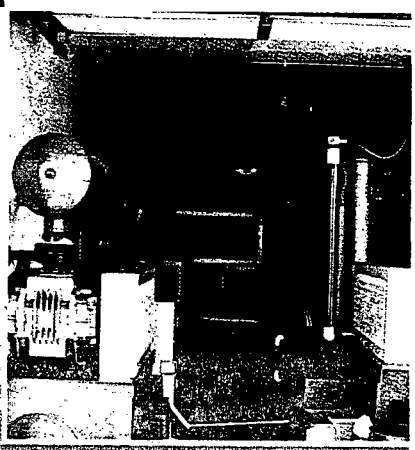
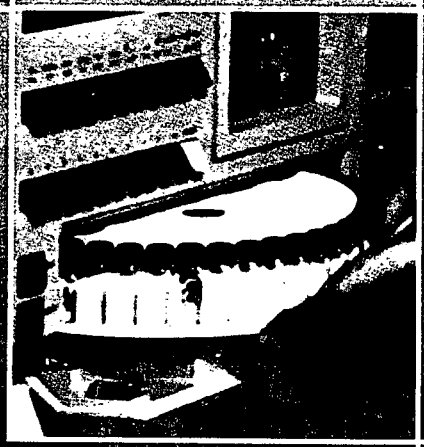
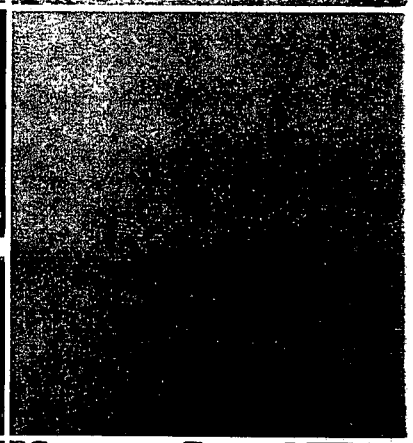
QUALITY ASSURANCE REVIEW OF THE SAMPLES COLLECTED ON JUNE 18, 19, AND 30, 2003, AND ON JULY 1, 2003 FOR THE QUANTA/NEW JERSEY SUPERFUND SITE PROJECT

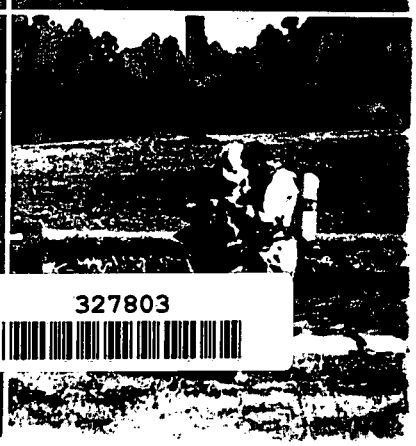
FINAL

August 25, 2003









ENVIRONMENTAL STANDARDS

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QUALITY ASSURANCE REVIEW OF THE SAMPLES COLLECTED ON JUNE 18, 19, AND 30, 2003, AND ON JULY 1, 2003 FOR THE QUANTA/NEW JERSEY SUPERFUND SITE PROJECT

FINAL

August 25, 2003

Prepared for:

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Introduction

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the soil samples and aqueous trip blanks collected on June 18, 19, and 30, 2003, and on July 1, 2003, for the Quanta/New Jersey Superfund Site Project. The samples that have undergone a QA review are listed on Table 1. Table 1 also indicates the laboratory sample number, sample delivery group (SDG), matrix, collection date, and the parameter examined for each sample. The data packages were provided to Environmental Standards in a New Jersey full-deliverables format that allowed for the performance of a complete QA review.

This review has been performed with guidance from the New Jersey Department of Environmental Protection "Quality Assurance Data Validation of Analytical Deliverables-TCL-Organics (based on the US EPA CLP SOW OLM03.2 with revisions)"; SOP No. 5.A.13 Revision No. 1, October 1997; and Environmental Standards standard operating procedures.

The reported analytical results are presented as a summary of the data in Section 2. Data were examined to determine the usability of the analytical results and compliance relative to the method requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition" (SW-846). Qualifier codes have been placed next to results to enable the data user to quickly assess the qualitative and/or quantitative reliability of any result. The data qualifications allow the data end-user to best understand the usability of the analytical results. Data not qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. Details of this QA review are presented in Section 1 of this report.

TABLE 1

SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW

TRC/Raviv Associates Sample Number	Laboratory Sample Number	SDG	Matrix	Date Sample Collected	Parameter Analyzed
AOC6(1)	05334-001	E03-05334	Soil	6/19/03	V
AOC6(1)MS (Matrix Spike)	05334-001MS	E03-05334	Soil	6/19/03	V
AOC6(1)MSD (Matrix Spike Duplicate)	05334-001MSD	E03-05334	Soil	6/19/03	V
AOC6(D) [Field Duplicate of AOC6(1)]	05334-002	E03-05334	Soil	6/19/03	V
AOC3(3)	05334-003	E03-05334	Soil	6/19/03	V
AOC9(1)	05334-005	E03-05334	Soil	6/19/03	V
TB-8631-8614 (Trip Blank)	05334-012	E03-05334	Aq	6/18/03	V
PL-1	05680-001	E03-05680	Soil	7/01/03	V
TB-8665-8666 (Trip Blank)	05680-002	E03-05680	Aq	6/30/03	V

NOTES:

V - TCL Volatile Organic Compounds by SW-846 Method 8260B. (9 analyses)
Aq - Aqueous.

Section 1 Quality Assurance Review

A. Organic Data

The organic analyses of nine samples (including QC samples and aqueous trip blanks), collected on June 18, 19, and 30, 2003, and on July 1, 2003, for the Quanta/New Jersey Superfund Site Project were performed by Integrated Analytical Laboratories (IAL) of Randolph, New Jersey. All samples were analyzed for TCL volatile organic compounds by SW-846 Method 8260B as specified on Table 1. The samples were grouped into two sample delivery groups (SDGs E03-05334 and E03-05680). Full data package deliverables, which allowed for a comprehensive, third-party validation, were provided.

The findings in this report are based upon a review of sample holding times, sample receipt condition, gas chromatography/mass spectroscopy (GC/MS) bromofluorobenzene (BFB) tuning and mass calibration, blank analysis results, surrogate recoveries, internal standard area counts, laboratory control sample (LCS) recoveries, matrix spike/matrix spike duplicate (MS/MSD) recovery and precision, calibrations, field duplicate precision, quantitation of positive results, and a critical evaluation of instrumental raw data.

Overall, the organic data quality appears to be good. The deficiency and usability issues detailed below were identified during the performance of the QA review. The data reviewer has included copies of all relevant QC forms and other documentation needed to support any changes made to the data packages in the Organic Data Support Documentation (Section 3) of this report. The following deficiency does not affect data usability. Usability is addressed in the Organic Data Qualifiers section.

Noncorrectable Deficiency

- For SDG E03-05334, the sample weight collected for sample AOC9(1) was less than 4.5 g. According to SW-846 Method 5035 (Section 6.2.1.3), 5±0.5-g samples should be collected. Qualification of data due to this deficiency is address in the subsequent Organic Data Qualifiers section.

With regard to data usability, the principal areas of concern are a high percent difference in the associated continuing calibration standard, low percent solids, and a less than method-specified sample weight used for analysis. Based upon a rigorous review of the data package provided, the following qualifiers are offered. The following data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following data usability issues should <u>not</u> be construed as an indication of laboratory performance.

Organic Data Qualifiers

- The detection limits for all volatile organic compounds in SDG E03-05334 sample AOC9(1) may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. A less than method-specified sample weight (<4.5 g) was collected and available for volatile organic compound analysis of this sample.

- The detection limits for 1,2,3-trichlorobenzene in SDG E03-05680 samples PL-1 and TB 8665-8666 may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. A high percent difference (>25%), coupled with an instrument sensitivity decrease, was observed for 1,2,3-trichlorobenzene in the associated continuing calibration verification standard.

- The detection limits for all volatile organic compounds in SDG E03-05334 sample AOC9(1) may be higher than reported, and the "not-detected" results have been flagged "UJ" on the data tables. Low percent solids (<50%) were observed for sample AOC9(1).

- One field duplicate pair [SDG E03-05334 sample AOC6(1) and its field duplicate, SDG E03-05334 sample AOC6(D)] was submitted to the laboratory for this data set. Acceptable precision and sample representativeness were demonstrated to the limited extent that positive results were not reported for volatile organic compounds in the field duplicate pair.

A complete support documentation for this organic QA review is presented in Section 3 of this report. The cover sheet for this section is a checklist of all QA procedures required by the protocol and examined in this data review.

B. Conclusions

Based on the QA review performed, a portion of the organic data was qualified as estimated due to a calibration issue, low percent solids, and a less than method-specified sample weight used for analysis. In order to use any of the data, the data user should understand the qualifications and limitations as specified in this QA review. The Project Case Narratives and Chain-of-Custody Records are presented in Section 4 of this report.

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Date: 8-25-03

SECTION 2

ANALYTICAL RESULTS

ORGANIC DATA QUALIFIERS

U	The compound was analyzed for but not detected.
J	Indicates an estimated value.
B	Analyte is found in the associated blank as well as the sample.
N	The analysis indicates that there is presumptive evidence to make a tentative identification of this compound.
R	Rejected result; compound may or may not be present in this sample.
UJ	This compound was not detected, but the reporting or detection limit is probably higher due to a low bias identified during the quality assurance review.

A. SDG E03-05334

SUMMARY REPORT								
Client: TRC Raviv Associates, Inc.								
Project: QUANTA - 2084Q								
Lab Case No.: E03-05334								
Client ID:	AOC6 (1)				AOC6 (D)			
Sample Depth:	1.5/2				1.5/2			
Lab ID:	05334-001				05334-002			
Date Sampled:	06/19/2003				06/19/2003			
Matrix:	Soil				Soil			
Volatiles Special List (ppm)	Conc	Q	MDL	ESI Qualifier	Conc	Q	MDL	ESI Qualifier
Dichlorodifluoromethane	ND		0.565	U	ND		0.549	U
Chloromethane	ND		0.565	U	ND		0.549	U
Vinyl Chloride	ND		0.565	U	ND		0.549	U
Bromomethane	ND		0.565	U	ND		0.549	U
Chloroethane	ND		0.565	U	ND		0.549	U
Trichlorofluoromethane	ND		0.565	U	ND		0.549	U
1,1-Dichloroethene	ND		0.565	U	ND		0.549	U
Acetone	ND		1.13	U	ND		1.10	U
Carbon Disulfide	ND		0.565	U	ND		0.549	U
Methylene Chloride	ND		0.565	U	ND		0.549	U
trans-1,2-Dichloroethene	ND		0.565	U	ND		0.549	U
Methyl-t-Butyl Ether(MTBE)	ND		0.565	U	ND		0.549	U
1,1-Dichloroethane	ND		0.565	U	ND		0.549	U
cis-1,2-Dichloroethene	ND		0.565	U	ND		0.549	U
2-Butanone(MEK)	ND		1.13	U	ND		1.10	U
Bromochloromethane	ND		0.565	U	ND		0.549	U
Chloroform	ND		0.565	U	ND		0.549	U
1,1,1-Trichloroethane	ND		0.565	U	ND		0.549	U
Carbon Tetrachloride	ND		0.565	U	ND		0.549	U
1,2-Dichloroethane(EDC)	ND		0.565	U	ND		0.549	U
Benzene	ND		0.565	U	ND		0.549	U
Trichloroethene	ND		0.565	U	ND		0.549	U
1,2-Dichloropropane	ND		0.565	U	ND		0.549	U
Bromodichloromethane	ND		0.565	U	ND		0.549	U
cis-1,3-Dichloropropene	ND		0.565	U	ND		0.549	U
4-Methyl-2-pentanone(MIBK)	ND		1.13	U	ND		1.10	U
Toluene	ND		0.565	U	ND		0.549	U
trans-1,3-Dichloropropene	ND		0.565	U	ND		0.549	U
1,1,2-Trichloroethane	ND		0.565	U	ND		0.549	U
Tetrachloroethene	ND		0.565	U	ND		0.549	U

SUMMARY REPORT								
Client: TRC Raviv Associates, Inc.								
Project: QUANTA - 2084Q								
Lab Case No.: E03-05334								
Client ID:	AOC6 (1)				AOC6 (D)			
Sample Depth:	1.5/2				1.5/2			
Lab ID:	05334-001				05334-002			
Date Sampled:	06/19/2003				06/19/2003			
Matrix:	Soil				Soil			
Volatiles Special List (ppm)	Conc	Q	MDL	ESI Qualifier	Conc	Q	MDL	ESI Qualifier
2-Hexanone	ND		1.13	U	ND		1.10	U
Dibromochloromethane	ND		0.565	U	ND		0.549	U
1,2-Dibromoethane(EDB)	ND		0.565	U	ND		0.549	U
Chlorobenzene	ND		0.565	U	ND		0.549	U
Ethylbenzene	ND		0.565	U	ND		0.549	U
Total Xylenes	ND		0.565	U	ND		0.549	U
Styrene	ND		0.565	U	ND		0.549	U
Bromoform	ND		0.565	U	ND		0.549	U
Isopropylbenzene	ND		0.565	U	ND		0.549	U
1,1,2,2-Tetrachloroethane	ND		0.565	U	ND		0.549	U
1,4-Dichlorobenzene	ND		0.565	U	ND		0.549	U
1,2-Dibromo-3-chloropropane	ND		0.565	U	ND		0.549	U
1,2,4-Trichlorobenzene	ND		0.565	U	ND		0.549	U
1,2,3-Trichlorobenzene	ND		0.565	U	ND		0.549	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.565	U	ND		0.549	U
Methyl acetate	ND		0.565	U	ND		0.549	U
Cyclohexane	ND		0.565	U	ND		0.549	U
Methylcyclohexane	ND		0.565	U	ND		0.549	U

SUMMARY REPORT												
Client: TRC Raviv Associates, Inc.												
Project: QUANTA - 2084Q												
Lab Case No.: E03-05334												
Client ID:	AOC3 (3)				AOC9 (1)				TB-8631-8614			
Sample Depth:					0/0.5							
Lab ID:	05334-003				05334-005				05334-012			
Date Sampled:	06/19/2003				06/19/2003				06/19/2003			
Matrix:	Soil					Soil			Soil			
Volatiles Special List (ppm)	Conc	Q	MDL	ESI Qualifier	Conc	Q	MDL	ESI Qualifier	Conc	Q	MDL	ESI Qualifier
Dichlorodifluoromethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Chloromethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Vinyl Chloride	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Bromomethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Chloroethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Trichlorofluoromethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,1-Dichloroethene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Acetone	ND		1.19	U	ND		1.05	UJ	ND		0.010	U
Carbon Disulfide	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Methylene Chloride	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
trans-1,2-Dichloroethene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Methyl-t-Butyl Ether(MTBE)	ND		0.596	U	ND		1.05	UJ	ND		0.005	U
1,1-Dichloroethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
cis-1,2-Dichloroethene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
2-Butanone(MEK)	ND		1.19	U	ND		0.420	UJ	ND		0.010	U
Bromochloromethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Chloroform	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,1,1-Trichloroethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Carbon Tetrachloride	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,2-Dichloroethane(EDC)	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Benzene	ND		0.596	U	ND		0.210	UJ	ND		0.005	U
Trichloroethene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,2-Dichloropropane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Bromodichloromethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
cis-1,3-Dichloropropene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
4-Methyl-2-pentanone(MIBK)	ND		1.19	U	ND		0.420	UJ	ND		0.010	U
Toluene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
trans-1,3-Dichloropropene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,1,2-Trichloroethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Tetrachloroethene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U

