetrachloroethene	10	U		
108-90-7	Chlorobenzene	10	U		
630-20-6	1,1,1,2-Tetrachloroethane	10	U		
100-41-4	Ethylbenzene	10	U		
1330-20-7	Xylenes (total)	10	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	10	U		
75-25-2	Bromoform	10	U		
79-34-5	1,1,2,2-Tetrachloroethane	10	U		

KRM 11-10-03

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF068DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3846

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	10	U	R	D
95-63-6	1,2,4-Trimethylbenzene	10	U		
541-73-1	1,3-Dichlorobenzene	10	U		
106-46-7	1,4-Dichlorobenzene	10	U		
95-50-1	1,2-Dichlorobenzene	10	U		
96-12-8	1,2-Dibromo-3-Chloropropane	10	U		

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF068DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-02DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3846

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/22/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 2.0

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.					
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AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3869

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	5		J	L*9 *
74-87-3	Chloromethane	5	U	UJ	L*9 *
75-01-4	Vinyl Chloride	290	E	R	D
74-83-9	Bromomethane	5	U	UJ	*9 *
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
156-60-5	trans-1,2-Dichloroethene	180		J	
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	1300	E	R	D
540-59-0	1,2-Dichloroethene (total)	1600	E	R	D
67-66-3	Chloroform	5	U	UJ	*9 *
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	13		J	
75-27-4	Bromodichloromethane	5	U	UJ	
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		

Kem 11-10-03

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3869

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	5	U	UJ	*1
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		*0

ICRM 11-10-03

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF077

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3869

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	REV QUAL	QUAL COD
1.	354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-T	3.37	15	NJ	NJ	
2.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.69	13	NJ	NJ	
3.							
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3870

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
75-71-8	Dichlorodifluoromethane	100	U	R	D
74-87-3	Chloromethane	100	U	R	D
75-01-4	Vinyl Chloride	260	D	J	#1*
74-83-9	Bromomethane	100	U	R	D
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
67-64-1	Acetone	100	U		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	100	U		
156-60-5	trans-1,2-Dichloroethene	150	D		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	100	U		
156-59-2	cis-1,2-Dichloroethene	1100	D	J	#1#9
540-59-0	1,2-Dichloroethene (total)	1400	D	J	#1#0
67-66-3	Chloroform	100	U	R	D
71-55-6	1,1,1-Trichloroethane	100	U		
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	100	U		
75-27-4	Bromodichloromethane	100	U		
108-88-3	Toluene	100	U		
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-90-7	Chlorobenzene	100	U		
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	100	U		
75-25-2	Bromoform	100	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		

KPM 11/10/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

AMEC SAMPLE NO.

PF077DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3870

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	REV QUAL	QUAL CODE
108-67-8	1,3,5-Trimethylbenzene	100	U	R	D
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

AMEC SAMPLE NO.

PF077DL

Lab Name: CEIMIC CORP Contract: AMEC

Lab Code: CEIMIC Case No.: 313150 SAS No.: SDG No.: PF067

Matrix: (soil/water) WATER Lab Sample ID: 010392-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q3870

Level: (low/med) LOW Date Received: 05/12/01

% Moisture: not dec. _____ Date Analyzed: 05/23/01

GC Column: DB624 ID: 0.32 (mm) Dilution Factor: 20.0

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.					
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550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V[1]
SDG:	PF263
Matrix:	Water
No. of Samples:	1
No. of Reanalyses/Dilutions:	1
Date Reviewed:	August 21, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF266, PF266DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the VOC sample vials were received intact and without headspace, and that custody seals were not present on the coolers. Of the 22 volatile analyses requested on the COC, only sample PF266 (and its dilution) were validated for this SDG. The cooler temperature was recorded at 6°C, within the temperature limits of 4° ±2°C. The sample analyses were performed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	Two water method blanks (VBLKLL and VBLKLM) were analyzed with this SDG. 1,3-Dichlorobenzene, 1,4-dichlorobenzene, and 1,2-dichlorobenzene were reported in VBLKLL, all at 1µg/L; however, none of the aforementioned compounds were reported in associated sample PF266.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	Two LCSs (VLCSLL and VLCSLM) were analyzed with this SDG. All recoveries were within the laboratory-established QC limits with the exception of a recovery above the QC limits of 2-hexanone in VLCSLM. 2-Hexanone was neither detected nor retained in the associated analysis of PF266DL.	No qualifications were required.
6. Surrogates	Surrogate recoveries for both sample analyses were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples TB: PF285 ER: PF315 (SDG PF304) FB: None FD: None	Trip blank PF285 was included in the unvalidated portion of this SDG. There were no target compounds reported in the trip blank. Acetone and trichloroethene were reported above the reporting limit at 11µg/L and 7µg/L, respectively, and trans-1,2-dichloroethene, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) were reported below the reporting limit at 1µg/L, 1µg/L, and 3µg/L, respectively, in equipment rinsate PF315. Acetone and trichloroethene were reported in PF266 at concentrations less than 10× and 5× the equipment rinsate concentrations, respectively. Retained sample results for the remaining compounds exceeded 5× the equipment rinsate concentrations.	No qualifications were required. Results for acetone and trichloroethene were qualified as estimated, "J."

	Findings	Qualifications
9. Other	Sample PF266 required a 10× dilution in order to report cis-1,2-dichloroethene and total 1,2-dichloroethene within the linear range of the calibration. TICs were not provided by the laboratory for the samples in this SDG. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the Form VIIIs provided by the laboratory indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	The results in sample PF266 for cis-1,2-dichloroethene and total 1,2-dichloroethene were rejected, "R," in favor of the diluted results in sample PF266DL. All remaining dilution results were rejected, "R," in favor of the undiluted results. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF266

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF263

Matrix: (soil/water) WATER Lab Sample ID: 030676-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP038

Level: (low/med) LOW Date Received: 06/06/03

% Moisture: not dec. _____ Date Analyzed: 06/11/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	33		J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	7		J	F
75-35-4	1,1-Dichloroethene	5	U	UJ	*9
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	21		J	
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	520	E	R	D
540-59-0	1,2-Dichloroethene (total)	550	E		
67-66-3	Chloroform	5	U	UJ	*9
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	21		J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