SUMMARY REPORT												
Client: TRC Raviv Associates, Inc.												
Project: QUANTA - 2084Q												
Lab Case No.: E03-05334												
Client ID:	AOC3 (3)				AOC9 (1)				TB-8631-8614			
Sample Depth:					0/0.5							
Lab ID:	05334-003				05334-005				05334-012			
Date Sampled:	06/19/2003				06/19/2003				06/19/2003			
Matrix:	Soil					Soil			Soil			
Volatiles Special List (ppm)	Conc	Q	MDL	ESI Qualifier	Conc	Q	MDL	ESI Qualifier	Conc	Q	MDL	ESI Qualifier
2-Hexanone	ND		1.19	U	ND		0.840	UJ	ND		0.010	U
Dibromochloromethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,2-Dibromoethane(EDB)	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Chlorobenzene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Ethylbenzene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Total Xylenes	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Styrene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Bromoform	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Isopropylbenzene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,1,2,2-Tetrachloroethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,4-Dichlorobenzene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,2-Dibromo-3-chloropropane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,2,4-Trichlorobenzene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,2,3-Trichlorobenzene	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Methyl acetate	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Cyclohexane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U
Methylcyclohexane	ND		0.596	U	ND		0.420	UJ	ND		0.005	U

B. SDG E03-05680

SUMMARY REPORT								
Client: TRC Raviv Associates, Inc.								
Project: QUANTA - 2084Q								
Lab Case No.: E03-05680								
Client ID:	**PL-1**				**TB 8665-8666**			
Sample Depth:	**0/0.5**							
Lab ID:	**05680-001**				**05680-002**			
Date Sampled:	**07/01/2003**				**06/30/2003**			
Matrix:	**Soil**				**Soil**			
Volatiles - Special List (ppm)	Conc	Q	MDL	**ESI Qualifier**	Conc	Q	MDL	**ESI Qualifier**
Dichlorodifluoromethane	ND		0.588	U	ND		0.005	U
Chloromethane	ND		0.588	U	ND		0.005	U
Vinyl Chloride	ND		0.588	U	ND		0.005	U
Bromomethane	ND		0.588	U	ND		0.005	U
Chloroethane	ND		0.588	U	ND		0.005	U
Trichlorofluoromethane	ND		0.588	U	ND		0.005	U
1,1-Dichloroethene	ND		0.588	U	ND		0.005	U
Acetone	ND		1.18	U	ND		0.010	U
Carbon Disulfide	ND		0.588	U	ND		0.005	U
Methylene Chloride	ND		0.588	U	ND		0.005	U
trans-1,2-Dichloroethene	ND		0.588	U	ND		0.005	U
Methyl-t-Butyl Ether(MTBE)	ND		0.588	U	ND		0.005	U
1,1-Dichloroethane	ND		0.588	U	ND		0.005	U
cis-1,2-Dichloroethene	ND		0.588	U	ND		0.005	U
2-Butanone(MEK)	ND		1.18	U	ND		0.010	U
Bromochloromethane	ND		0.588	U	ND		0.005	U
Chloroform	ND		0.588	U	ND		0.005	U
1,1,1-Trichloroethane	ND		0.588	U	ND		0.005	U
Carbon Tetrachloride	ND		0.588	U	ND		0.005	U
1,2-Dichloroethane(EDC)	ND		0.588	U	ND		0.005	U
Benzene	ND		0.588	U	ND		0.005	U
Trichloroethene	ND		0.588	U	ND		0.005	U
1,2-Dichloropropane	ND		0.588	U	ND		0.005	U
Bromodichloromethane	ND		0.588	U	ND		0.005	U
cis-1,3-Dichloropropene	ND		0.588	U	ND		0.005	U
4-Methyl-2-pentanone(MIBK)	ND		1.18	U	ND		0.010	U
Toluene	ND		0.588	U	ND		0.005	U
trans-1,3-Dichloropropene	ND		0.588	U	ND		0.005	U
1,1,2-Trichloroethane	ND		0.588	U	ND		0.005	U
Tetrachloroethene	ND		0.588	U	ND		0.005	U
2-Hexanone	ND		1.18	U	ND		0.010	U
Dibromochloromethane	ND		0.588	U	ND		0.005	U
1,2-Dibromoethane(EDB)	ND		0.588	U	ND		0.005	U

SUMMARY REPORT								
Client: TRC Raviv Associates, Inc.								
Project: QUANTA - 2084Q								
Lab Case No.: E03-05680								
Client ID:	PL-1				TB 8665-8666			
Sample Depth:	0/0.5							
Lab ID:	05680-001				05680-002			
Date Sampled:	07/01/2003				06/30/2003			
Matrix:	Soil				Soil			
Volatiles - Special List (ppm)	Conc	Q	MDL	ESI Qualifier	Conc	Q	MDL	ESI Qualifier
Chlorobenzene	ND		0.588	U	ND		0.005	U
Ethylbenzene	ND		0.588	U	ND		0.005	U
Total Xylenes	ND		0.588	U	ND		0.005	U
Styrene	ND		0.588	U	ND		0.005	U
Bromoform	ND		0.588	U	ND		0.005	U
Isopropylbenzene	ND		0.588	U	ND		0.005	U
1,1,2,2-Tetrachloroethane	ND		0.588	U	ND		0.005	U
1,4-Dichlorobenzene	ND		0.588	U	ND		0.005	U
1,2-Dibromo-3-chloropropane	ND		0.588	U	ND		0.005	U
1,2,4-Trichlorobenzene	ND		0.588	U	ND		0.005	U
1,2,3-Trichlorobenzene	ND		0.588	UJ	ND		0.005	UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.588	U	ND		0.005	U
Methyl acetate	ND		0.588	U	ND		0.005	U
Cyclohexane	ND		0.588	U	ND		0.005	U
Methylcyclohexane	ND		0.588	U	ND		0.005	U

SECTION 3

ORGANIC DATA SUPPORT DOCUMENTATION

A. SDG E03-05334

Organic Analyses Support Documentation

Environmental Standards Project Name: TRL/Quantico
Sample Collection Dates: 6/19/03
Job Number: Y3062134
Project Manager: GLENN BLUE
Laboratory: INTEGRATED ANALYTICAL LABORATORIES

Reviewed By: JOHN C DABBACK
Approved By: GLENN BLUE
Completion Date: 7/25/03

Applicable Sample No's.: ☐ Refer to Table 1 in the Quality Assurance Review

Deliverables:		Sample No.	Lab. Control No.
CLP LIKE	☑	SEE TABLE 1	
Tier I	☐		
Tier II	☐		
Limited	☐		
Other			

The following table indicates criteria which were examined, the identified problems, and support documentation attachments.

	Criteria Examined in Detail: Check (✓) If Yes or Footnote Letter for Comments Below				Problems Identified: Check (✓) If Yes or Footnote Number for Comments Below				Support Documentation Attachments: Check (✓) If Yes -- or Identify Attachment No.			
	VOA Method 8260B	BNA Method	PEST / PCB Method	Other Method(s)	VOA Method 8260B	BNA Method	PEST / PCB Method	Other Method(s)	VOA Method 8260B	BNA Method	PEST / PCB Method	Other Method(s)
Holding Times	✓								✓			
Blank Analysis Results: Target Compounds	✓								✓			
Blank Analysis Results: TICs												
System Mntr. Cmpds. &/or Surrogate Spike Rslts.	✓								✓			
Matrix Spike / Matrix Spike Duplicate Results	✓								✓			
Blank Spike Results	✓								✓			
Duplicate Analysis Results ☐ Field ☐ Lab												
Qualitative Identification: Target Compounds	✓								✓			
Qualitative Identification: TICs												
DFTPP & BFB Mass Tuning	✓								✓			
GC Instrument Performance	✓								✓			
Initial Calibrations	✓								✓			
Continuing Calibrations	✓								✓			
Quantitation of Results	✓								✓			
DDT / Endrin Breakdown												
Surrogate Retention Time Shifts	✓								✓			
Internal Standards Performance	✓								✓			
Resolution Check Standards												
Analytical Sequence	✓								✓			
Florisil Cartridge Check & GPC Calibration												
GC Column Agreement												
Others: SAMPLE WT					✓							

Comments: SDG 5334

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit 5x	Qualification Limit 10x
1	S	MB	J3469	NOT DETECT	—	—	—
1	AQ	TB	TB-8631-8614	NOT DETECT	—	—	—
	AQ	MB	J3470	NOT DETECT	—	—	—

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

+ = Contaminant observed on one column only.

Notes: _____

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 06/20/2003

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
METHOD-BLK	SOIL	J3469.D	97	97	93
METHOD-BLK	AQUEOUS	J3470.D	102	97	93
05334-012	AQUEOUS	J3471.D	102	97	94
05334-001	MEOH	J3472.D	99	97	94
05334-002	MEOH	J3473.D	98	96	94
05334-003	MEOH	J3474.D	98	96	91
05334-005	MEOH	J3475.D	96	96	92
05249-001	MEOH	J3476.D	100	98	93
05249-005	MEOH	J3477.D	102	102	97
BLK-SPK	MEOH	J3478.D	100	101	99
WATER-MS	AQUEOUS	J3479.D	101	97	93
WATER-MSD	AQUEOUS	J3480.D	100	96	93
05334-001MS	MEOH	J3481.D	99	99	93
05334-001MSD	MEOH	J3482.D	97	96	94
05078-005	MEOH	J3483.D	117	107	91
05096-006	MEOH	J3484.D	100	92	80
05231-005	MEOH	J3485.D	105	95	90
05078-001	MEOH	J3486.D	90	80	80
			✓	✓	✓

	Concentration	Aqueous/Meoh	Soil
SMC1 = 1,2-Dichloroethane-d4	50 ppb	59-138	43-133
SMC2 = Toluene-d8	50 ppb	40-133	39-137
SMC3 = Bromofluorobenzene	50 ppb	36-135	23-145

Column to be used to flag recovery values

FORM 2

MEOH VOLATILE LABORATORY CONTROL SAMPLE RECOVERY

Matrix spike Lab sample ID: BLK-SPK

Batch No.: JM0498

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0.0	40.6	81	70 - 130
Benzene	50.0	0.0	47.7	95	70 - 130
Trichloroethene	50.0	0.0	46.2	92	70 - 130
Toluene	50.0	0.0	46.9	94	70 - 130
Chlorobenzene	50.0	0.0	46.1	92	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

NC Non calculable

Spike Recovery: __0___ out of __5__ outside limits

MEOH VOLATILE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: 05334-001

Batch No.: JM0499

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0.0	49.3	99	33 - 133
Benzene	50.0	0.0	55.7	111	55 - 130
Trichloroethene	50.0	0.0	50.9	102	57 - 120
Toluene	50.0	0.0	54.0	108	60 - 126
Chlorobenzene	50.0	0.0	52.7	105	64 - 117

Compound	SAMPLE CONC. (ug/Kg)	MSD CONC. (ug/Kg)	#	MSD % REC	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	0.0	46.6		93	6	17	33 - 133
Benzene	0.0	53.9		108	3	13	55 - 130
Trichloroethene	0.0	48.8		98	4	10	57 - 120
Toluene	0.0	51.5		103	5	11	60 - 126
Chlorobenzene	0.0	52.2		104	1	9	64 - 117

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

NC Non calculable

RPD: __0___ out of __5__ outside limits

Spike Recovery: __0___ out of __10__ outside limits

AQUEOUS VOLATILE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: WATER-MSD

Batch No.: JM0498

Compound	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0.0	44.5	89	33 - 133
Benzene	50.0	0.0	52.0	104	55 - 130
Trichloroethene	50.0	0.0	48.1	96	57 - 120
Toluene	50.0	0.0	50.0	100	60 - 126
Chlorobenzene	50.0	0.0	50.5	101	64 - 117

Compound	SAMPLE CONC. (ug/L)	MSD CONC. (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	0.0	43.9	88	1	17	33 - 133
Benzene	0.0	52.6	105	1	13	55 - 130
Trichloroethene	0.0	48.7	97	1	10	57 - 120
Toluene	0.0	50.8	102	2	11	60 - 126
Chlorobenzene	0.0	51.5	103	2	9	64 - 117

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

NC Non calculable

RPD: __0___ out of __5__ outside limits

Spike Recovery: __0___ out of __10__ outside limits

VOLATILE METHOD BLANK SUMMARY

Lab File ID: J3469.D

Instrument ID: MSD J

Date Analyzed: 06/20/2003

Time Analyzed: 13:29

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
AO6(1)/1.5-2	05334-001	06/20/2003	15:06
AOC6(D)/1.5-2	05334-002	06/20/2003	15:32
AOC3(3)	05334-003	06/20/2003	15:59
AOC9(1)/0-0.5	05334-005	06/20/2003	16:25
TB-6/17	05249-001	06/20/2003	16:52
TP-7/2.5-3	05249-005	06/20/2003	17:18
LCS	BLK-SPK	06/20/2003	17:45
MS	05334-001MS	06/20/2003	19:05
MSD	05334-001MSD	06/20/2003	19:32
TB	05078-005	06/20/2003	19:58
TRIP	05096-006	06/20/2003	20:25
PE-5/5	05231-005	06/20/2003	20:51
S1	05078-001	06/20/2003	21:18

FORM 4

VOLATILE METHOD BLANK SUMMARY

Lab File ID: J3470.D

Instrument ID: MSD J

Date Analyzed: 06/20/2003

Time Analyzed: 13:55

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
TB-8631-8614	05334-012	06/20/2003	14:21
MS	WATER-MS	06/20/2003	18:12
MSD	WATER-MSD	06/20/2003	18:38

FORM 4

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: J3461.D BFB Injection Date: 06/20/2003

Inst ID: MSD J BFB Injection Time: 10:03

m/z	Ion Abudance Criteria	%Relative Abundance
50	15 - 40.0% of mass 95	18.9
75	30.0 - 60.0% of mass 95	53.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.5 (0.7)1
174	Great than 50.0% of mass 95	66.4
175	5.0 - 9.0% of mass 174	5.2 (7.8)1
176	95.0 - 101.0% of mass 174	66.7 (100.4)1
177	5.0 - 9.0% of mass 176	4.3 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
20PPB	STD-20PPB	J3462.D	06/20/2003	10:29
50PPB	STD-50PPB	J3463.D	06/20/2003	10:55
100PPB	STD-100PPB	J3464.D	06/20/2003	11:20
150PPB	STD-150PPB	J3465.D	06/20/2003	11:46
200PPB	STD-200PPB	J3466.D	06/20/2003	12:12
N/A	METHOD-BLK	J3469.D	06/20/2003	13:29
N/A	METHOD-BLK	J3470.D	06/20/2003	13:55
TB-8631-8614	05334-012	J3471.D	06/20/2003	14:21
AO6(1)/1.5-2	05334-001	J3472.D	06/20/2003	15:06
AOC6(D)/1.5-2	05334-002	J3473.D	06/20/2003	15:32
AOC3(3)	05334-003	J3474.D	06/20/2003	15:59
AOC9(1)/0-0.5	05334-005	J3475.D	06/20/2003	16:25
TB-6/17	05249-001	J3476.D	06/20/2003	16:52
TP-7/2.5-3	05249-005	J3477.D	06/20/2003	17:18
LCS	BLK-SPK	J3478.D	06/20/2003	17:45
MS	WATER-MS	J3479.D	06/20/2003	18:12
MSD	WATER-MSD	J3480.D	06/20/2003	18:38
MS	05334-001MS	J3481.D	06/20/2003	19:05
MSD	05334-001MSD	J3482.D	06/20/2003	19:32
TB	05078-005	J3483.D	06/20/2003	19:58