FORM I VOA

KRM 11-10-03

AMEC VALIDATED

LEVEL I

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF266

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF263

Matrix: (soil/water) WATER Lab Sample ID: 030676-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP038

Level: (low/med) LOW Date Received: 06/06/03

% Moisture: not dec. _____ Date Analyzed: 06/11/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KPM
11-10-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF266DL

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF263

Matrix: (soil/water) WATER Lab Sample ID: 030676-04DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP056

Level: (low/med) LOW Date Received: 06/06/03

% Moisture: not dec. _____ Date Analyzed: 06/12/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	50	U	R	D
75-71-8	Dichlorodifluoromethane	50	U		
74-87-3	Chloromethane	50	U		
75-01-4	Vinyl Chloride	22	DJ		
74-83-9	Bromomethane	50	U		
75-00-3	Chloroethane	50	U		
75-69-4	Trichlorofluoromethane	50	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	50	U		
67-64-1	Acetone	50	U		
75-35-4	1,1-Dichloroethene	50	U		
75-09-2	Methylene Chloride	41	DJ		
75-15-0	Carbon Disulfide	50	U		
156-60-5	trans-1,2-Dichloroethene	14	DJ		
75-34-3	1,1-Dichloroethane	50	U		
78-93-3	2-Butanone	50	U		
156-59-2	cis-1,2-Dichloroethene	340	D	J	*10 *9
540-59-0	1,2-Dichloroethene (total)	360	D	J	*9
67-66-3	Chloroform	50	U	R	D
71-55-6	1,1,1-Trichloroethane	50	U		
56-23-5	Carbon Tetrachloride	50	U		
107-06-2	1,2-Dichloroethane	50	U		
71-43-2	Benzene	50	U		
79-01-6	Trichloroethene	16	DJ		
78-87-5	1,2-Dichloropropane	50	U		
75-27-4	Bromodichloromethane	50	U		
110-75-8	2-Chloroethylvinyl ether	500	U		
10061-01-5	cis-1,3-Dichloropropene	50	U		
108-88-3	Toluene	50	U		
10061-02-6	trans-1,3-Dichloropropene	50	U		
79-00-5	1,1,2-Trichloroethane	50	U		
127-18-4	Tetrachloroethene	50	U		
108-10-1	4-Methyl-2-Pentanone	50	U		
591-78-6	2-Hexanone	50	U		

FORM I VOA

KLM 11-11-03

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF266DL

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF263

Matrix: (soil/water) WATER Lab Sample ID: 030676-04DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP056

Level: (low/med) LOW Date Received: 06/06/03

% Moisture: not dec. _____ Date Analyzed: 06/12/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	50	U	R	D
108-90-7	Chlorobenzene	50	U		
630-20-6	1,1,1,2-Tetrachloroethane	50	U		
100-41-4	Ethylbenzene	50	U		
1330-20-7	Xylenes (total)	50	U		
108-38-3	m,p-Xylenes	50	U		
95-47-6	o-Xylene	50	U		
100-42-5	Styrene	50	U		
75-25-2	Bromoform	50	U		
79-34-5	1,1,2,2-Tetrachloroethane	50	U		
96-18-4	1,2,3-Trichloropropane	50	U		
108-67-8	1,3,5-Trimethylbenzene	50	U		
95-63-6	1,2,4-Trimethylbenzene	50	U		
541-73-1	1,3-Dichlorobenzene	50	U		
106-46-7	1,4-Dichlorobenzene	50	U		
95-50-1	1,2-Dichlorobenzene	50	U		
96-12-8	1,2-Dibromo-3-Chloropropane	50	U		

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	Volatiles by Method 8260B
QC Level:	V
SDG:	PF304
Matrix:	Water
No. of Samples:	10
No. of Reanalyses/Dilutions:	0
Date Reviewed:	July 16, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF304, PF305, PF306, PF308, PF309, PF311, PF312, PF313, PF314, PF315

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the VOC sample vials were received intact and without headspace, and that custody seals were not present on the coolers. The cooler temperatures were recorded at 4°C and 6°C, within the temperature limits of 4° ±2°C. All samples were analyzed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	Two water method blanks (VBLKLN and VBLKLQ) were analyzed with this SDG. Target compound m,p-xylenes (and total xylenes) were reported in VBLKLQ) below the reporting limit at 1µg/L; however, there were no detects for xylenes in the samples.	No qualifications were required.
5. LCS/BS	Two LCSs (VLCSLN and VLCSLQ) were analyzed with this SDG. The recoveries for acetone, 2-butanone, 2-chloroethylvinyl ether, 2-hexanone, and 1,2-dibromo-3-chloropropane were above the laboratory-established QC limits in VLCSLN.	The detect for acetone was qualified as estimated, "J," in associated sample PF311.

	Findings	Qualifications
6. Surrogates	Surrogate recoveries for all samples were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples TB: PF314 ER: PF315 FB: None FD: None	There were no target compounds reported in the trip blank. Acetone and trichloroethene were reported above the reporting limit at 11µg/L and 7µg/L, respectively, and trans-1,2-dichloroethene, cis-1,2-dichloroethene, and 1,2-dichloroethene (total) were reported below the reporting limit at 1µg/L, 1µg/L, and 3µg/L, respectively, in equipment rinsate PF315. Several of the aforementioned target compounds were reported in the majority of the associated site samples.	The reviewer evaluated associated site sample results using unrounded values from the raw data. Any sample results detected at concentrations less than 5× the equipment rinsate concentrations (10× for acetone) were qualified as estimated, "J."
9. Other	Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. TICs were not reported by the laboratory for the samples in this SDG. Concentrations reported below the reporting limits were qualified as estimated, "J," by the laboratory. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF304