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: J3461.D BFB Injection Date : 06/20/200

Inst ID: MSD J BFB Injection Time: 10:03

m/z	Ion Abudance Criteria	%Relative Abundance			
50	15 - 40.0% of mass 95	18.9 ✓			
75	30.0 - 60.0% of mass 95	53.4 ✓			
95	Base peak, 100% relative abundance	100.0 ✓			
96	5.0 - 9.0% of mass 95	6.3 ✓			
173	Less than 2.0% of mass 174	0.5	(	0.7	)1 ✓
174	Great than 50.0% of mass 95	66.4 ✓			
175	5.0 - 9.0% of mass 174	5.2	(	7.8	)1 ✓
176	95.0 - 101.0% of mass 174	66.7	(	100.4	)1 ✓
177	5.0 - 9.0% of mass 176	4.3	(	6.5	)2 ✓

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
TRIP	05096-006	J3484.D	06/20/2003	20:25
PE-5/5	05231-005	J3485.D	06/20/2003	20:51
S1	05078-001	J3486.D	06/20/2003	21:18

Response Factor Report MSD_J

Method : C:\MSDCHEM\1\METHODS\JME0620.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 8260B
Last Update : Fri Jun 20 13:03:47 2003
Response via : Initial Calibration

Calibration Files
20 =J3462.D 100 =J3464.D 50 =J3463.D
150 =J3465.D 200 =J3466.D

		Compound (ppb)	20	100	50	150	200	Avg	%RSD
1)	I	Pentafluorobenzene	----------ISTD----------						
2)	T	Dichlorodifluorometha	0.489	0.534	0.544	0.539	0.501	0.521	4.73
3)	P	Chloromethane	0.528	0.527	0.555	0.533	0.521	0.533	2.47
4)	C	Vinyl Chloride	0.444	0.466	0.482	0.471	0.458	0.464	3.06
5)	T	Bromomethane	0.363	0.339	0.367	0.335	0.317	0.344	6.12
6)	T	Chloroethane	0.310	0.319	0.331	0.316	0.308	0.317	2.86
7)	T	Trichlorofluoromethan	0.673	0.766	0.767	0.769	0.736	0.743	5.53
8)	T	Acrolein	0.047	0.044	0.047	0.045	0.043	0.045	3.60 NAT
9)	MC	1,1-Dichloroethene	0.397	0.414	0.428	0.420	0.413	0.415	2.78
10)	T	Acetone	0.156	0.154	0.160	0.154	0.146	0.154	3.19
11)	T	Carbon Disulfide	1.199	1.270	1.299	1.300	1.270	1.268	3.23
12)	T	Vinyl Acetate	1.419	1.452	1.511	1.468	1.421	1.454	2.62
13)	T	Methylene Chloride	0.549	0.504	0.547	0.505	0.492	0.520	5.10
14)	T	Acrylonitrile	0.164	0.156	0.164	0.161	0.154	0.160	2.79
15)	T	tert-Butyl Alcohol(TB	0.043	0.043	0.049	0.048	0.045	0.045	5.90 Nat
16)	T	trans-1,2-Dichloroeth	0.463	0.458	0.477	0.450	0.443	0.458	2.86
17)	T	Methyl-t-Butyl Ether(	1.528	1.486	1.582	1.508	1.478	1.517	2.74
18)	P	1,1-Dichloroethane	0.857	0.833	0.869	0.837	0.829	0.845	2.07
19)	T	Diisopropyl Ether(DIP	1.139	1.123	1.175	1.128	1.112	1.136	2.14
20)	T	cis-1,2-Dichloroethen	0.460	0.455	0.475	0.451	0.448	0.458	2.29
21)	T	2,2-Dichloropropane	0.496	0.524	0.531	0.519	0.508	0.516	2.69
22)	T	2-Butanone(MEK)	0.202	0.200	0.224	0.207	0.195	0.206	5.30
23)	T	Bromochloromethane	0.230	0.222	0.231	0.225	0.220	0.226	2.08
25)	C	Chloroform	0.936	0.906	0.949	0.899	0.894	0.917	2.64
26)	T	1,1,1-Trichloroethane	0.718	0.759	0.774	0.766	0.748	0.753	2.88
27)	T	Carbon Tetrachloride	0.545	0.611	0.621	0.627	0.615	0.604	5.56
28)	T	1,1-Dichloropropene	0.553	0.577	0.596	0.572	0.560	0.571	2.93
29)	T	1,2-Dichloroethane(ED	0.885	0.822	0.877	0.818	0.799	0.840	4.54
30)	S	1,2-Dichloroethane-d4	0.826	0.767	0.797	0.772	0.761	0.785	3.44
31)	I	1,4-Difluorobenzene	----------ISTD----------						
32)	M	Benzene	1.064	1.027	1.076	1.009	0.993	1.034	3.41
33)	M	Trichloroethene	0.275	0.282	0.292	0.277	0.275	0.280	2.59
34)	C	1,2-Dichloropropane	0.268	0.264	0.280	0.261	0.259	0.266	3.02
35)	T	Dibromomethane	0.175	0.173	0.183	0.173	0.171	0.175	2.74
37)	T	Bromodichloromethane	0.418	0.443	0.455	0.436	0.440	0.438	3.03
38)	T	2-Chloroethylvinyl Et	0.168	0.187	0.196	0.192	0.186	0.186	5.70
39)	T	cis-1,3-Dichloroprope	0.456	0.478	0.490	0.479	0.478	0.476	2.56
40)	T	4-Methyl-2-pentanone('	0.245	0.254	0.279	0.264	0.255	0.259	4.96
41)	S	Toluene-d8	1.116	1.112	1.118	1.123	1.125	1.119	0.47
42)	MC	Toluene	0.648	0.634	0.673	0.630	0.630	0.643	2.86
43)	T	trans-1,3-Dichloropro	0.440	0.476	0.491	0.486	0.481	0.475	4.28
44)	T	1,1,2-Trichloroethane	0.200	0.196	0.209	0.197	0.195	0.199	2.93
45)	T	Tetrachloroethene	0.207	0.216	0.227	0.213	0.209	0.215	3.74
46)	T	1,3-Dichloropropane	0.457	0.443	0.470	0.443	0.436	0.450	3.02
47)	T	2-Hexanone	0.171	0.190	0.200	0.199	0.194	0.191	6.21
48)	T	Dibromochloromethane	0.275	0.301	0.308	0.306	0.307	0.300	4.62
49)	T	1,2-Dibromoethane(EDB	0.249	0.251	0.269	0.258	0.252	0.256	3.15

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50)	I	Chlorobenzene-d5	----------ISTD----------						
51)	MP	Chlorobenzene	0.839	0.821	0.860	0.809	0.807	0.827	2.70
52)	T	1,1,1,2-Tetrachloroet	0.315	0.326	0.333	0.323	0.324	0.324	2.06
53)	C	Ethylbenzene	1.296	1.340	1.387	1.323	1.325	1.334	2.51
54)	T	m,p-Xylene	0.479	0.475	0.497	0.464	0.462	0.475	2.97
55)	T	o-Xylene	0.481	0.484	0.504	0.484	0.479	0.486	2.03
56)	T	Styrene	0.888	0.894	0.920	0.897	0.890	0.898	1.41
57)	P	Bromoform	0.181	0.214	0.213	0.224	0.224	0.211	8.24
58)	T	Isopropylbenzene	0.991	1.108	1.109	1.124	1.144	1.095	5.48
59)	S	Bromofluorobenzene	0.594	0.600	0.590	0.613	0.626	0.605	2.50
60)	P	1,1,2,2-Tetrachloroet	0.345	0.348	0.365	0.357	0.351	0.353	2.29
61)	T	Bromobenzene	0.356	0.349	0.361	0.357	0.357	0.356	1.17
62)	T	1,2,3-Trichloropropan	0.353	0.357	0.377	0.368	0.363	0.364	2.58
63)	T	n-Propylbenzene	1.218	1.323	1.324	1.346	1.373	1.317	4.46
64)	T	2-Chlorotoluene	0.904	0.962	0.957	0.967	0.983	0.955	3.14
65)	T	1,3,5-Trimethylbenzen	0.956	1.052	1.024	1.075	1.082	1.038	4.91
66)	T	4-Chlorotoluene	1.125	1.179	1.176	1.185	1.197	1.172	2.38
67)	T	tert-Butylbenzene	0.700	0.815	0.788	0.844	0.853	0.800	7.68
68)	T	1,2,4-Trimethylbenzen	1.043	1.136	1.120	1.164	1.167	1.126	4.47
69)	T	sec-Butylbenzene	0.935	1.118	1.075	1.152	1.151	1.086	8.31
70)	T	1,3-Dichlorobenzene	0.585	0.614	0.603	0.617	0.614	0.607	2.14
71)	T	4-Isopropyltoluene	0.854	1.010	0.967	1.025	1.006	0.972	7.15
72)	T	1,4-Dichlorobenzene	0.616	0.648	0.647	0.652	0.653	0.643	2.37
73)	T	n-Butylbenzene	0.406	0.501	0.487	0.509	0.492	0.479	8.70
74)	T	1,2-Dichlorobenzene	0.623	0.629	0.639	0.631	0.617	0.628	1.32
75)	T	1,2-Dibromo-3-chlorop	0.067	0.079	0.084	0.083	0.079	0.079	8.43
76)	T	1,2,4-Trichlorobenzen	0.327	0.354	0.371	0.348	0.340	0.348	4.72
77)	T	Hexachlorobutadiene	0.171	0.176	0.181	0.168	0.155	0.170	5.89
78)	T	Naphthalene	0.802	0.857	0.925	0.880	0.825	0.858	5.59
79)	T	1,2,3-Trichlorobenzen	0.285	0.291	0.316	0.286	0.271	0.290	5.67
80)	T	1,1,2-Trichloro-1,2,2	0.221	0.227	0.230	0.215	0.214	0.221	3.31
81)	T	Methyl acetate	0.205	0.195	0.216	0.196	0.188	0.200	5.36
82)	T	Cyclohexane	0.321	0.370	0.383	0.373	0.357	0.361	6.68
83)	T	Methylcyclohexane	0.195	0.224	0.228	0.221	0.219	0.217	5.96

(#) = Out of Range

JME0620.M Fri Jun 20 14:10:50 2003 MSD_J

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): J3464.D

Date Analyzed: 06/20/2003

Instrument ID: MSD_J

Time Analyzed: 11:20

	50UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	213719	6.37	340265	7.20	299146	10.56
	UPPER LIMIT	427438	6.87	680530	7.70	598292	11.06
	LOWER LIMIT	106859.5	5.87	170132.5	6.70	149573	10.06
	LAB SAMPLE ID						
01	STD-20PPB	199687	6.37	320440	7.20	278995	10.56
02	STD-50PPB	205557	6.37	326314	7.20	286565	10.56
03	STD-150PPB	213675	6.37	345259	7.20	305373	10.56
04	STD-200PPB	218426	6.37	352837	7.20	313476	10.56
05	METHOD-BLK	212953	6.37	333582	7.20	288239	10.56
06	METHOD-BLK	205143	6.37	325977	7.20	284020	10.56
07	05334-012	203567	6.37	319086	7.20	278020	10.56
08	05334-001	208060	6.37	326364	7.19	280891	10.56
09	05334-002	209281	6.37	328278	7.20	279064	10.56
10	05334-003	215488	6.37	334658	7.20	289899	10.56
11	05334-005	231653	6.37	361587	7.20	308039	10.56
12	05249-001	218384	6.37	343734	7.20	298279	10.56
13	05249-005	223785	6.37	347389	7.20	300899	10.56
14	BLK-SPK	221562	6.38	346398	7.20	306764	10.56
15	WATER-MS	221484	6.37	351310	7.20	306487	10.56
16	WATER-MSD	218497	6.37	344577	7.20	300368	10.56
17	05334-001MS	217524	6.37	341385	7.20	298700	10.56
18	05334-001MSD	222271	6.37	349933	7.20	300750	10.56
19	05078-005	177189	6.37	284873	7.20	257133	10.56
20	05096-006	205451	6.37	323125	7.20	290365	10.56
21	05231-005	204844	6.37	321882	7.20	307970	10.56
22	05078-001	218260	6.37	345323	7.20	325460	10.55

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM 8

LABORATORY CHRONICLE - GC/MS VOA (Soil)

DATE: 6/20/03

INSTRUMENT: MSDJ

TUNE FILE: TUNE J

SEQUENCE FILE: 06-20-03

METHOD: JME0620

ANALYST: Xingfang Wang

WXF Initial

Jmo498/0499

STANDARD	#	#	(ul)	CONC.
BFB	LS392		2	50 ng
ISTD/SURR	LS395/399		1	250 ug/mL
8260 MIX	LS402		100	40 ug/mL
MTBE/TBA	LS402		100	40/80 ug/mL
8260 SPK	LS400		80	25 ug/mL
VINYL ACETAT	LS402		100	40 ug/mL
ACRO/ACRY	LS403		12	1000 ug/mL

	Vial #	Data File	Case #	Samp #	DF	Wt/Vol	Ext Date	MX	Client ID	Samp Date	Recd Date	% Moist	Comments
1	1	J3461	BFB TUNING										ok
2	2	J3462	STD-20PPB			5		W				100	ok
3	3	J3463	STD-50PPB			5		W				100	ok
4	4	J3464	STD-100PPB			5		W				100	ok
5	5	J3465	STD-150PPB			5		W				100	ok
6	6	J3466	STD-200PPB			5		W				100	ok
7	7	J3467	METHOD-BLK			0.1		S				0	/
8	8	J3468	METHOD-BLK			0.1		S				0	/
9	9	J3469	METHOD-BLK			0.1	✓	S				0	ok
10	10	J3470	METHOD-BLK			5	✓	W				100	ok
11	11	J3471	5334	12 ✓	1	5		W	B-8631-861	6/19/03	6/19/03	100	ok
12	12	J3472		1 ✓	1	0.054		M	O6_(1)/1.5-	6/19/03	6/19/03	18.1	ok
13	13	J3473		2 ✓	1	0.055		M	OC6_(D)/1.5	6/19/03	6/19/03	17.2	ok
14	14	J3474		3 ✓	1	0.051		M	AOC3_(3)	6/19/03	6/19/03	17.7	ok
15	15	J3475		5 ✓	1	0.034		M	OC9_(1)/0-0	6/19/03	6/19/03	65.0	ok
16	16	J3476	5249	1	1	0.05		M	TB-6/17	6/17/03	6/18/03	100	ok
17	17	J3477		5	1	0.051		M	TP-7/2.5-3	6/17/03	6/18/03	16.7	ok
18	18	J3478	LCS	BLK-SPK	1	0.04		M				0	ok
19	19	J3479	MS	WATER-MS	1	5		W				100	ok
20	20	J3480	MSD	WATER-MSI	1	5		W				100	ok
21	21	J3481	5334	1MS	1	0.04		M	O6_(1)/1.5-	6/19/03	6/19/03	18.1	ok
22	22	J3482	5334	1MSD	1	0.04		M	O6_(1)/1.5-	6/19/03	6/19/03	18.1	ok
23	23	J3483	5078	5	1	0.04		M	TB	6/11/03	6/12/03	100	ok
24	24	J3484	5096	6	1	0.04		M	TRIP	6/12/03	6/13/03	100	ok
25	25	J3485	5231	5	5	0.007		M	PE-5/5	6/17/03	6/18/03	16.7	ok
26	26	J3486	5078	1	5	0.008		M	S1	6/11/03	6/12/03	13.8	ok
27	27	J3487	5096	5	5	0.008		M	B	6/12/03	6/13/03	10.4	Re400ul 12
28	28	J3488	MB										/
29	29	J3489	MB										/