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP127

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U	UJ	
74-87-3	Chloromethane	5	U	UJ	
75-01-4	Vinyl Chloride	2	J	J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U	UJ	
75-69-4	Trichlorofluoromethane	5	U	UJ	
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U	UJ	
67-64-1	Acetone	5	U	UJ	
75-35-4	1,1-Dichloroethene	5	U	UJ	
75-09-2	Methylene Chloride	5	U	UJ	
75-15-0	Carbon Disulfide	5	U	UJ	
156-60-5	trans-1,2-Dichloroethene	3	J	J	F
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	7		J	
540-59-0	1,2-Dichloroethene (total)	10		J	F
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U	UJ	
56-23-5	Carbon Tetrachloride	5	U	UJ	
107-06-2	1,2-Dichloroethane	5	U	UJ	
71-43-2	Benzene	5	U	UJ	
79-01-6	Trichloroethene	5		J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U	UJ	
110-75-8	2-Chloroethylvinyl ether	50	U	UJ	
10061-01-5	cis-1,3-Dichloropropene	5	U	UJ	
108-88-3	Toluene	5	U	UJ	
10061-02-6	trans-1,3-Dichloropropene	5	U	UJ	
79-00-5	1,1,2-Trichloroethane	5	U	UJ	
127-18-4	Tetrachloroethene	5	U	UJ	
108-10-1	4-Methyl-2-Pentanone	5	U	UJ	
591-78-6	2-Hexanone	5	U	UJ	

FORM I VOA

KRM 11-11-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF304

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP127

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF305

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP086

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	3	J	J	F
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	10		J	
540-59-0	1,2-Dichloroethene (total)	14		J	F
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	21		J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF305

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP086

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF306

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP087

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qua	qua code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	8		J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF306

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP087

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KRM 11-11-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF308

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP088

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5		J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	7		J	
75-09-2	Methylene Chloride	5	U	UJ	
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	27		J	
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	39		J	
540-59-0	1,2-Dichloroethene (total)	65		J	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	12		J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF308

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP088

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF309

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP089

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	6		J	F
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	6		J	F
540-59-0	1,2-Dichloroethene (total)	13		J	F
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	12		J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF309

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP089

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	#9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF311

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP090

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	1	J	J	
67-64-1	Acetone	5			L
75-35-4	1,1-Dichloroethene	5	U	UJ	
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	2	J	J	
156-60-5	trans-1,2-Dichloroethene	1	J		F
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	1	J	J	F
540-59-0	1,2-Dichloroethene (total)	3	J		F
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	2	J	J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF311

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP090

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/13/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF312

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP128

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	1	J	J	
67-64-1	Acetone	5	U	UJ	
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	1	J	J	F
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	7		J	
540-59-0	1,2-Dichloroethene (total)	9		J	F
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	28		J	F
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

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MC 07.14.03

AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF312

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP128

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	#9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF313

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP129

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5		J	F
75-35-4	1,1-Dichloroethene	5	U	UJ	
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	1	J	J	F
540-59-0	1,2-Dichloroethene (total)	1	J		
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
78-87-5	1,2-Dichloropropane	5	U		
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF313

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP129

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF314

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP130

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	#9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	5	U		
75-34-3	1,1-Dichloroethane	5	U		
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	5	U		
540-59-0	1,2-Dichloroethene (total)	5	U		
67-66-3	Chloroform	5	U		
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	5	U		
78-87-5	1,2-Dichloropropane	5	U		
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF314

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP130

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	ver qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	*9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF315

ER

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP131

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/17/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9
75-71-8	Dichlorodifluoromethane	5	U		
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	11		J	
75-35-4	1,1-Dichloroethene	5	U	UJ	
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	1	J	J	
75-34-3	1,1-Dichloroethane	5	U	U	
78-93-3	2-Butanone	5	U		J
156-59-2	cis-1,2-Dichloroethene	1	J	J	
540-59-0	1,2-Dichloroethene (total)	3	J		
67-66-3	Chloroform	5	U	U	J
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	7		J	
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		

FORM I VOA

KRM 11-11-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF315

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-12

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LP131

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/17/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
124-48-1	Dibromochloromethane	5	U	UJ	#9
108-90-7	Chlorobenzene	5	U		
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KRM 11-11-03

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title:	Rocketdyne SSFL Shallow Groundwater
Project Manager:	D. Hambrick
Analysis/Method:	1,4-Dioxane by Method 8260B
QC Level:	V
SDG:	PF304
Matrix:	Water
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Date Reviewed:	July 10, 2003
Reviewer:	L. Calvin
Reference:	National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed:	PF310, PF315

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COC was signed by both field and laboratory personnel. No sample receipt information was recorded on the COC; however, a laboratory sample receipt checklist noted that the VOC sample vials were received intact and without headspace, and that custody seals were not present on the coolers. The cooler temperatures were recorded at 4°C and 6°C, within the temperature limits of 4° ±2°C. Both samples were analyzed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	One water method blank (VBLKQG) was analyzed with this SDG. Target compound 1,4-dioxane was not reported in the method blank.	No qualifications were required.
5. LCS/BS	One LCS (VLCSQG) was analyzed with this SDG. The recovery for 1,4-dioxane within the laboratory QC limits of 60-140%.	No qualifications were required.
6. Surrogates	Surrogate recoveries for both samples were within the laboratory QC limits of 60-140%.	No qualifications were required.

	Findings	Qualifications
7. MS/MSDs	No MS/MSD analyses were associated with this SDG.	No qualifications were required.
8. Field QC Samples TB: None ER: None FB: None FD: None	There were no identified field QC samples associated with the samples in this SDG.	No qualifications were required.
9. Other	The samples in this SDG were analyzed for 1,4-dioxane only. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	No qualifications were required. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF310

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-07

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: Q7979

Level: (low/med) LOW Date Received: 06/11/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	6.52		J	*9

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AMEC VALIDATED

LEVEL V

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF315

Lab Name: CEIMIC CORP Project: BEOING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF304

Matrix: (soil/water) WATER Lab Sample ID: 030702-12

Sample wt/vol: 20.00 (g/mL) ML Lab File ID: Q7980

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: not dec. _____ Date Analyzed: 06/16/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
123-91-1	1,4-Dioxane	1.00	U	UJ	*9