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 06/20/2003
Data file: J3469.D

GC/MS Column: DB-624
Sample wt/vol: 0.1g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 50
% Moisture: 0

Compound	Concentration	Q	MDL
Dichlorodifluoromethane	ND		0.250
Chloromethane	ND		0.250
Vinyl Chloride	ND		0.250
Bromomethane	ND		0.250
Chloroethane	ND		0.250
Trichlorofluoromethane	ND		0.250
1,1-Dichloroethene	ND		0.250
Acetone	ND		0.500
Carbon Disulfide	ND		0.250
Methylene Chloride	ND		0.250
trans-1,2-Dichloroethene	ND		0.250
Methyl-t-Butyl Ether(MTBE)	ND		0.250
1,1-Dichloroethane	ND		0.250
cis-1,2-Dichloroethene	ND		0.250
2-Butanone(MEK)	ND		0.500
Bromochloromethane	ND		0.250
Chloroform	ND		0.250
1,1,1-Trichloroethane	ND		0.250
Carbon Tetrachloride	ND		0.250
1,2-Dichloroethane(EDC)	ND		0.250
Benzene	ND		0.250
Trichloroethene	ND		0.250
1,2-Dichloropropane	ND		0.250
Bromodichloromethane	ND		0.250
cis-1,3-Dichloropropene	ND		0.250
4-Methyl-2-pentanone(MIBK)	ND		0.500

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 06/20/2003
Data file: J3469.D

GC/MS Column: DB-624
Sample wt/vol: 0.1g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 50
% Moisture: 0

Compound	Concentration	Q	MDL
Toluene	ND		0.250
trans-1,3-Dichloropropene	ND		0.250
1,1,2-Trichloroethane	ND		0.250
Tetrachloroethene	ND		0.250
2-Hexanone	ND		0.500
Dibromochloromethane	ND		0.250
1,2-Dibromoethane(EDB)	ND		0.250
Chlorobenzene	ND		0.250
Ethylbenzene	ND		0.250
Total Xylenes	ND		0.250
Styrene	ND		0.250
Bromoform	ND		0.250
Isopropylbenzene	ND		0.250
1,1,2,2-Tetrachloroethane	ND		0.250
1,4-Dichlorobenzene	ND		0.250
1,2-Dibromo-3-chloropropane	ND		0.250
1,2,4-Trichlorobenzene	ND		0.250
1,2,3-Trichlorobenzene	ND		0.250
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.250
Methyl acetate	ND		0.250
Cyclohexane	ND		0.250
Methylcyclohexane	ND		0.250

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 06/20/2003
Data file: J3470.D

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 1
% Moisture: 100

Compound	Concentration	Q	MDL
Dichlorodifluoromethane	ND		0.005
Chloromethane	ND		0.005
Vinyl Chloride	ND		0.005
Bromomethane	ND		0.005
Chloroethane	ND		0.005
Trichlorofluoromethane	ND		0.005
1,1-Dichloroethene	ND		0.005
Acetone	ND		0.010
Carbon Disulfide	ND		0.005
Methylene Chloride	ND		0.005
trans-1,2-Dichloroethene	ND		0.005
Methyl-t-Butyl Ether(MTBE)	ND		0.005
1,1-Dichloroethane	ND		0.005
cis-1,2-Dichloroethene	ND		0.005
2-Butanone(MEK)	ND		0.010
Bromochloromethane	ND		0.005
Chloroform	ND		0.005
1,1,1-Trichloroethane	ND		0.005
Carbon Tetrachloride	ND		0.005
1,2-Dichloroethane(EDC)	ND		0.005
Benzene	ND		0.005
Trichloroethene	ND		0.005
1,2-Dichloropropane	ND		0.005
Bromodichloromethane	ND		0.005
cis-1,3-Dichloropropene	ND		0.005
4-Methyl-2-pentanone(MIBK)	ND		0.010

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 06/20/2003
Data file: J3470.D

GC/MS Column: DB-624
Sample wt/vol: 5mL
Matrix-Units: Aqueous-mg/L (ppm)
Dilution Factor: 1
% Moisture: 100

Compound	Concentration	Q	MDL
Toluene	ND		0.005
trans-1,3-Dichloropropene	ND		0.005
1,1,2-Trichloroethane	ND		0.005
Tetrachloroethene	ND		0.005
2-Hexanone	ND		0.010
Dibromochloromethane	ND		0.005
1,2-Dibromoethane(EDB)	ND		0.005
Chlorobenzene	ND		0.005
Ethylbenzene	ND		0.005
Total Xylenes	ND		0.005
Styrene	ND		0.005
Bromoform	ND		0.005
Isopropylbenzene	ND		0.005
1,1,2,2-Tetrachloroethane	ND		0.005
1,4-Dichlorobenzene	ND		0.005
1,2-Dibromo-3-chloropropane	ND		0.005
1,2,4-Trichlorobenzene	ND		0.005
1,2,3-Trichlorobenzene	ND		0.005
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.005
Methyl acetate	ND		0.005
Cyclohexane	ND		0.005
Methylcyclohexane	ND		0.005

Total Target Compounds: 0

VOLATILE METHANOL PRESERVATION CONTAINER SUMMARY

Sample ID	Client ID	Bottle ID	Date Prepared	Initial Wgt.(g)	Final Wgt.(g)	Sample Wgt.(g)	MeOH Lot #	Surrogate Lot #
05334-001	AO6(1)	308394	6/17/03	95.4	100.8	5.4	cg904	Not Applicable
05334-002	AOC6(D)	308395	6/17/03	94.7	100.2	5.5	cg904	Not Applicable
05334-003	AOC3(3)	308396	6/17/03	95.6	100.7	5.1	cg904	Not Applicable
05334-005	AOC9(1)	308397	6/17/03	95.1	98.5	3.4	cg904	Not Applicable

Comments : _____

Sample weight is reported on a wet weight basis

VOLATILES	Target Compound List	TCLP (Method 1311)	MDLs Aqueous Method 624 (ppb)	MDLs Soil Method 8260B (ppb)	MDLs Methanol Soil Method 5035/8260B (ppb)
Acetone	x		1.333	20	2500
Benzene	x	x	0.210	5	625
Bromochloromethane	x		0.547	5	625
Bromodichloromethane	x		0.290	5	625
Bromoform	x		0.395	5	625
Bromomethane	x		0.336	5	625
2-Butanone(MEK)	x	x	1.119	20	2500
Carbon disulfide	x		0.290	5	625
Carbon tetrachloride	x	x	0.408	5	625
Chlorobenzene	x	x	0.234	5	625
Chloroethane	x		0.530	5	625
Chloroform	x	x	0.281	5	625
Chloromethane	x		0.354	5	625
cis-1,2-Dichloroethene	x		0.243	5	625
cis-1,3-Dichloropropene	x		0.244	5	625
Cyclohexane	x		0.935	5	625
1,2-Dibromo-3-chloropropane	x		0.763	5	625
Dibromochloromethane	x		0.437	5	625
1,2-Dibromoethane/Ethylene dibromide(EDB)	x		0.381	5	625
1,4-Dichlorobenzene	x	x	0.220	5	625
Dichlorodifluoromethane	x		0.552	5	625
1,1-Dichloroethane	x		0.317	5	625
1,2-Dichloroethane(EDC)	x	x	0.259	5	625
1,1-Dichloroethene	x	x	0.482	5	625
1,2-Dichloropropane	x		0.401	5	625
Ethylbenzene	x		0.226	5	625
2-Hexanone	x		0.690	20	2500
Isopropylbenzene	x		0.245	5	625
Methyl acetate	x		0.540	5	625
Methylcyclohexane	x		0.180	5	625
4-Methyl-2-pentanone/Methyl Isobutyl Ketone (MIBK)	x		0.472	20	2500
Methylene Chloride	x		0.558	5	625
Methyl-tertiary-butyl ether(MTBE)	x		0.304	5	625
Styrene	x		0.225	5	625
1,1,2,2-Tetrachloroethane	x		0.360	5	625
Tetrachloroethene (PERC)	x		0.393	5	625
Toluene	x		0.255	5	625
Total Xylenes	x		0.491	5	625
trans-1,2-Dichloroethene	x		0.399	5	625
trans-1,3-Dichloropropene	x		0.340	5	625
1,2,3-Trichlorobenzene	x		0.381	5	625
1,2,4-Trichlorobenzene	x		0.294	5	625
1,1,1-Trichloroethane	x		0.355	5	625
1,1,2-Trichloroethane	x		0.347	5	625
Trichloroethene	x	x	0.378	5	625
Trichlorofluoromethane	x		0.468	5	625
1,1,2-Trichlor-1,2,2-trifluorethane	x		0.633	5	625
Vinyl Chloride	x	x	0.408	5	625

MDLs are instrument averages and may vary depending on the instrument used for analysis.

B. SDG E03-05680

Organic Analyses Support Documentation

Environmental Standards Project Name: TRC / Quanta
Sample Collection Dates: 6/30/03 7/1/03
Job Number: Y3062134
Project Manager: GLENN BLUE
Laboratory: EAL

Reviewed By: JOHN C. DABBACK
Approved By: GLENN BLUE
Completion Date: 7/25/03

Applicable Sample No's.: ☒ Refer to Table 1 in the Quality Assurance Review

Deliverables:		Sample No.	Lab. Control No.
CLP LIKE	☑	SEE TABLE 1	
Tier I	☐		
Tier II	☐		
Limited	☐		
Other			

The following table indicates criteria which were examined, the identified problems, and support documentation attachments.

	Criteria Examined in Detail: Check (✓) If Yes or Footnote Letter for Comments Below				Problems Identified: Check (✓) If Yes or Footnote Number for Comments Below				Support Documentation Attachments: Check (✓) If Yes -- or Identify Attachment No.			
	VOA Method 8260B	BNA Method	PEST / PCB Method	Other Method(s)	VOA Method 8260B	BNA Method	PEST / PCB Method	Other Method(s)	VOA Method 8260B	BNA Method	PEST / PCB Method	Other Method(s)
Holding Times	✓								✓			
Blank Analysis Results: Target Compounds	✓								✓			
Blank Analysis Results: TICs												
System Mntr. Cmpds. &/or Surrogate Spike Rslts.	✓								✓			
Matrix Spike / Matrix Spike Duplicate Results	✓								✓			
Blank Spike Results	✓								✓			
Duplicate Analysis Results ☐ Field ☐ Lab												
Qualitative Identification: Target Compounds	✓								✓			
Qualitative Identification: TICs												
DFTPP & BFB Mass Tuning	✓								✓			
GC Instrument Performance	✓								✓			
Initial Calibrations	✓								✓			
Continuing Calibrations	✓				✓				✓			
Quantitation of Results	✓								✓			
DDT / Endrin Breakdown												
Surrogate Retention Time Shifts	✓								✓			
Internal Standards Performance	✓								✓			
Resolution Check Standards												
Analytical Sequence	✓								✓			
Florisil Cartridge Check & GPC Calibration												
GC Column Agreement												
Others:												

Comments:

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit 5x	Qualification Limit 10x
V	S	MB	J3763	NOT DETECTED	–	–	–
V	Aq	Aq	J3764	NOT DETECTED	–	–	–
V	Aq	TB	8665–8666	NOT DETECTED	–	–	–

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

+ = Contaminant observed on one column only.

Notes: _____

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 07/02/2003

Lab Sample ID	Matrix	File ID	SMC1 #	SMC2 #	SMC3 #
METHOD-BLK	SOIL	J3763.D	93	103	93
METHOD-BLK	AQUEOUS	J3764.D	98	102	94
05603-027	AQUEOUS	J3765.D	99	103	94
05622-005	AQUEOUS	J3766.D	101	102	93
05622-006	AQUEOUS	J3767.D	102	102	94
05680-002	AQUEOUS	J3768.D	102	101	94
05680-001	MEOH	J3769.D	97	102	93
05579-001	MEOH	J3770.D	97	103	100
03343-001	SOIL	J3774.D	93	105	95
BLK-SPK	MEOH	J3775.D	92	104	96
05680-001MS	MEOH	J3776.D	90	104	95
05680-001MSD	MEOH	J3777.D	89	103	94
WATER-MS	AQUEOUS	J3778.D	93	104	92
WATER-MSD	AQUEOUS	J3779.D	93	104	93
05600-007	MEOH	J3782.D	90	103	92
05677-001	MEOH	J3783.D	90	103	93
05600-005	MEOH	J3784.D	90	104	95

	Concentration	Aqueous/Meoh	Soil
SMC1 = 1,2-Dichloroethane-d4	50 ppb	59-138	43-133
SMC2 = Toluene-d8	50 ppb	40-133	39-137
SMC3 = Bromofluorobenzene	50 ppb	36-135	23-145

Column to be used to flag recovery values

FORM 2

MEOH VOLATILE LABORATORY CONTROL SAMPLE RECOVERY

Matrix spike Lab sample ID: BLK-SPK

Batch No.: JM0498

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0.0	40.6	81	70 - 130
Benzene	50.0	0.0	47.7	95	70 - 130
Trichloroethene	50.0	0.0	46.2	92	70 - 130
Toluene	50.0	0.0	46.9	94	70 - 130
Chlorobenzene	50.0	0.0	46.1	92	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

NC Non calculable

Spike Recovery: __0___ out of __5__ outside limits

MEOH VOLATILE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: 05680-001

Batch No.: JM0511

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0.0	44.8	90	33 - 133
Benzene	50.0	0.0	55.3	111	55 - 130
Trichloroethene	50.0	0.0	49.0	98	57 - 120
Toluene	50.0	0.0	53.3	107	60 - 126
Chlorobenzene	50.0	0.0	50.7	101	64 - 117

Compound	SAMPLE CONC. (ug/Kg)	MSD CONC. (ug/Kg)	#	MSD % REC	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	0.0	46.7		93	3		17	33 - 133
Benzene	0.0	55.7		111	0		13	55 - 130
Trichloroethene	0.0	50.2		100	2		10	57 - 120
Toluene	0.0	54.7		109	2		11	60 - 126
Chlorobenzene	0.0	51.4		103	2		9	64 - 117

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

NC Non calculable

RPD: __0__ out of __5__ outside limits

Spike Recovery: __0__ out of __10__ outside limits

AQUEOUS VOLATILE MATRIX SPIKE/SPIKE DUPLICATE RECOVERY

Matrix spike Lab sample ID: WATER-MSD

Batch No.: JM0512

Compound	SPIKE ADDED (ug/L)	SAMPLE CONC. (ug/L)	MS CONC. (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0.0	45.8	92	33 - 133
Benzene	50.0	0.0	56.6	113	55 - 130
Trichloroethene	50.0	0.0	50.3	101	57 - 120
Toluene	50.0	0.0	55.0	110	60 - 126
Chlorobenzene	50.0	0.0	51.6	103	64 - 117

Compound	SAMPLE CONC. (ug/L)	MSD CONC. (ug/L)	#	MSD % REC	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	0.0	45.0		90	2	17	33 - 133
Benzene	0.0	55.7		111	2	13	55 - 130
Trichloroethene	0.0	49.7		99	2	10	57 - 120
Toluene	0.0	54.0		108	2	11	60 - 126
Chlorobenzene	0.0	50.8		102	1	9	64 - 117