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11-11-03

AMEC VALIDATED

LEVEL V

550 South Wadsworth Boulevard, Suite 500, Lakewood, CO 80026
303.935.6505, Fax 303.935.6575

DATA ASSESSMENT FORM

Project Title: Rocketdyne SSFL Shallow Groundwater
Project Manager: D. Hambrick
Analysis/Method: Volatiles by Method 8260B
QC Level: V
SDG: PF316
Matrix: Water
No. of Samples: 6
No. of Reanalyses/Dilutions: 6
Date Reviewed: July 16, 2003
Reviewer: L. Calvin
Reference: National Functional Guidelines for Organic Data Review (2/94)
Samples Reviewed: PF258, PF258DL, PF259, PF259DL, PF262, PF262DL, PF316, PF316DL, PF319, PF319DL, PF320, PF320DL

Data Validation Findings

	Findings	Qualifications
1. Sample Management	The COCs provided were signed only by field personnel. Signatures of laboratory personnel were absent. Sample receipt information was not recorded on the COC; and a laboratory sample receipt checklist was not available at the time of review. Samples identified on the COC as PF249, PF252, and PF253 were changed to PF316, PF319, and PF320, respectively, in a COC analytical request change form dated 06/18/03. Of the 14 volatile analyses requested on the COC, six samples (and their dilutions) were validated for this SDG. All sample analyses were performed within 14 days of sample collection.	No qualifications were required.
4. Method Blanks	Five water method blanks (VBLKLC, VBLKLD, VBLKLF, VBLKQN, and VBLKQP) were analyzed with this SDG. There were no reported target compound detects in any of the method blanks.	No qualifications were required.

	Findings	Qualifications
5. LCS/BS	Five LCSs (VLCSLC, VLCSLD, VLCSLF, VLCSQN, and VLCSQP) were analyzed with this SDG. The recovery for bromomethane in VLCSLD, and for dichlorodifluoromethane and bromomethane in VLCSLF were above the laboratory-established QC limits; however, the aforementioned compounds were not detected or retained in the associated sample analyses.	No qualifications were required.
6. Surrogates	Surrogate recoveries for all samples were within the laboratory-established QC limits.	No qualifications were required.
7. MS/MSDs	No MS/MSD analyses were associated with the samples validated in this SDG.	No qualifications were required.
8. Field QC Samples TB: None ER: PF184, PF185 (SDG PF167) FB: None FD: None	2-Butanone and chloroform were reported in equipment rinsate PF184 at 15µg/L and 2µg/L, respectively. Acetone, 2-butanone, chloroform, and tetrachloroethene were reported in equipment rinsate PF185 at 3µg/L, 16µg/L, 2µg/L, and 2µg/L, respectively. Acetone was detected at concentrations less than ten times the equipment rinsate amounts in samples PF259, PF262, and PF320, and chloroform was detected in sample PF319 at a concentration less than five times the equipment rinsate amount. The concentrations of remaining site sample detects for the aforementioned compounds were greater than 10× or 5× the equipment rinsate amounts.	Results for acetone in samples PF259, PF262, and PF320, and for chloroform in sample PF319 were qualified as estimated "J."
9. Other	All samples required dilutions in order to report one or more target compounds within linear range of the calibration. Sample PF262 was reanalyzed at a 2× dilution, samples PF258 and PF316 at 5× dilutions, sample PF259 at a 10×, sample PF319 at a 20×, and sample PF320 at a 25× dilution. After the analysis of these samples, it was determined that Ceimic Corporation's California State certification had lapsed.	Results for those target compounds reported above linear range were rejected, "R," in the undiluted analyses in favor of the dilution results, and all remaining dilution results were rejected, "R," in favor of the undiluted results. Although the data in this SDG is considered to be technically sound; the results for all samples in this SDG were qualified as estimated, "UJ."

	Findings	Qualifications
9. Other (continued)	The laboratory performed a separate analysis for target compound chlorotrifluoroethene for all samples except PF258 and PF262. Concentrations reported below the reporting limits were qualified as estimated, "J," by the laboratory. TICs were not provided by the laboratory for the samples in this SDG. Although review of internal standard areas and retention times is beyond the scope of a Level V data validation, the laboratory provided Form VIIIs which indicated all internal standard areas and retention times were within the limits established by the continuing calibration standard.	No qualifications were required.
Comments	None.	None.

[1] Level V Validation consists of cursory review of the summary forms only. The reported values on the summary forms are presumed to be correct and no verification of the values from the raw instrument output is performed.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF258

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7750

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	5	U	UJ	*9
74-87-3	Chloromethane	5	U	↓	
75-01-4	Vinyl Chloride	3	J	J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U	↓	
75-69-4	Trichlorofluoromethane	5	U	↓	
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U	↓	
67-64-1	Acetone	5	U	↓	
75-35-4	1,1-Dichloroethene	5	U	↓	
75-09-2	Methylene Chloride	5	U	↓	
75-15-0	Carbon Disulfide	5	U	↓	
156-60-5	trans-1,2-Dichloroethene	3	J	J	
75-34-3	1,1-Dichloroethane	2	J	↓	
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	23		J	
540-59-0	1,2-Dichloroethene (total)	27		J	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U	↓	
56-23-5	Carbon Tetrachloride	5	U	↓	
107-06-2	1,2-Dichloroethane	5	U	↓	
71-43-2	Benzene	5	U	↓	
79-01-6	Trichloroethene	310	E	R	D
78-87-5	1,2-Dichloropropane	5	U	UJ	*9
75-27-4	Bromodichloromethane	5	U	↓	
110-75-8	2-Chloroethylvinyl ether	50	U	↓	
10061-01-5	cis-1,3-Dichloropropene	5	U	↓	
108-88-3	Toluene	5	U	↓	
10061-02-6	trans-1,3-Dichloropropene	5	U	↓	
79-00-5	1,1,2-Trichloroethane	5	U	↓	
127-18-4	Tetrachloroethene	5	U	↓	
108-10-1	4-Methyl-2-Pentanone	5	U	↓	
591-78-6	2-Hexanone	5	U	↓	
124-48-1	Dibromochloromethane	5	U	↓	

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF258

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-10

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7750

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	qual code
108-90-7	Chlorobenzene	5	U	UJ #9
630-20-6	1,1,1,2-Tetrachloroethane	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	5	U	
108-38-3	m,p-Xylenes	5	U	
95-47-6	o-Xylene	5	U	
100-42-5	Styrene	5	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	
96-18-4	1,2,3-Trichloropropane	5	U	
108-67-8	1,3,5-Trimethylbenzene	5	U	
95-63-6	1,2,4-Trimethylbenzene	5	U	
541-73-1	1,3-Dichlorobenzene	5	U	
106-46-7	1,4-Dichlorobenzene	5	U	
95-50-1	1,2-Dichlorobenzene	5	U	
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF258DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-10DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO854

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	25	U	R	D
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	25	U		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	25	U		
67-64-1	Acetone	13	DJ		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	12	DJ		
75-15-0	Carbon Disulfide	25	U		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	25	U		
156-59-2	cis-1,2-Dichloroethene	20	DJ		
540-59-0	1,2-Dichloroethene (total)	20	DJ		
67-66-3	Chloroform	25	U		
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	290	D	J	*9
78-87-5	1,2-Dichloropropane	25	U	R	D
75-27-4	Bromodichloromethane	25	U		
110-75-8	2-Chloroethylvinyl ether	250	U		
10061-01-5	cis-1,3-Dichloropropene	25	U		
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	25	U		
108-10-1	4-Methyl-2-Pentanone	25	U		
591-78-6	2-Hexanone	25	U		
124-48-1	Dibromochloromethane	25	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF258DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-10DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO854

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-90-7	Chlorobenzene	25	U	R	D
630-20-6	1,1,1,2-Tetrachloroethane	25	U		
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	25	U		
108-38-3	m,p-Xylenes	25	U		
95-47-6	o-Xylene	25	U		
100-42-5	Styrene	25	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		
96-18-4	1,2,3-Trichloropropane	25	U		
108-67-8	1,3,5-Trimethylbenzene	25	U		
95-63-6	1,2,4-Trimethylbenzene	25	U		
541-73-1	1,3-Dichlorobenzene	25	U		
106-46-7	1,4-Dichlorobenzene	25	U		
95-50-1	1,2-Dichlorobenzene	25	U		
96-12-8	1,2-Dibromo-3-Chloropropane	25	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF259

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7751

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	5	U	UJ	*9
74-87-3	Chloromethane	5	U	↓	↓
75-01-4	Vinyl Chloride	53		J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	4	J	J	F
75-35-4	1,1-Dichloroethene	5	U	UJ	
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	20		J	
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	510	E	R	D
540-59-0	1,2-Dichloroethene (total)	540	E		
67-66-3	Chloroform	5	U	UJ	*9
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	64		J	
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		
124-48-1	Dibromochloromethane	5	U		

FORM I VOA

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF259

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7751

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-90-7	Chlorobenzene	5	U	UJ	*9
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

KRM
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF259

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-11

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7802

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/05/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	#9

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF259DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO855

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	50	U	R	D
74-87-3	Chloromethane	50	U		
75-01-4	Vinyl Chloride	59	D		
74-83-9	Bromomethane	50	U		
75-00-3	Chloroethane	50	U		
75-69-4	Trichlorofluoromethane	50	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	50	U		
67-64-1	Acetone	50	U		
75-35-4	1,1-Dichloroethene	50	U		
75-09-2	Methylene Chloride	19	DJ		
75-15-0	Carbon Disulfide	50	U		
156-60-5	trans-1,2-Dichloroethene	16	DJ		
75-34-3	1,1-Dichloroethane	50	U		
78-93-3	2-Butanone	50	U		
156-59-2	cis-1,2-Dichloroethene	580	D	J	*9
540-59-0	1,2-Dichloroethene (total)	610	D	J	*9
67-66-3	Chloroform	50	U	R	D
71-55-6	1,1,1-Trichloroethane	50	U		
56-23-5	Carbon Tetrachloride	50	U		
107-06-2	1,2-Dichloroethane	50	U		
71-43-2	Benzene	50	U		
79-01-6	Trichloroethene	60	D		
78-87-5	1,2-Dichloropropane	50	U		
75-27-4	Bromodichloromethane	50	U		
110-75-8	2-Chloroethylvinyl ether	500	U		
10061-01-5	cis-1,3-Dichloropropene	50	U		
108-88-3	Toluene	50	U		
10061-02-6	trans-1,3-Dichloropropene	50	U		
79-00-5	1,1,2-Trichloroethane	50	U		
127-18-4	Tetrachloroethene	50	U		
108-10-1	4-Methyl-2-Pentanone	50	U		
591-78-6	2-Hexanone	50	U		
124-48-1	Dibromochloromethane	50	U		

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FORM 1
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MW SAMPLE NO.

PF259DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-11DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO855

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-90-7	Chlorobenzene	50	U	R	D
630-20-6	1,1,1,2-Tetrachloroethane	50	U		
100-41-4	Ethylbenzene	50	U		
1330-20-7	Xylenes (total)	50	U		
108-38-3	m,p-Xylenes	50	U		
95-47-6	o-Xylene	50	U		
100-42-5	Styrene	50	U		
75-25-2	Bromoform	50	U		
79-34-5	1,1,2,2-Tetrachloroethane	50	U		
96-18-4	1,2,3-Trichloropropane	50	U		
108-67-8	1,3,5-Trimethylbenzene	50	U		
95-63-6	1,2,4-Trimethylbenzene	50	U		
541-73-1	1,3-Dichlorobenzene	50	U		
106-46-7	1,4-Dichlorobenzene	50	U		
95-50-1	1,2-Dichlorobenzene	50	U		
96-12-8	1,2-Dibromo-3-Chloropropane	50	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF262

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-14

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7754

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	5	U	UJ	*9
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5		J	F
75-35-4	1,1-Dichloroethene	3	J		
75-09-2	Methylene Chloride	5	U	UJ	
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	2	J	J	
75-34-3	1,1-Dichloroethane	4	J		
78-93-3	2-Butanone	5	U	UJ	
156-59-2	cis-1,2-Dichloroethene	30			
540-59-0	1,2-Dichloroethene (total)	34		J	
67-66-3	Chloroform	5	U	UJ	
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	210	E	R	D
78-87-5	1,2-Dichloropropane	5	U	UJ	*9
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		
124-48-1	Dibromochloromethane	5	U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF262

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-14

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7754

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-90-7	Chlorobenzene	5	U	UJ	*9
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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MW SAMPLE NO.