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

NC Non calculable

RPD: __0___ out of __5__ outside limits

Spike Recovery: __0___ out of __10__ outside limits

MEOH VOLATILE LABORATORY CONTROL SAMPLE RECOVERY

Matrix spike Lab sample ID: BLK-SPK

Batch No.: JM0511

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0.0	54.8	110	70 - 130
Benzene	50.0	0.0	64.6	129	70 - 130
Trichloroethene	50.0	0.0	60.9	122	70 - 130
Toluene	50.0	0.0	62.6	125	70 - 130
Chlorobenzene	50.0	0.0	60.5	121	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

NC Non calculable

Spike Recovery: __0___ out of __5__ outside limits

VOLATILE METHOD BLANK SUMMARY

Lab File ID: J3763.D

Instrument ID: MSD J

Date Analyzed: 07/02/2003

Time Analyzed: 11:54

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
PL-1/0-0.5	05680-001	07/02/2003	14:34
SW_14/8-8.5	05579-001	07/02/2003	15:01
WC-17	03343-001	07/02/2003	16:48
LCS	BLK-SPK	07/02/2003	17:15
MS	05680-001MS	07/02/2003	17:42
MSD	05680-001MSD	07/02/2003	18:08
TB	05600-007	07/02/2003	20:22
SW13/8-8.5	05677-001	07/02/2003	20:49
062503-04B/9.5-10	05600-005	07/02/2003	21:16

FORM 4

VOLATILE METHOD BLANK SUMMARY

Lab File ID: J3764.D Instrument ID: MSD J

Date Analyzed: 07/02/2003 Time Analyzed: 12:21

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
FB	05603-027	07/02/2003	12:47
FB-1	05622-005	07/02/2003	13:14
TRIP_BLANK	05622-006	07/02/2003	13:41
TB_8665-8666	05680-002 ✓	07/02/2003	14:08
MS	WATER-MS	07/02/2003	18:35
MSD	WATER-MSD	07/02/2003	19:01

FORM 4

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: J3461.D BFB Injection Date: 06/20/2003

Inst ID: MSD J BFB Injection Time: 10:03

m/z	Ion Abudance Criteria	%Relative Abundance
50	15 - 40.0% of mass 95	18.9
75	30.0 - 60.0% of mass 95	53.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.5 (0.7)1
174	Great than 50.0% of mass 95	66.4
175	5.0 - 9.0% of mass 174	5.2 (7.8)1
176	95.0 - 101.0% of mass 174	66.7 (100.4)1
177	5.0 - 9.0% of mass 176	4.3 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
20PPB	STD-20PPB	J3462.D	06/20/2003	10:29
50PPB	STD-50PPB	J3463.D	06/20/2003	10:55
100PPB	STD-100PPB	J3464.D	06/20/2003	11:20
150PPB	STD-150PPB	J3465.D	06/20/2003	11:46
200PPB	STD-200PPB	J3466.D	06/20/2003	12:12
N/A	METHOD-BLK	J3469.D	06/20/2003	13:29
N/A	METHOD-BLK	J3470.D	06/20/2003	13:55
TB-8631-8614	05334-012	J3471.D	06/20/2003	14:21
AO6(1)/1.5-2	05334-001	J3472.D	06/20/2003	15:06
AOC6(D)/1.5-2	05334-002	J3473.D	06/20/2003	15:32
AOC3(3)	05334-003	J3474.D	06/20/2003	15:59
AOC9(1)/0-0.5	05334-005	J3475.D	06/20/2003	16:25
TB-6/17	05249-001	J3476.D	06/20/2003	16:52
TP-7/2.5-3	05249-005	J3477.D	06/20/2003	17:18
LCS	BLK-SPK	J3478.D	06/20/2003	17:45
MS	WATER-MS	J3479.D	06/20/2003	18:12
MSD	WATER-MSD	J3480.D	06/20/2003	18:38
MS	05334-001MS	J3481.D	06/20/2003	19:05
MSD	05334-001MSD	J3482.D	06/20/2003	19:32
TB	05078-005	J3483.D	06/20/2003	19:58

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: J3461.D BFB Injection Date : 06/20/200

Inst ID: MSD J BFB Injection Time: 10:03

m/z	Ion Abudance Criteria	%Relative Abundance			
50	15 - 40.0% of mass 95	18.9			
75	30.0 - 60.0% of mass 95	53.4			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.3			
173	Less than 2.0% of mass 174	0.5	(	0.7	)1
174	Great than 50.0% of mass 95	66.4			
175	5.0 - 9.0% of mass 174	5.2	(	7.8	)1
176	95.0 - 101.0% of mass 174	66.7	(	100.4	)1
177	5.0 - 9.0% of mass 176	4.3	(	6.5	)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
TRIP	05096-006	J3484.D	06/20/2003	20:25
PE-5/5	05231-005	J3485.D	06/20/2003	20:51
S1	05078-001	J3486.D	06/20/2003	21:18

Response Factor Report MSD_J

Method : C:\MSDCHEM\1\METHODS\JME0620.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 8260B
Last Update : Fri Jun 20 13:03:47 2003
Response via : Initial Calibration

Calibration Files
20 =J3462.D 100 =J3464.D 50 =J3463.D
150 =J3465.D 200 =J3466.D

		Compound (ppb)	20	100	50	150	200	Avg	%RSD
1)	I	Pentafluorobenzene	----------ISTD----------						
2)	T	Dichlorodifluorometha	0.489	0.534	0.544	0.539	0.501	0.521	4.73
3)	P	Chloromethane	0.528	0.527	0.555	0.533	0.521	0.533	2.47
4)	C	Vinyl Chloride	0.444	0.466	0.482	0.471	0.458	0.464	3.06
5)	T	Bromomethane	0.363	0.339	0.367	0.335	0.317	0.344	6.12
6)	T	Chloroethane	0.310	0.319	0.331	0.316	0.308	0.317	2.86
7)	T	Trichlorofluoromethan	0.673	0.766	0.767	0.769	0.736	0.743	5.53
8)	T	Acrolein	0.047	0.044	0.047	0.045	0.043	0.045	3.60 NAT
9)	MC	1,1-Dichloroethene	0.397	0.414	0.428	0.420	0.413	0.415	2.78
10)	T	Acetone	0.156	0.154	0.160	0.154	0.146	0.154	3.19
11)	T	Carbon Disulfide	1.199	1.270	1.299	1.300	1.270	1.268	3.23
12)	T	Vinyl Acetate	1.419	1.452	1.511	1.468	1.421	1.454	2.62
13)	T	Methylene Chloride	0.549	0.504	0.547	0.505	0.492	0.520	5.10
14)	T	Acrylonitrile	0.164	0.156	0.164	0.161	0.154	0.160	2.79
15)	T	tert-Butyl Alcohol(TB	0.043	0.043	0.049	0.048	0.045	0.045	5.90 NAT
16)	T	trans-1,2-Dichloroeth	0.463	0.458	0.477	0.450	0.443	0.458	2.86
17)	T	Methyl-t-Butyl Ether(	1.528	1.486	1.582	1.508	1.478	1.517	2.74
18)	P	1,1-Dichloroethane	0.857	0.833	0.869	0.837	0.829	0.845	2.07
19)	T	Diisopropyl Ether(DIP	1.139	1.123	1.175	1.128	1.112	1.136	2.14
20)	T	cis-1,2-Dichloroethen	0.460	0.455	0.475	0.451	0.448	0.458	2.29
21)	T	2,2-Dichloropropane	0.496	0.524	0.531	0.519	0.508	0.516	2.69
22)	T	2-Butanone(MEK)	0.202	0.200	0.224	0.207	0.195	0.206	5.30
23)	T	Bromochloromethane	0.230	0.222	0.231	0.225	0.220	0.226	2.08
25)	C	Chloroform	0.936	0.906	0.949	0.899	0.894	0.917	2.64
26)	T	1,1,1-Trichloroethane	0.718	0.759	0.774	0.766	0.748	0.753	2.88
27)	T	Carbon Tetrachloride	0.545	0.611	0.621	0.627	0.615	0.604	5.56
28)	T	1,1-Dichloropropene	0.553	0.577	0.596	0.572	0.560	0.571	2.93
29)	T	1,2-Dichloroethane(ED	0.885	0.822	0.877	0.818	0.799	0.840	4.54
30)	S	1,2-Dichloroethane-d4	0.826	0.767	0.797	0.772	0.761	0.785	3.44
31)	I	1,4-Difluorobenzene	----------ISTD----------						
32)	M	Benzene	1.064	1.027	1.076	1.009	0.993	1.034	3.41
33)	M	Trichloroethene	0.275	0.282	0.292	0.277	0.275	0.280	2.59
34)	C	1,2-Dichloropropane	0.268	0.264	0.280	0.261	0.259	0.266	3.02
35)	T	Dibromomethane	0.175	0.173	0.183	0.173	0.171	0.175	2.74
37)	T	Bromodichloromethane	0.418	0.443	0.455	0.436	0.440	0.438	3.03
38)	T	2-Chloroethylvinyl Et	0.168	0.187	0.196	0.192	0.186	0.186	5.70
39)	T	cis-1,3-Dichloroprope	0.456	0.478	0.490	0.479	0.478	0.476	2.56
40)	T	4-Methyl-2-pentanone('	0.245	0.254	0.279	0.264	0.255	0.259	4.96
41)	S	Toluene-d8	1.116	1.112	1.118	1.123	1.125	1.119	0.47
42)	MC	Toluene	0.648	0.634	0.673	0.630	0.630	0.643	2.86
43)	T	trans-1,3-Dichloropro	0.440	0.476	0.491	0.486	0.481	0.475	4.28
44)	T	1,1,2-Trichloroethane	0.200	0.196	0.209	0.197	0.195	0.199	2.93
45)	T	Tetrachloroethene	0.207	0.216	0.227	0.213	0.209	0.215	3.74
46)	T	1,3-Dichloropropane	0.457	0.443	0.470	0.443	0.436	0.450	3.02
47)	T	2-Hexanone	0.171	0.190	0.200	0.199	0.194	0.191	6.21
48)	T	Dibromochloromethane	0.275	0.301	0.308	0.306	0.307	0.300	4.62
49)	T	1,2-Dibromoethane(EDB	0.249	0.251	0.269	0.258	0.252	0.256	3.15

50)	I	Chlorobenzene-d5	----------ISTD----------						
51)	MP	Chlorobenzene	0.839	0.821	0.860	0.809	0.807	0.827	2.70
52)	T	1,1,1,2-Tetrachloroet	0.315	0.326	0.333	0.323	0.324	0.324	2.06
53)	C	Ethylbenzene	1.296	1.340	1.387	1.323	1.325	1.334	2.51
54)	T	m,p-Xylene	0.479	0.475	0.497	0.464	0.462	0.475	2.97
55)	T	o-Xylene	0.481	0.484	0.504	0.484	0.479	0.486	2.03
56)	T	Styrene	0.888	0.894	0.920	0.897	0.890	0.898	1.41
57)	P	Bromoform	0.181	0.214	0.213	0.224	0.224	0.211	8.24
58)	T	Isopropylbenzene	0.991	1.108	1.109	1.124	1.144	1.095	5.48
59)	S	Bromofluorobenzene	0.594	0.600	0.590	0.613	0.626	0.605	2.50
60)	P	1,1,2,2-Tetrachloroet	0.345	0.348	0.365	0.357	0.351	0.353	2.29
61)	T	Bromobenzene	0.356	0.349	0.361	0.357	0.357	0.356	1.17
62)	T	1,2,3-Trichloropropan	0.353	0.357	0.377	0.368	0.363	0.364	2.58
63)	T	n-Propylbenzene	1.218	1.323	1.324	1.346	1.373	1.317	4.46
64)	T	2-Chlorotoluene	0.904	0.962	0.957	0.967	0.983	0.955	3.14
65)	T	1,3,5-Trimethylbenzen	0.956	1.052	1.024	1.075	1.082	1.038	4.91
66)	T	4-Chlorotoluene	1.125	1.179	1.176	1.185	1.197	1.172	2.38
67)	T	tert-Butylbenzene	0.700	0.815	0.788	0.844	0.853	0.800	7.68
68)	T	1,2,4-Trimethylbenzen	1.043	1.136	1.120	1.164	1.167	1.126	4.47
69)	T	sec-Butylbenzene	0.935	1.118	1.075	1.152	1.151	1.086	8.31
70)	T	1,3-Dichlorobenzene	0.585	0.614	0.603	0.617	0.614	0.607	2.14
71)	T	4-Isopropyltoluene	0.854	1.010	0.967	1.025	1.006	0.972	7.15
72)	T	1,4-Dichlorobenzene	0.616	0.648	0.647	0.652	0.653	0.643	2.37
73)	T	n-Butylbenzene	0.406	0.501	0.487	0.509	0.492	0.479	8.70
74)	T	1,2-Dichlorobenzene	0.623	0.629	0.639	0.631	0.617	0.628	1.32
75)	T	1,2-Dibromo-3-chlorop	0.067	0.079	0.084	0.083	0.079	0.079	8.43
76)	T	1,2,4-Trichlorobenzen	0.327	0.354	0.371	0.348	0.340	0.348	4.72
77)	T	Hexachlorobutadiene	0.171	0.176	0.181	0.168	0.155	0.170	5.89
78)	T	Naphthalene	0.802	0.857	0.925	0.880	0.825	0.858	5.59
79)	T	1,2,3-Trichlorobenzen	0.285	0.291	0.316	0.286	0.271	0.290	5.67
80)	T	1,1,2-Trichloro-1,2,2	0.221	0.227	0.230	0.215	0.214	0.221	3.31
81)	T	Methyl acetate	0.205	0.195	0.216	0.196	0.188	0.200	5.36
82)	T	Cyclohexane	0.321	0.370	0.383	0.373	0.357	0.361	6.68
83)	T	Methylcyclohexane	0.195	0.224	0.228	0.221	0.219	0.217	5.96

(#) = Out of Range

JME0620.M Fri Jun 20 14:10:50 2003 MSD_J

Instrument ID: MSD_J
Method ID: JME0620.M
Date: 06/20/2003

Average %RSD = 3.94

Refer to SW846 Method 8000B Section 7.5.1.