PF262DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-14DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO890

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/05/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	10	U	R	D
74-87-3	Chloromethane	10	U		
75-01-4	Vinyl Chloride	10	U		
74-83-9	Bromomethane	10	U		
75-00-3	Chloroethane	10	U		
75-69-4	Trichlorofluoromethane	10	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	10	U		
67-64-1	Acetone	6	DJ		
75-35-4	1,1-Dichloroethene	3	DJ		
75-09-2	Methylene Chloride	5	DJ		
75-15-0	Carbon Disulfide	10	U		
156-60-5	trans-1,2-Dichloroethene	10	U		
75-34-3	1,1-Dichloroethane	4	DJ		
78-93-3	2-Butanone	10	U		
156-59-2	cis-1,2-Dichloroethene	25	D		
540-59-0	1,2-Dichloroethene (total)	26	D		
67-66-3	Chloroform	10	U		
71-55-6	1,1,1-Trichloroethane	10	U		
56-23-5	Carbon Tetrachloride	10	U		
107-06-2	1,2-Dichloroethane	10	U		
71-43-2	Benzene	10	U		
79-01-6	Trichloroethene	190	D	J	#9
78-87-5	1,2-Dichloropropane	10	U	R	D
75-27-4	Bromodichloromethane	10	U		
110-75-8	2-Chloroethylvinyl ether	100	U		
10061-01-5	cis-1,3-Dichloropropene	10	U		
108-88-3	Toluene	10	U		
10061-02-6	trans-1,3-Dichloropropene	10	U		
79-00-5	1,1,2-Trichloroethane	10	U		
127-18-4	Tetrachloroethene	10	U		
108-10-1	4-Methyl-2-Pentanone	10	U		
591-78-6	2-Hexanone	10	U		
124-48-1	Dibromochloromethane	10	U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF262DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-14DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO890

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/05/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	lab code
108-90-7	Chlorobenzene	10	U	R	D
630-20-6	1,1,1,2-Tetrachloroethane	10	U		
100-41-4	Ethylbenzene	10	U		
1330-20-7	Xylenes (total)	10	U		
108-38-3	m,p-Xylenes	10	U		
95-47-6	o-Xylene	10	U		
100-42-5	Styrene	10	U		
75-25-2	Bromoform	10	U		
79-34-5	1,1,2,2-Tetrachloroethane	10	U		
96-18-4	1,2,3-Trichloropropane	10	U		
108-67-8	1,3,5-Trimethylbenzene	10	U		
95-63-6	1,2,4-Trimethylbenzene	10	U		
541-73-1	1,3-Dichlorobenzene	10	U		
106-46-7	1,4-Dichlorobenzene	10	U		
95-50-1	1,2-Dichlorobenzene	10	U		
96-12-8	1,2-Dibromo-3-Chloropropane	10	U		

MC 07.28.03

AMEC VALIDATED
LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF316

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7741

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	5	U	UJ	*9
74-87-3	Chloromethane	5	U	↓	
75-01-4	Vinyl Chloride	200		J	
74-83-9	Bromomethane	5	U	UJ	
75-00-3	Chloroethane	5	U	↓	
75-69-4	Trichlorofluoromethane	5	U	↓	
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U	↓	
67-64-1	Acetone	34		J	
75-35-4	1,1-Dichloroethene	3	J	J	
75-09-2	Methylene Chloride	4	J	↓	
75-15-0	Carbon Disulfide	5	U	UJ	
156-60-5	trans-1,2-Dichloroethene	2	J	J	
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U	↓	
156-59-2	cis-1,2-Dichloroethene	360	E	R	D
540-59-0	1,2-Dichloroethene (total)	370	E	↓	↓
67-66-3	Chloroform	20		J	*9
71-55-6	1,1,1-Trichloroethane	5	U	UJ	
56-23-5	Carbon Tetrachloride	5	U	↓	
107-06-2	1,2-Dichloroethane	5	U	↓	
71-43-2	Benzene	5	U	↓	
79-01-6	Trichloroethene	250	E	R	D
78-87-5	1,2-Dichloropropane	5	U	UJ	*9
75-27-4	Bromodichloromethane	5	U	↓	
110-75-8	2-Chloroethylvinyl ether	50	U	↓	
10061-01-5	cis-1,3-Dichloropropene	5	U	↓	
108-88-3	Toluene	5	U	↓	
10061-02-6	trans-1,3-Dichloropropene	5	U	↓	
79-00-5	1,1,2-Trichloroethane	5	U	↓	
127-18-4	Tetrachloroethene	5	U	↓	
108-10-1	4-Methyl-2-Pentanone	5	U	↓	
591-78-6	2-Hexanone	5	U	↓	
124-48-1	Dibromochloromethane	5	U	↓	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF316

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7741

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-90-7	Chlorobenzene	5	U	UJ	*9
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF316

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7794

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/05/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	#9

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MW SAMPLE NO.

PF316DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-01DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO839

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	25	U	R	D
74-87-3	Chloromethane	25	U		
75-01-4	Vinyl Chloride	330	D		
74-83-9	Bromomethane	25	U		
75-00-3	Chloroethane	25	U		
75-69-4	Trichlorofluoromethane	25	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	25	U		
67-64-1	Acetone	20	DJ		
75-35-4	1,1-Dichloroethene	25	U		
75-09-2	Methylene Chloride	11	DJ		
75-15-0	Carbon Disulfide	25	U		
156-60-5	trans-1,2-Dichloroethene	25	U		
75-34-3	1,1-Dichloroethane	25	U		
78-93-3	2-Butanone	25	U		
156-59-2	cis-1,2-Dichloroethene	270	D	J	*9
540-59-0	1,2-Dichloroethene (total)	280	D	J	*9
67-66-3	Chloroform	13	DJ	R	D
71-55-6	1,1,1-Trichloroethane	25	U		
56-23-5	Carbon Tetrachloride	25	U		
107-06-2	1,2-Dichloroethane	25	U		
71-43-2	Benzene	25	U		
79-01-6	Trichloroethene	180	D	J	*9
78-87-5	1,2-Dichloropropane	25	U	R	D
75-27-4	Bromodichloromethane	25	U		
110-75-8	2-Chloroethylvinyl ether	250	U		
10061-01-5	cis-1,3-Dichloropropene	25	U		
108-88-3	Toluene	25	U		
10061-02-6	trans-1,3-Dichloropropene	25	U		
79-00-5	1,1,2-Trichloroethane	25	U		
127-18-4	Tetrachloroethene	25	U		
108-10-1	4-Methyl-2-Pentanone	25	U		
591-78-6	2-Hexanone	25	U		
124-48-1	Dibromochloromethane	25	U		

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MW SAMPLE NO.

PF316DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-01DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO839

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
108-90-7	Chlorobenzene	25	U	R	D
630-20-6	1,1,1,2-Tetrachloroethane	25	U		
100-41-4	Ethylbenzene	25	U		
1330-20-7	Xylenes (total)	25	U		
108-38-3	m,p-Xylenes	25	U		
95-47-6	o-Xylene	25	U		
100-42-5	Styrene	25	U		
75-25-2	Bromoform	25	U		
79-34-5	1,1,2,2-Tetrachloroethane	25	U		
96-18-4	1,2,3-Trichloropropane	25	U		
108-67-8	1,3,5-Trimethylbenzene	25	U		
95-63-6	1,2,4-Trimethylbenzene	25	U		
541-73-1	1,3-Dichlorobenzene	25	U		
106-46-7	1,4-Dichlorobenzene	25	U		
95-50-1	1,2-Dichlorobenzene	25	U		
96-12-8	1,2-Dibromo-3-Chloropropane	25	U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF319

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7744

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
75-71-8	Dichlorodifluoromethane	5	U	UJ	*9
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	5	U		
74-83-9	Bromomethane	5	U		
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	5	U		
75-35-4	1,1-Dichloroethene	5	U		
75-09-2	Methylene Chloride	5	U		
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	98		J	
75-34-3	1,1-Dichloroethane	5	U	UJ	
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	620	E	R	D
540-59-0	1,2-Dichloroethene (total)	740	E		
67-66-3	Chloroform	1	J	J	F*9
71-55-6	1,1,1-Trichloroethane	5	U	UJ	
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	1100	E	R	D
78-87-5	1,2-Dichloropropane	5	U	UJ	*9
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		
124-48-1	Dibromochloromethane	5	U		

FORM I VOA

KRM 11-11-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF319

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7744

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-90-7	Chlorobenzene	5	U	UJ	*9
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF319

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7797

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/05/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF319DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-04DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO852

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	vev qual	qual code
75-71-8	Dichlorodifluoromethane	100	U	R	D
74-87-3	Chloromethane	100	U		
75-01-4	Vinyl Chloride	100	U		
74-83-9	Bromomethane	100	U		
75-00-3	Chloroethane	100	U		
75-69-4	Trichlorofluoromethane	100	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	100	U		
67-64-1	Acetone	39	DJ		
75-35-4	1,1-Dichloroethene	100	U		
75-09-2	Methylene Chloride	64	DJ		
75-15-0	Carbon Disulfide	100	U		
156-60-5	trans-1,2-Dichloroethene	51	DJ		
75-34-3	1,1-Dichloroethane	100	U		
78-93-3	2-Butanone	100	U		
156-59-2	cis-1,2-Dichloroethene	630	D	J	*9
540-59-0	1,2-Dichloroethene (total)	690	D		
67-66-3	Chloroform	100	U	R	D
71-55-6	1,1,1-Trichloroethane	100	U		
56-23-5	Carbon Tetrachloride	100	U		
107-06-2	1,2-Dichloroethane	100	U		
71-43-2	Benzene	100	U		
79-01-6	Trichloroethene	1500	D	J	*9
78-87-5	1,2-Dichloropropane	100	U	R	D
75-27-4	Bromodichloromethane	100	U		
110-75-8	2-Chloroethylvinyl ether	1000	U		
10061-01-5	cis-1,3-Dichloropropene	100	U		
108-88-3	Toluene	100	U		
10061-02-6	trans-1,3-Dichloropropene	100	U		
79-00-5	1,1,2-Trichloroethane	100	U		
127-18-4	Tetrachloroethene	100	U		
108-10-1	4-Methyl-2-Pentanone	100	U		
591-78-6	2-Hexanone	100	U		
124-48-1	Dibromochloromethane	100	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF319DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-04DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO852

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	val qual	qual code
108-90-7	Chlorobenzene	100	U	R	D
630-20-6	1,1,1,2-Tetrachloroethane	100	U		
100-41-4	Ethylbenzene	100	U		
1330-20-7	Xylenes (total)	100	U		
108-38-3	m,p-Xylenes	100	U		
95-47-6	o-Xylene	100	U		
100-42-5	Styrene	100	U		
75-25-2	Bromoform	100	U		
79-34-5	1,1,2,2-Tetrachloroethane	100	U		
96-18-4	1,2,3-Trichloropropane	100	U		
108-67-8	1,3,5-Trimethylbenzene	100	U		
95-63-6	1,2,4-Trimethylbenzene	100	U		
541-73-1	1,3-Dichlorobenzene	100	U		
106-46-7	1,4-Dichlorobenzene	100	U		
95-50-1	1,2-Dichlorobenzene	100	U		
96-12-8	1,2-Dibromo-3-Chloropropane	100	U		