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: J3759.D BFB Injection Date: 07/02/2003

Inst ID: MSD J BFB Injection Time: 10:08

m/z	Ion Abudance Criteria	%Relative Abundance			
50	15 - 40.0% of mass 95	21.1			
75	30.0 - 60.0% of mass 95	54.5			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.3			
173	Less than 2.0% of mass 174	0.0	(	0.0	)1
174	Great than 50.0% of mass 95	50.9			
175	5.0 - 9.0% of mass 174	4.0	(	7.9	)1
176	95.0 - 101.0% of mass 174	50.8	(	99.9	)1
177	5.0 - 9.0% of mass 176	3.5	(	6.9	)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
100PPB	STD-100PPB	J3760.D	07/02/2003	10:34
N/A	METHOD-BLK	J3763.D	07/02/2003	11:54
N/A	METHOD-BLK	J3764.D	07/02/2003	12:21
FB	05603-027	J3765.D	07/02/2003	12:47
FB-1	05622-005	J3766.D	07/02/2003	13:14
TRIP_BLANK	05622-006	J3767.D	07/02/2003	13:41
TB_8665-8666	05680-002	J3768.D	07/02/2003	14:08
PL-1/0-0.5	05680-001	J3769.D	07/02/2003	14:34
SW_14/8-8.5	05579-001	J3770.D	07/02/2003	15:01
WC-17	03343-001	J3774.D	07/02/2003	16:48
LCS	BLK-SPK	J3775.D	07/02/2003	17:15
MS	05680-001MS	J3776.D	07/02/2003	17:42
MSD	05680-001MSD	J3777.D	07/02/2003	18:08
MS	WATER-MS	J3778.D	07/02/2003	18:35
MSD	WATER-MSD	J3779.D	07/02/2003	19:01
TB	05600-007	J3782.D	07/02/2003	20:22
SW13/8-8.5	05677-001	J3783.D	07/02/2003	20:49
062503-04B/9.5-10	05600-005	J3784.D	07/02/2003	21:16

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\07-02-03\J3760.D
Acq On : 2 Jul 2003 10:34
Sample : 100PPB,STD-100PPB,W,5ml,100
Misc :
MS Integration Params: LSCINT.P

Vial: 2
Operator: XING
Inst : MSD_J
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\JME0620.M (RTE Integrator)
Title : VOLATILE ORGANICS BY EPA METHOD 8260B
Last Update : Fri Jun 20 13:03:47 2003
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 35% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	1.000	1.000		0.0	98	0.00
2	T	Dichlorodifluoromethane	0.521	0.520		0.2	95	0.00
3	P	Chloromethane	0.533	0.552		-3.6	103	0.00
4	C	Vinyl Chloride	0.464	0.493		-6.2	103	0.00
5	T	Bromomethane	0.344	0.351		-2.0	101	0.00
6	T	Chloroethane	0.317	0.320		-0.9	98	0.01
7	T	Trichlorofluoromethane	0.743	0.722		2.8	92	0.01
8	T	Acrolein	0.045	0.031		31.1	69	0.01
9	MC	1,1-Dichloroethene	0.415	0.416		-0.2	98	0.00
10	T	Acetone	0.154	0.141		8.4	89	0.00
11	T	Carbon Disulfide	1.268	1.284		-1.3	99	0.00
12	T	Vinyl Acetate	1.454	1.551		-6.7	105	0.00
13	T	Methylene Chloride	0.520	0.500		3.8	97	-0.01
14	T	Acrylonitrile	0.160	0.183		-14.4	115	0.01
15	T	tert-Butyl Alcohol(TBA)	0.045	0.056	OK	-24.4	127	0.00
16	T	trans-1,2-Dichloroethene	0.458	0.473		-3.3	101	0.00
17	T	Methyl-t-Butyl Ether(MTBE)	1.517	1.614		-6.4	106	0.00
18	P	1,1-Dichloroethane	0.845	0.874		-3.4	103	0.00
19	T	Diisopropyl Ether(DIPE)	1.136	1.182		-4.0	103	0.00
20	T	cis-1,2-Dichloroethene	0.458	0.496		-8.3	107	0.00
21	T	2,2-Dichloropropane	0.516	0.559		-8.3	104	0.01
22	T	2-Butanone(MEK)	0.206	0.224		-8.7	109	0.00
23	T	Bromochloromethane	0.226	0.241		-6.6	106	0.01
25	C	Chloroform	0.917	0.949		-3.5	103	0.01
26	T	1,1,1-Trichloroethane	0.753	0.772		-2.5	100	0.00
27	T	Carbon Tetrachloride	0.604	0.614		-1.7	98	0.00
28	T	1,1-Dichloropropene	0.571	0.597		-4.6	101	0.00
29	T	1,2-Dichloroethane(EDC)	0.840	0.828		1.4	99	0.00
30	S	1,2-Dichloroethane-d4	0.785	0.760		3.2	97	0.00
31	I	1,4-Difluorobenzene	1.000	1.000		0.0	100	0.00
32	M	Benzene	1.034	1.114		-7.7	108	0.00
33	M	Trichloroethene	0.280	0.297		-6.1	105	0.01
34	C	1,2-Dichloropropane	0.266	0.281		-5.6	106	0.00
35	T	Dibromomethane	0.175	0.186		-6.3	107	0.00
37	T	Bromodichloromethane	0.438	0.457		-4.3	103	0.00
38	T	2-Chloroethylvinyl Ether	0.186	0.213		-14.5	113	0.00
39	T	cis-1,3-Dichloropropene	0.476	0.507		-6.5	106	0.00
40	T	4-Methyl-2-pentanone(MIBK)	0.259	0.294		-13.5	115	0.00
41	S	Toluene-d8	1.119	1.163		-3.9	104	0.00
42	MC	Toluene	0.643	0.692		-7.6	109	0.01
43	T	trans-1,3-Dichloropropene	0.475	0.507		-6.7	106	0.00
44	T	1,1,2-Trichloroethane	0.199	0.216		-8.5	110	0.00
45	T	Tetrachloroethene	0.215	0.227		-5.6	105	0.00
46	T	1,3-Dichloropropane	0.450	0.477		-6.0	107	0.00

47	T	2-Hexanone	0.191	0.210		-9.9	110	0.00
48	T	Dibromochloromethane	0.300	0.320		-6.7	106	0.00
49	T	1,2-Dibromoethane(EDB)	0.256	0.277		-8.2	110	0.00
50	I	Chlorobenzene-d5	1.000	1.000		0.0	104	0.00
51	MP	Chlorobenzene	0.827	0.844		-2.1	107	0.00
52	T	1,1,1,2-Tetrachloroethane	0.324	0.323		0.3	103	0.00
53	C	Ethylbenzene	1.334	1.338		-0.3	104	0.00
54	T	m,p-Xylene	0.475	0.481		-1.3	105	0.00
55	T	o-Xylene	0.486	0.491		-1.0	105	0.00
56	T	Styrene	0.898	0.914		-1.8	106	0.00
57	P	Bromoform	0.211	0.221		-4.7	107	0.00
58	T	Isopropylbenzene	1.095	1.083		1.1	101	0.00
59	S	Bromofluorobenzene	0.605	0.596		1.5	103	0.00
60	P	1,1,2,2-Tetrachloroethane	0.353	0.368		-4.2	110	0.00
61	T	Bromobenzene	0.356	0.353		0.8	105	0.00
62	T	1,2,3-Trichloropropane	0.364	0.369		-1.4	107	0.00
63	T	n-Propylbenzene	1.317	1.296		1.6	102	0.00
64	T	2-Chlorotoluene	0.955	0.937		1.9	101	0.00
65	T	1,3,5-Trimethylbenzene	1.038	1.020		1.7	101	0.00
66	T	4-Chlorotoluene	1.172	1.144		2.4	101	0.00
67	T	tert-Butylbenzene	0.800	0.786		1.8	100	0.00
68	T	1,2,4-Trimethylbenzene	1.126	1.109		1.5	101	0.00
69	T	sec-Butylbenzene	1.086	1.065		1.9	99	0.00
70	T	1,3-Dichlorobenzene	0.607	0.606		0.2	102	0.00
71	T	4-Isopropyltoluene	0.972	0.959		1.3	98	0.00
72	T	1,4-Dichlorobenzene	0.643	0.638		0.8	102	0.00
73	T	n-Butylbenzene	0.479	0.478		0.2	99	0.00
74	T	1,2-Dichlorobenzene	0.628	0.617		1.8	102	0.00
75	T	1,2-Dibromo-3-chloropropane	0.079	0.073		7.6	96	0.00
76	T	1,2,4-Trichlorobenzene	0.348	0.312		10.3	91	0.00
77	T	Hexachlorobutadiene	0.170	0.162		4.7	95	0.00
78	T	Naphthalene	0.858	0.689	ok	19.7	83	0.00
79	T	1,2,3-Trichlorobenzene	0.290	0.209		27.9	74	0.00
80	T	1,1,2-Trichloro-1,2,2-trifl	0.221	0.211		4.5	96	0.00
81	T	Methyl acetate	0.200	0.208		-4.0	111	0.01
82	T	Cyclohexane	0.361	0.358		0.8	101	0.00
83	T	Methylcyclohexane	0.217	0.213		1.8	99	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

J0126.D JME0620.M Wed Jul 02 11:08:00 2003 MSD_J

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): J3464.D

Date Analyzed: 06/20/2003

Instrument ID: MSD_J

Time Analyzed: 11:20

	50UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	213719	6.37	340265	7.20	299146	10.56
	UPPER LIMIT	427438	6.87	680530	7.70	598292	11.06
	LOWER LIMIT	106859.5	5.87	170132.5	6.70	149573	10.06
	LAB SAMPLE ID						
01	STD-20PPB	199687	6.37	320440	7.20	278995	10.56
02	STD-50PPB	205557	6.37	326314	7.20	286565	10.56
03	STD-150PPB	213675	6.37	345259	7.20	305373	10.56
04	STD-200PPB	218426	6.37	352837	7.20	313476	10.56
05	METHOD-BLK	212953	6.37	333582	7.20	288239	10.56
06	METHOD-BLK	205143	6.37	325977	7.20	284020	10.56
07	05334-012	203567	6.37	319086	7.20	278020	10.56
08	05334-001	208060	6.37	326364	7.19	280891	10.56
09	05334-002	209281	6.37	328278	7.20	279064	10.56
10	05334-003	215488	6.37	334658	7.20	289899	10.56
11	05334-005	231653	6.37	361587	7.20	308039	10.56
12	05249-001	218384	6.37	343734	7.20	298279	10.56
13	05249-005	223785	6.37	347389	7.20	300899	10.56
14	BLK-SPK	221562	6.38	346398	7.20	306764	10.56
15	WATER-MS	221484	6.37	351310	7.20	306487	10.56
16	WATER-MSD	218497	6.37	344577	7.20	300368	10.56
17	05334-001MS	217524	6.37	341385	7.20	298700	10.56
18	05334-001MSD	222271	6.37	349933	7.20	300750	10.56
19	05078-005	177189	6.37	284873	7.20	257133	10.56
20	05096-006	205451	6.37	323125	7.20	290365	10.56
21	05231-005	204844	6.37	321882	7.20	307970	10.56
22	05078-001	218260	6.37	345323	7.20	325460	10.55

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM 8

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): J3760.D

Date Analyzed: 07/02/2003

Instrument ID: MSD_J

Time Analyzed: 10:34

	50UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	209094	6.37	338724	7.20	310125	10.56
	UPPER LIMIT	418188	6.87	677448	7.70	620250	11.06
	LOWER LIMIT	104547	5.87	169362	6.70	155062.5	10.06
	LAB SAMPLE ID						
01	METHOD-BLK	221951	6.37	351825	7.20	317480	10.56
02	METHOD-BLK	215262	6.38	346517	7.20	315676	10.56
03	05603-027	205958	6.37	330855	7.20	301513	10.56
04	05622-005	206627	6.38	332034	7.20	306179	10.55
05	05622-006	205260	6.38	326838	7.20	299704	10.55
06	05680-002	201951	6.38	329923	7.20	297532	10.56
07	05680-001	209970	6.37	332596	7.20	300251	10.55
08	05579-001	210242	6.37	334958	7.20	309971	10.56
09	03343-001	225870	6.37	358891	7.20	335113	10.56
10	BLK-SPK	228830	6.38	364833	7.20	338249	10.56
11	05680-001MS	225528	6.37	359783	7.20	328903	10.56
12	05680-001MSD	231918	6.37	365563	7.20	337036	10.56
13	WATER-MS	231451	6.37	368412	7.20	341656	10.55
14	WATER-MSD	231860	6.37	368348	7.20	341145	10.55
15	05600-007	230634	6.37	369229	7.20	339947	10.55
16	05677-001	234162	6.37	373293	7.20	343736	10.56
17	05600-005	237939	6.37	374695	7.20	349931	10.56
18							
19							
20							
21							
22							

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM 8

LABORATORY CHRONICLE - GC/MS VOA (Soil)

DATE: 6/20/03

INSTRUMENT: MSDJ

TUNE FILE: TUNE J

SEQUENCE FILE: 06-20-03

METHOD: JME0620

ANALYST: Xingfang Wang

WXF Initial

Tm0498/0499

STANDARD	#	#	(ul)	CONC.
BFB	LS392		2	50 ng
ISTD/SURR	LS395/399		1	250 ug/mL
8260 MIX	LS402		100	40 ug/mL
MTBE/TBA	LS402		100	40/80 ug/mL
8260 SPK	LS400		80	25 ug/mL
VINYL ACETAT	LS402		100	40 ug/mL
ACRO/ACRY	LS403		12	1000 ug/mL

	Vial #	Data File	Case #	Samp #	DF	Wt/Vol	Ext Date	MX	Client ID	Samp Date	Recd Date	% Moist	Comments
1	1	J3461	BFB TUNING										ok
2	2	J3462	STD-20PPB			5		W				100	ok
3	3	J3463	STD-50PPB			5		W				100	ok
4	4	J3464	STD-100PPB			5		W				100	ok
5	5	J3465	STD-150PPB			5		W				100	ok
6	6	J3466	STD-200PPB			5		W				100	ok
7	7	J3467	METHOD-BLK			0.1		S				0	/
8	8	J3468	METHOD-BLK			0.1		S				0	/
9	9	J3469	METHOD-BLK			0.1		S				0	ok
10	10	J3470	METHOD-BLK			5		W				100	ok
11	11	J3471	5334	12	1	5		W	B-8631-861	6/19/03	6/19/03	100	ok
12	12	J3472		1	1	0.054		M	AO6_(1)/1.5-	6/19/03	6/19/03	18.1	ok
13	13	J3473		2	1	0.055		M	OC6_(D)/1.5	6/19/03	6/19/03	17.2	ok
14	14	J3474		3	1	0.051		M	AOC3_(3)	6/19/03	6/19/03	17.7	ok
15	15	J3475		5	1	0.034		M	OC9_(1)/0-0	6/19/03	6/19/03	65.0	ok
16	16	J3476	5249	1	1	0.05		M	TB-6/17	6/17/03	6/18/03	100	ok
17	17	J3477		5	1	0.051		M	TP-7/2.5-3	6/17/03	6/18/03	16.7	ok
18	18	J3478	LCS	BLK-SPK	1	0.04		M				0	ok
19	19	J3479	MS	WATER-MS	1	5		W				100	ok
20	20	J3480	MSD	WATER-MSI	1	5		W				100	ok
21	21	J3481	5334	1MS	1	0.04		M	AO6_(1)/1.5-	6/19/03	6/19/03	18.1	ok
22	22	J3482	5334	1MSD	1	0.04		M	AO6_(1)/1.5-	6/19/03	6/19/03	18.1	ok
23	23	J3483	5078	5	1	0.04		M	TB	6/11/03	6/12/03	100	ok
24	24	J3484	5096	6	1	0.04		M	TRIP	6/12/03	6/13/03	100	ok
25	25	J3485	5231	5	5	0.007		M	PE-5/5	6/17/03	6/18/03	16.7	ok
26	26	J3486	5078	1	5	0.008		M	S1	6/11/03	6/12/03	13.8	ok
27	27	J3487	5096	5	5	0.008		M	B	6/12/03	6/13/03	10.4	Reanpl
28	28	J3488	MB										/
29	29	J3489	MB										/

LABORATORY CHRONICLE - GC/MS VOA (Soil)

DATE: 7/2/03

INSTRUMENT: MSDJ

TUNE FILE: TUNE J

SEQUENCE FILE: 07-02-03

METHOD: JME0620

ANALYST: Xingfang Wang

XXF Initial

Jmo 511/0512

STANDARD	#	#	(ul)	CONC.
BFB	LS392		2	50 ng
ISTD/SURR	LS395/399		1	250 ug/mL
8260 MIX	LS402		100	40 ug/mL
MTBE/TBA	LS402		100	40/80 ug/mL
8260 SPK	LS400		80	25 ug/mL
VINYL ACETATI	LS402		100	40 ug/mL
ACRO/ACRY	LS403		12	1000 ug/mL

	Vial #	Data File	Case #	Samp #	DF	Wt/Vol	Ext Date	MX	Client ID	Samp Date	Recd Date	% Moist	Comments
1	1	J3759	BFB TUNING										ok
2	2	J3760	STD-100PPB			5		W				100	ok
3	3	J3761	METHOD-BLK			0.1		S				0	/
4	4	J3762	METHOD-BLK			0.1		S				0	/
5	5	J3763	METHOD-BLK			0.1		S				0	ok
6	6	J3764	METHOD-BLK			5		W				100	ok
7	7	J3765	5603	27		5		W	FB	6/26/03	6/27/03	100	ok
8	8	J3766	5622	5		5		W	FB-1	6/27/03	6/27/03	100	ok
9	9	J3767		6		5		W	TRIP_BLANI	6/27/03	6/27/03	100	ok
10	10	J3768	5680	2		5		W	B__8665-866	6/30/03	7/1/03	100	ok
11	11	J3769		1	1	0.05		M	PL-1/0-0.5	7/1/03	7/1/03	15.0	ok
12	12	J3770	5579	1	1	0		M	SW_14/8-8.5	6/27/03	6/27/03	10.0	ok
13	13	J3771	5600	7	1	0.04		M	TB	6/25/03	6/27/03	100	c.o. Reprep
14	14	J3772		5	2	0.025		M	62503-04B/9	6/25/03	6/27/03	19.3	↓
15	15	J3773	5677	1	5	0		M	SW_15/8-8.5	7/1/03	7/1/03	11.6	Re 500 µl
16	16	J3774	3343	1		0.025		S	WC-1/7	4/24/03	4/24/03	19.6	ok
17	17	J3775	LCS	BLK-SPK	1	0.04		M				0	ok
18	18	J3776	5680	1MS	1	0.04		M	PL-1/0-0.5	7/1/03	7/1/03	15.0	ok
19	19	J3777	5680	1MSD	1	0.04		M	PL-1/0-0.5	7/1/03	7/1/03	15.0	ok
20	20	J3778	MS	WATER-MS		5		W				100	ok
21	21	J3779	MSD	WATER-MSD		5		W				100	ok
22	22	J3780	MB					M				0	/
23	23	J3781	MB					M				0	/
24	24	J3782	5600	7	1	0.04		M	TB	6/25/03	6/27/03	100	ok
25	25	J3783	5677	1	1	0		M	SW_15/8-8.5	7/1/03	7/1/03	11.6	ok
26	26	J3784	5600	5	2	0.025		M	62503-04B/9	6/25/03	6/27/03	19.3	ok
27	27	J3785	MB					M					/
28	28	J3786	MB					M					/

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 07/02/2003
Data file: J3763.D

GC/MS Column: DB-624
Sample wt/vol: 0.1g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 50
% Moisture: 0

Compound	Concentration	Q	MDL
Dichlorodifluoromethane	ND		0.250
Chloromethane	ND		0.250
Vinyl Chloride	ND		0.250
Bromomethane	ND		0.250
Chloroethane	ND		0.250
Trichlorofluoromethane	ND		0.250
1,1-Dichloroethene	ND		0.250
Acetone	ND		0.500
Carbon Disulfide	ND		0.250
Methylene Chloride	ND		0.250
trans-1,2-Dichloroethene	ND		0.250
Methyl-t-Butyl Ether(MTBE)	ND		0.250
1,1-Dichloroethane	ND		0.250
cis-1,2-Dichloroethene	ND		0.250
2-Butanone(MEK)	ND		0.500
Bromochloromethane	ND		0.250
Chloroform	ND		0.250
1,1,1-Trichloroethane	ND		0.250
Carbon Tetrachloride	ND		0.250
1,2-Dichloroethane(EDC)	ND		0.250
Benzene	ND		0.250
Trichloroethene	ND		0.250
1,2-Dichloropropane	ND		0.250
Bromodichloromethane	ND		0.250
cis-1,3-Dichloropropene	ND		0.250
4-Methyl-2-pentanone(MIBK)	ND		0.500

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 07/02/2003
Data file: J3763.D

GC/MS Column: DB-624
Sample wt/vol: 0.1g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 50
% Moisture: 0

Compound	Concentration	Q	MDL
Toluene	ND		0.250
trans-1,3-Dichloropropene	ND		0.250
1,1,2-Trichloroethane	ND		0.250
Tetrachloroethene	ND		0.250
2-Hexanone	ND		0.500
Dibromochloromethane	ND		0.250
1,2-Dibromoethane(EDB)	ND		0.250
Chlorobenzene	ND		0.250
Ethylbenzene	ND		0.250
Total Xylenes	ND		0.250
Styrene	ND		0.250
Bromoform	ND		0.250
Isopropylbenzene	ND		0.250
1,1,2,2-Tetrachloroethane	ND		0.250
1,4-Dichlorobenzene	ND		0.250
1,2-Dibromo-3-chloropropane	ND		0.250
1,2,4-Trichlorobenzene	ND		0.250
1,2,3-Trichlorobenzene	ND		0.250
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.250
Methyl acetate	ND		0.250
Cyclohexane	ND		0.250
Methylcyclohexane	ND		0.250

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 07/02/2003
Data file: J3764.D

GC/MS Column: DB-624
Sample wt/vol: 5ml
Matrix-Units: Aqueous-µg/L (ppb)
Dilution Factor: 1
% Moisture: 100

Compound	Concentration	Q	MDL
Dichlorodifluoromethane	ND		5.00
Chloromethane	ND		5.00
Vinyl Chloride	ND		5.00
Bromomethane	ND		5.00
Chloroethane	ND		5.00
Trichlorofluoromethane	ND		5.00
1,1-Dichloroethene	ND		5.00
Acetone	ND		10.0
Carbon Disulfide	ND		5.00
Methylene Chloride	ND		5.00
trans-1,2-Dichloroethene	ND		5.00
Methyl-t-Butyl Ether(MTBE)	ND		5.00
1,1-Dichloroethane	ND		5.00
cis-1,2-Dichloroethene	ND		5.00
2-Butanone(MEK)	ND		10.0
Bromochloromethane	ND		5.00
Chloroform	ND		5.00
1,1,1-Trichloroethane	ND		5.00
Carbon Tetrachloride	ND		5.00
1,2-Dichloroethane(EDC)	ND		5.00
Benzene	ND		5.00
Trichloroethene	ND		5.00
1,2-Dichloropropane	ND		5.00
Bromodichloromethane	ND		5.00
cis-1,3-Dichloropropene	ND		5.00
4-Methyl-2-pentanone(MIBK)	ND		10.0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project:

Lab ID: METHOD-BLK
Client ID: N/A
Date Received:
Date Analyzed: 07/02/2003
Data file: J3764.D

GC/MS Column: DB-624
Sample wt/vol: 5ml
Matrix-Units: Aqueous-µg/L (ppb)
Dilution Factor: 1
% Moisture: 100

Compound	Concentration	Q	MDL
Toluene	ND		5.00
trans-1,3-Dichloropropene	ND		5.00
1,1,2-Trichloroethane	ND		5.00
Tetrachloroethene	ND		5.00
2-Hexanone	ND		10.0
Dibromochloromethane	ND		5.00
1,2-Dibromoethane(EDB)	ND		5.00
Chlorobenzene	ND		5.00
Ethylbenzene	ND		5.00
Total Xylenes	ND		5.00
Styrene	ND		5.00
Bromoform	ND		5.00
Isopropylbenzene	ND		5.00
1,1,2,2-Tetrachloroethane	ND		5.00
1,4-Dichlorobenzene	ND		5.00
1,2-Dibromo-3-chloropropane	ND		5.00
1,2,4-Trichlorobenzene	ND		5.00
1,2,3-Trichlorobenzene	ND		5.00
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.00
Methyl acetate	ND		5.00
Cyclohexane	ND		5.00
Methylcyclohexane	ND		5.00

Total Target Compounds: 0

VOLATILE METHANOL PRESERVATION CONTAINER SUMMARY

Sample ID	Client ID	Bottle ID	Date Prepared	Initial Wgt.(g)	Final Wgt.(g)	Sample Wgt.(g)	MeOH Lot #	Surrogate Lot #
05680-001	PL-1	308510	6/20/03	95.3	100.3	5.0	cg834	Not Applicable

Comments : _____

Sample weight is reported on a wet weight basis

LAL Attachment: A067

VOLATILES	Target Compound List	TCLP (Method 1311)	MDLs Aqueous Method 624 (ppb)	MDLs Soil Method 8260B (ppb)	MDLs Methanol Soil Method 5035/8260B (ppb)
Acetone	x		1.333	20	2500
Benzene	x	x	0.210	5	625
Bromochloromethane	x		0.547	5	625
Bromodichloromethane	x		0.290	5	625
Bromoform	x		0.395	5	625
Bromomethane	x		0.336	5	625
2-Butanone(MEK)	x	x	1.119	20	2500
Carbon disulfide	x		0.290	5	625
Carbon tetrachloride	x	x	0.408	5	625
Chlorobenzene	x	x	0.234	5	625
Chloroethane	x		0.530	5	625
Chloroform	x	x	0.281	5	625
Chloromethane	x		0.354	5	625
cis-1,2-Dichloroethene	x		0.243	5	625
cis-1,3-Dichloropropene	x		0.244	5	625
Cyclohexane	x		0.935	5	625
1,2-Dibromo-3-chloropropane	x		0.763	5	625
Dibromochloromethane	x		0.437	5	625
1,2-Dibromoethane/Ethylene dibromide(EDB)	x		0.361	5	625
1,4-Dichlorobenzene	x	x	0.220	5	625
Dichlorodifluoromethane	x		0.552	5	625
1,1-Dichloroethane	x		0.317	5	625
1,2-Dichloroethane(EDC)	x	x	0.259	5	625
1,1-Dichloroethene	x	x	0.482	5	625
1,2-Dichloropropane	x		0.401	5	625
Ethylbenzene	x		0.226	5	625
2-Hexanone	x		0.590	20	2500
Isopropylbenzene	x		0.245	5	625
Methyl acetate	x		0.540	5	625
Methylcyclohexane	x		0.180	5	625
4-Methyl-2-pentanone/Methyl Isobutyl Ketone (MIBK)	x		0.472	20	2500
Methylene Chloride	x		0.558	5	625
Methyl-tertiary-butyl ether(MTBE)	x		0.304	5	625
Styrene	x		0.225	5	625
1,1,2,2-Tetrachloroethane	x		0.360	5	625
Tetrachloroethene (PERC)	x		0.393	5	625
Toluene	x		0.255	5	625
Total Xylenes	x		0.491	5	625
trans-1,2-Dichloroethene	x		0.399	5	625
trans-1,3-Dichloropropene	x		0.340	5	625
1,2,3-Trichlorobenzene	x		0.381	5	625
1,2,4-Trichlorobenzene	x		0.294	5	625
1,1,1-Trichloroethane	x		0.355	5	625
1,1,2-Trichloroethane	x		0.347	5	625
Trichloroethene	x	x	0.378	5	625
Trichlorofluoromethane	x		0.468	5	625
1,1,2-Trichlor-1,2,2-trifluorethane	x		0.633	5	625
Vinyl Chloride	x	x	0.408	5	625

MDLs are instrument averages and may vary depending on the instrument used for analysis.

SECTION 4

PROJECT CASE NARRATIVES AND CHAIN-OF-CUSTODY RECORDS

INTEGRATED ANALYTICAL LABORATORIES, LLC.

MATRIX QUALIFIERS

A - Indicates the sample is an Aqueous matrix.

O - Indicates the sample is an Oil matrix.

S - Indicates the sample is a Soil, Sludge or Sediment matrix.

X - Indicates the sample is an Other matrix as indicated by Client Chain of Custody.

DATA QUALIFIERS

B - Indicates the analyte was found in the Blank and in the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of the analyte.

C - Common Laboratory Contaminant.

D - The compound was reported from the Diluted analysis.

D.F. - Dilution Factor.

E - Estimated concentration, reported results are outside the calibrated range of the instrument.

J - Indicates an estimated value. The compound was detected at a value below the method detection limit but greater than zero. For GC/MS procedures, the mass spectral data meets the criteria required to identify the target compound.

MDL - Method Detection Limit.

MI - Indicates compound concentration could not be determined due to Matrix Interferences.

NA - Not Applicable.

ND - Indicates the compound was analyzed for but Not Detected at the MDL.

REPORT QUALIFIERS

All solid sample analyses are reported on a dry weight basis.

All solid sample values are corrected for original sample size and percent solids.

INTEGRATED ANALYTICAL LABORATORIES, LLC.

CONFORMANCE / NONCONFORMANCE SUMMARY

Integrated Analytical Laboratories, LLC. received one (1) aqueous and eight (8) soil and three (3) solid sample(s) from TRC Raviv Associates, Inc. (Project: QUANTA - 2084Q) on June 19, 2003 for the analysis of:

(5) Special VOA
(4) Special BNA
(7) PCB
(4) Pesticides
(5) TAL Metals
(5) Metal - Molybdenum
(4) Cyanide, Total
(3) Asbestos by EMSL

A review of the QA/QC measures for the analysis of the sample(s) contained in this report has been performed by:

R Ramsey
Reviewed by

7/7/03
Date

INTEGRATED ANALYTICAL LABORATORIES, LLC.

LABORATORY DELIVERABLES CHECK LIST

Lab Case Number: E03-05334

		Check If Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name & address and date of report preparation.	✓
2.	Table of Contents.	✓
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds.	✓
4.	Summary Table cross-referencing Field ID's vs. Lab ID's.	✓
5.	Document bound, paginated and legible.	✓
6.	Chain of Custody.	✓
7.	Methodology Summary.	✓
8.	Laboratory Chronicle and Holding Time Check.	✓
9.	Results submitted on a dry weight basis (if applicable).	✓
10.	Method Detection Limits.	✓
11.	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEPA CLP.	✓
12.	NonConformance Summary.	✓

R Ramsay
QC Reviewed by

7/7/03
Date

INTEGRATED ANALYTICAL LABORATORIES
CONFORMANCE/NONCONFORMANCE SUMMARY
GC/MS VOLATILE ANALYSIS

Lab Case Number: E03 - 05334

	No	Yes
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks).		✓
2. GC/MS Tuning Specifications: a. BFB Passed		✓
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series, 12 hours for 8000 series and 8 hours for 500 series.		✓
4. GC/MS Calibration - Initial calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours before sample analysis for 600 series, 12 hours for 8000 series		✓
5. GC/MS Calibration Requirements: a. Calibration Check Compounds		✓
b. System Performance Check Compounds		✓
6. Blank Contamination - If yes, list compounds and concentrations in each blank:	✓	
7. Surrogate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)		✓
If not met, were the calculations checked and the results qualified as "estimated"?		na
8. Matrix Spike/Matrix Spike Duplicate meet criteria (if not, list those compounds and their recoveries/% differences which fall outside the acceptable range)		✓
9. Internal Standard Area/Retention Time Shift meet criteria		✓
10. Extraction Holding Time Met If not met, list number of days exceeded for each sample:		
11. Analysis Holding Time Met If not met, list number of days exceeded for each sample:		✓
12. Sample Dilution Performed	✓	

High Target Compounds [ ] High Nontarget Compounds [ ] Matrix Interference [ ] Other [ ]

13. Comments:

Organics Manager

6/23/03
Date

mtc 12/26/02

Sample Summary

Case No. E03-05334

Project Name QUANTA - 2084Q

Customer TRC Raviv Associates, Inc.