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF320

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7745

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	5	U	UJ	*9
74-87-3	Chloromethane	5	U		
75-01-4	Vinyl Chloride	300	E	R	D
74-83-9	Bromomethane	5	U	UJ	*9
75-00-3	Chloroethane	5	U		
75-69-4	Trichlorofluoromethane	5	U		
76-13-1	1,1,2-Trichlorotrifluoroetha	5	U		
67-64-1	Acetone	2	J	J	F
75-35-4	1,1-Dichloroethene	3	J	J	
75-09-2	Methylene Chloride	5	U	UJ	
75-15-0	Carbon Disulfide	5	U		
156-60-5	trans-1,2-Dichloroethene	590	E	R	D
75-34-3	1,1-Dichloroethane	5	U	UJ	*9
78-93-3	2-Butanone	5	U		
156-59-2	cis-1,2-Dichloroethene	1300	E	R	D
540-59-0	1,2-Dichloroethene (total)	1900	E		
67-66-3	Chloroform	5	U	UJ	*9
71-55-6	1,1,1-Trichloroethane	5	U		
56-23-5	Carbon Tetrachloride	5	U		
107-06-2	1,2-Dichloroethane	5	U		
71-43-2	Benzene	5	U		
79-01-6	Trichloroethene	170		J	
78-87-5	1,2-Dichloropropane	5	U	UJ	
75-27-4	Bromodichloromethane	5	U		
110-75-8	2-Chloroethylvinyl ether	50	U		
10061-01-5	cis-1,3-Dichloropropene	5	U		
108-88-3	Toluene	5	U		
10061-02-6	trans-1,3-Dichloropropene	5	U		
79-00-5	1,1,2-Trichloroethane	5	U		
127-18-4	Tetrachloroethene	5	U		
108-10-1	4-Methyl-2-Pentanone	5	U		
591-78-6	2-Hexanone	5	U		
124-48-1	Dibromochloromethane	5	U		

FORM I VOA

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AMEC VALIDATED

LEVEL V

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF320

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7745

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/03/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual Code
108-90-7	Chlorobenzene	5	U	UJ	*9
630-20-6	1,1,1,2-Tetrachloroethane	5	U		
100-41-4	Ethylbenzene	5	U		
1330-20-7	Xylenes (total)	5	U		
108-38-3	m,p-Xylenes	5	U		
95-47-6	o-Xylene	5	U		
100-42-5	Styrene	5	U		
75-25-2	Bromoform	5	U		
79-34-5	1,1,2,2-Tetrachloroethane	5	U		
96-18-4	1,2,3-Trichloropropane	5	U		
108-67-8	1,3,5-Trimethylbenzene	5	U		
95-63-6	1,2,4-Trimethylbenzene	5	U		
541-73-1	1,3-Dichlorobenzene	5	U		
106-46-7	1,4-Dichlorobenzene	5	U		
95-50-1	1,2-Dichlorobenzene	5	U		
96-12-8	1,2-Dibromo-3-Chloropropane	5	U		

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF320

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q7798

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/05/03

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
79-38-9	Chlorotrifluoroethene	5	U	UJ	*9

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF320DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-05DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO853

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 25.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
75-71-8	Dichlorodifluoromethane	130	U	R	D
74-87-3	Chloromethane	130	U	↓	↓
75-01-4	Vinyl Chloride	160	D	J	*9
74-83-9	Bromomethane	130	U	R	D
75-00-3	Chloroethane	130	U	↓	↓
75-69-4	Trichlorofluoromethane	130	U	↓	↓
76-13-1	1,1,2-Trichlorotrifluoroetha	130	U	↓	↓
67-64-1	Acetone	130	U	↓	↓
75-35-4	1,1-Dichloroethene	130	U	↓	↓
75-09-2	Methylene Chloride	59	DJ	↓	↓
75-15-0	Carbon Disulfide	130	U	↓	↓
156-60-5	trans-1,2-Dichloroethene	450	D	J	*9
75-34-3	1,1-Dichloroethane	130	U	R	D
78-93-3	2-Butanone	130	U	↓	↓
156-59-2	cis-1,2-Dichloroethene	2100	D	J	*9
540-59-0	1,2-Dichloroethene (total)	2600	D	↓	↓
67-66-3	Chloroform	130	U	R	D
71-55-6	1,1,1-Trichloroethane	130	U	↓	↓
56-23-5	Carbon Tetrachloride	130	U	↓	↓
107-06-2	1,2-Dichloroethane	130	U	↓	↓
71-43-2	Benzene	130	U	↓	↓
79-01-6	Trichloroethene	100	DJ	↓	↓
78-87-5	1,2-Dichloropropane	130	U	↓	↓
75-27-4	Bromodichloromethane	130	U	↓	↓
110-75-8	2-Chloroethylvinyl ether	1300	U	↓	↓
10061-01-5	cis-1,3-Dichloropropene	130	U	↓	↓
108-88-3	Toluene	130	U	↓	↓
10061-02-6	trans-1,3-Dichloropropene	130	U	↓	↓
79-00-5	1,1,2-Trichloroethane	130	U	↓	↓
127-18-4	Tetrachloroethene	130	U	↓	↓
108-10-1	4-Methyl-2-Pentanone	130	U	↓	↓
591-78-6	2-Hexanone	130	U	↓	↓
124-48-1	Dibromochloromethane	130	U	↓	↓

FORM I VOA

KRM 11-11-03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

MW SAMPLE NO.

PF320DL

Lab Name: CEIMIC CORP Project: BOEING SSFL

Lab Code: CEIMIC Case No.: BOEING SDG No.: PF316

Matrix: (soil/water) WATER Lab Sample ID: 030632-05DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: LO853

Level: (low/med) LOW Date Received: 05/30/03

% Moisture: not dec. _____ Date Analyzed: 06/04/03

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 25.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	rev qual	qual code
108-90-7	Chlorobenzene	130	U	R	D
630-20-6	1,1,1,2-Tetrachloroethane	130	U		
100-41-4	Ethylbenzene	130	U		
1330-20-7	Xylenes (total)	130	U		
108-38-3	m,p-Xylenes	130	U		
95-47-6	o-Xylene	130	U		
100-42-5	Styrene	130	U		
75-25-2	Bromoform	130	U		
79-34-5	1,1,2,2-Tetrachloroethane	130	U		
96-18-4	1,2,3-Trichloropropane	130	U		
108-67-8	1,3,5-Trimethylbenzene	130	U		
95-63-6	1,2,4-Trimethylbenzene	130	U		
541-73-1	1,3-Dichlorobenzene	130	U		
106-46-7	1,4-Dichlorobenzene	130	U		
95-50-1	1,2-Dichlorobenzene	130	U		
96-12-8	1,2-Dibromo-3-Chloropropane	130	U		