Received On 6/19/2003@17:20

Lab ID	Client Sample ID	Depth Top / Bottom	Sampling Time	Matrix	# of Cont.
05334-001	AO6 (1)	1.5 / 2	6/19/2003@09:38	Soil	6
05334-002	AOC6 (D)	1.5 / 2	6/19/2003@09:40	Soil	2
05334-003	AOC3 (3)	n/a	6/19/2003@10:05	Soil	2
05334-004	AOC8 (1)	0 / 0.5	6/19/2003@10:30	Soil	1
05334-005	AOC9 (1)	0 / 0.5	6/19/2003@10:50	Soil	2
05334-006	AOC2 (1)	0 / 0.5	6/19/2003@11:20	Soil	1
05334-007	AOC2 (2)	0 / 0.5	6/19/2003@11:22	Soil	1
05334-008	AOC2 (3)	0 / 0.5	6/19/2003@11:24	Soil	1
05334-009	AOC7 (1)	n/a	6/19/2003@12:40	Solid	1
05334-010	AOC7 (2)	n/a	6/19/2003@12:42	Solid	1
05334-011	AOC7 (3)	n/a	6/19/2003@12:44	Solid	1
05334-012	TB-8631-8614	n/a	6/19/2003	Aqueous	2

Integrated Analytical Labs ~ 273 Franklin Road, Randolph, NJ 07869 ~ (973) 361-4252 ~ Fax (973) 989-5288

Phone # (973) 361-4252
Fax # (973) 989-5288

INTEGRATED ANALYTICAL LABORATORIES
CHAIN OF CUSTODY

373 Franklin Rd
Randolph, NJ 07869

CLIENT & PROJECT

Name: Dan TRC Raviv Assoc
Address: 57 East Millburn St
Millburn NJ 07041
Telephone #: 973 564-6006
Fax #: 973 564-6442
Project Name: Quanta
Project Manager: P. Grogan
Reference ID#: 2084Q PO#:

REPORTING & BILLING

Fax to: P GROGAN
Fax #: 973 564-6006
EMail to: pgrogan@trcsolutions.com
Report to: SAA
Address:
Invoice to: SAA
Address:

Turnaround Time

Conditional / TPHC: 24 hr* 48 hr 72 hr 1 wk NA Other:
Verbal/Fax: 24 hr* 48 hr* 72 hr* 1 wk* 2 wk Other:
Hard Copy: 72 hr* 1 wk* 2 wk* 3 wk Other:
*Prior to sample arrival, Lab notification is required.

Report Format

Results Only
Reduced
Regulatory
SRP Disk**: diff or whl
Special Requirements:

ANALYTICAL PARAMETERS / PRESERVATIVES

** Circle format required

Preservatives: 1. HCL 3. HNO_3 2. NaOH 4. H_2SO_4 5. MeOH 6. Other

COOLER TEMP. 4 °C

SAMPLE INFORMATION

SAMPLE MATRIX: W - Water, SL - Sludge, A - Aqueous, O - Oil, X - Other, S - Soil, GW - Groundwater, SOL - Solid

Sample ID	Sample Depth (in Feet)	Sampling Date	Time	am	pm	Matrix	# of Containers	Lab ID	Full TCL/TAL	TAL metals	PCBs	Asbestos by PLM	Comments/Area of Concern
AOC6(1)	1.5-2.0	6/19/03	0938	X		S	6-3 80z 3 soil	1	X				includes MS/MSD
AOC6(D)	1.5-2.0	6/19/03	0940	X		S	2 180z 1 soil	2	X				
AOC3(3)	—	6/19/03	1005	X		S	2 180z 1 soil	3	X				
AOC8(1)	0-0.5	6/19/03	1030	X		S	1-20z	4		X			
AOC9(1)	0-0.5	6/19/03	1050	X		S	2 180z 1 soil	5	X				
AOC2(1)	0-0.5	6/19/03	1120	X		S	1-40z	6			X		
AOC2(2)	0-0.5	6/19/03	1122	X		S	1-40z	7			X		
AOC2(3)	0-0.5	6/19/03	1124	X		S	1-40z	8			X		
AOC7(1)	—	6/19/03	1240		X	SOL	1	9				X	
AOC7(2)	—	6/19/03	1242		X	SOL	1	10				X	

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Concentrations Expected: LOW MED HIGH
Known Toxins: yes no
Describe:

Comments: See Table 1 for specific compound list

CUSTODY LOG

Signature/Company	Date	Time	Signature/Company
Relinquished by: P. Grogan	6-19-03	1630	Received by: [signature]
Relinquished by: [signature]	6-19-03	1720	Received by: [signature] (TAL)
Relinquished by:			Received by:
Relinquished by:			Received by:
Relinquished by:			Received by:

Lab Case # 5334

PAGE 1 OF 2

8 COPIES - WHITE & YELLOW: CLIENT COPY - PINK

Phone # (973) 361-4257
Fax # (973) 989-5288

INTEGRATED ANALYTICAL LABORATORIES
CHAIN OF CUSTODY

273 Franklin Rd
Randolph, NJ 07869

CLIENT & PROJECT

Name: TRC Raviv Assoc
Address: 57 East Willow St. Millburn, NJ 07041
Telephone #: 973-564-6006
Fax #: 973-564-6442
Project Name: Quanta
Project Manager: P. Grogan
Reference ID#: 20840 PO#:

REPORTING & BILLING

Fax to: P GROGAN
Fax #: 973-564-6006
EMail to: pgrogan@trcsolutions.com
Report to: SAA
Address:
Invoice to: SAA
Address:

Turnaround Time

Conditional / TPHC: 24 hr* 48 hr 72 hr 1 wk NA Other:
Verbal/Fax: 24 hr* 48 hr* 72 hr* 1 wk* 2 wk Other:
Hard Copy: 72 hr* 1 wk* 2 wk 3 wk Other:
*Prior to sample arrival, Lab notification is required.

Report Format

Results Only
Reduced
Regulatory
EDF Disk**: std or wkt
Special Requirements:

ANALYTICAL PARAMETERS / PRESERVATIVES

** Circle format required

Preservatives: 1. HCL 2. NaOH 3. HNO_3 4. H_2SO_4 5. MeOH 6. Other

COOLER TEMP °C: 4

SAMPLE INFORMATION

SAMPLE MATRIX: W - Waste, SL - Sludge, A - Aqueous, O - Oil, X - Other, S - Soil, GW - Groundwater, SOL - Solid

Sample ID	Sample Depth (in Feet)	Sampling Date	Sampling Time	int	grab	Matrix	# of Containers	Lab ID	Asbestos by PLM	VOC+10									Comments/Area of Concern
AOC 7(3)	—	6/19/03	1244		X	SOL	1	11	X										
TB-8631-8614	—	6/18/03	1430		X	A	2	12		X									

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Concentrations Expected: LOW MED HIGH

Known Hazard: yes no
Describe:

Comments: See Table I for specific compound list

CUSTODY LOG

Signature/Company	Date	Time	Signature/Company
Relinquished by: P Grogan	6-19-03	1630	Received by: [signature]
Relinquished by: [signature]	6-19-03	1720	Received by: [signature] (TAC)
Relinquished by:			Received by:
Relinquished by:			Received by:
Relinquished by:			Received by:

Lab Case #: 5334

PAGE: 2 OF 2

WHITE COPIES - WHITE & YELLOW: CLIENT COPY - PINK

PROJECT INFORMATION

E03-05334

Case No. E03-05334 Project QUANTA - 2084Q

Customer: TRC Raviv Associates, Inc.

Contact: Pete Grogan

EMail: pgrogan@trcsolutions.com ✓ EMail EDDs

Phone: (973) 564-6006 xt232 Fax: (973) 564-6442

Report To:
57 East Willow Street
Millburn, NJ 07041

Attn: Pete Grogan

P.O. #

Received: 6/19/2003 17:20

Verbal Due: 7/7/2003

Report Due: 7/14/2003

Bill To:
57 East Willow Street
Millburn, NJ 07041

Attn: Maddy Gallant

Report Format: Regulatory

Additional Info: State Form ☐ Field Sampling ☐ Conditional VOA

Lab ID	Client Sample ID	Depth Top / Bottom	Sampling Time	Matrix	Unit	# of Containers
05334-001	AO6 (1)	1.5 / 2	6/19/2003@09:38	Soil	mg/Kg	6
	Notes: PERFORM MS/MSD					
05334-002	AOC6 (D)	1.5 / 2	6/19/2003@09:40	Soil	mg/Kg	2
05334-003	AOC3 (3)	n/a	6/19/2003@10:05	Soil	mg/Kg	2
05334-004	AOC8 (1)	0 / 0.5	6/19/2003@10:30	Soil	mg/Kg	1
05334-005	AOC9 (1)	0 / 0.5	6/19/2003@10:50	Soil	mg/Kg	2
05334-006	AOC2 (1)	0 / 0.5	6/19/2003@11:20	Soil	mg/Kg	1
05334-007	AOC2 (2)	0 / 0.5	6/19/2003@11:22	Soil	mg/Kg	1
05334-008	AOC2 (3)	0 / 0.5	6/19/2003@11:24	Soil	mg/Kg	1
05334-009	AOC7 (1)	n/a	6/19/2003@12:40	Solid	mg/Kg	1
05334-010	AOC7 (2)	n/a	6/19/2003@12:42	Solid	mg/Kg	1
05334-011	AOC7 (3)	n/a	6/19/2003@12:44	Solid	mg/Kg	1
05334-012	TB-8631-8614	n/a	6/19/2003	Aqueous	mg/L	2

Sample #	Tests	Status	QA Method
001	Special VOA - MeOH Preserved	Run	8260B
	Special BNA	Run	8270C
	PCB	Run	8082
	Pesticides	Run	8081A
	Molybdenum - Mo	Run	6010B
"	TAL Metals	Run	6020/6010B/7471A
"	Cyanide, Total	Run	9014
002	Special VOA - MeOH Preserved	Run	8260B
"	Special BNA	Run	8270C
"	PCB	Run	8082
"	Pesticides	Run	8081A
"	Molybdenum - Mo	Run	6010B
"	TAL Metals	Run	6020/6010B/7471A
"	Cyanide, Total	Run	9014
005	Special VOA - MeOH Preserved	Run	8260B
"	Special BNA	Run	8270C
"	PCB	Run	8082

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PROJECT INFORMATION

E03-05334

Project No. E03-05334 Project QUANTA - 2084Q

Sample #	Tests	Status	QA Method
"	Pesticides	Run	8081A
"	Molybdenum - Mo	Run	6010B
"	TAL Metals	Run	6020/6010B/7471A
"	Cyanide, Total	Run	9014
004	Molybdenum - Mo	Run	6010B
"	TAL Metals	Run	6020/6010B/7471A
005	Special VOA - MeOH Preserved	Run	8260B
"	Special BNA	Run	8270C
"	PCB	Run	8082
"	Pesticides	Run	8081A
"	Molybdenum - Mo	Run	6010B
"	TAL Metals	Run	6020/6010B/7471A
"	Cyanide, Total	Run	9014
006	PCB	Run	8082
007	PCB	Run	8082
008	PCB	Run	8082
009	Asbestos by EMSL	Run	
010	Asbestos by EMSL	Run	
011	Asbestos by EMSL	Run	
012	Special VOA	Run	8260B

06/20/2003 10:38 by Ellen - NOTE 1

VO COLLECTED IN ENCORS TO BE TRANSFERRED TO METHANOL.

SEE ATTACH A067 FOR REQUIRED VO LIST & LIMITS.

06/20/2003 10:39 by Ellen - NOTE 2

PERFORM MS/MSD ON SAMPLE #1.

06/20/2003 10:41 by Ellen - NOTE 3

SEE ATTACH A068 FOR REQUIRED BNA LIST & LIMITS.

06/20/2003 10:42 by Ellen - NOTE 4

SEE ATTACH A069 FOR REQUIRED PEST. LIST & LIMITS.

06/20/2003 10:45 by Ellen - NOTE 5

SEE ATTACH A071 FOR REQUIRED METALS LIST & LIMITS.

06/20/2003 10:48 by Ellen - NOTE 6

SEE ATTACH A072 FOR REQUIRED LIMITS.

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INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E03** **5334** ✓ CLIENT: DRA

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

CHAIN OF CUSTODY: COMPLETE / INCOMPLETE Comments:

Sample Bottles Intact: ✓
Sample Labels Intact/ Correct: ✓
Sufficient Sample Volume: ✓
Correct bottles/ preservative: ✓
Samples received in holding time/ prep time: ✓
Headspace/ bubbles in voa samples: ~~✗~~ ✓
Samples to be subcontracted: RR

Comments: 5334-1 REC'D (2)-(3) ENCORE / (3) SOIL JAR; 5334-2-3/5- REC'D (2) (1) ENCORE / (1) SOIL JAR

Preserved Sample pH checked: (✓) ✓
(Excluding voa samples)

KEY
✓ = YES
✗ = NO
(✓) = N/A

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL RR DATE 6/19/03

CORRECTIVE ACTION REQUIRED: **YES** ☐ (SEE BELOW) **NO** ☐

CLIENT NOTIFIED: YES ☐ Date/ Time: _____ NO ☐

PROJECT CONTACT:

SUBCONTRACTED LAB:
DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL ☐ DATE ☐

REV 10/00

LABORATORY CUSTODY CHRONICLE

Case No. E03-05334

Client TRC Raviv Associates, Inc.

Project QUANTA - 2084Q

			Preparation Date / Time	Analyst	Analysis Date / Time	Analyst
Department: Volatiles						
Special VOA - MeOH Preserved	05334-001	Soil	n/a	n/a	6/20/03	Donnie
"	-002	Soil	n/a	n/a	6/20/03	Donnie
"	-003	Soil	n/a	n/a	6/20/03	Donnie
"	-005	Soil	n/a	n/a	6/20/03	Donnie
"	-012	Aqueous	n/a	n/a	6/20/03	Donnie
Department: Semivolatiles						
Special BNA	05334-001	Soil	6/30/03	Dan	7/1/03	Christine
"	-002	Soil	6/30/03	Dan	7/1/03	Christine
"	-003	Soil	6/30/03	Dan	7/1/03	Christine
"	-005	Soil		Dan	7/1/03	Christine
Department: GC						
PCB	05334-001	Soil	6/23/03	Eleanor	6/25/03	Margaret
"	-002	Soil	6/23/03	Eleanor	6/25/03	Margaret
"	-003	Soil	6/23/03	Eleanor	6/25/03	Margaret
"	-005	Soil	6/23/03	Eleanor	6/25/03	Margaret
"	-006	Soil	6/23/03	Eleanor	6/25/03	Margaret
"	-007	Soil	6/23/03	Eleanor	6/25/03	Margaret
"	-008	Soil	6/23/03	Eleanor	6/25/03	Margaret
Pesticides	05334-001	Soil	6/23/03	Eleanor	6/23/03	Yuru
"	-002	Soil	6/23/03	Eleanor	6/23/03	Yuru
"	-003	Soil	6/23/03	Eleanor	6/23/03	Yuru
"	-005	Soil	6/23/03	Eleanor	6/23/03	Yuru
Department: Metals						
Molybdenum - Mo	05334-001	Soil	6/25/03	Lisa	6/27/03	Helge
"	-002	Soil	6/25/03	Lisa	6/27/03	Helge
"	-003	Soil	6/25/03	Lisa	6/27/03	Helge
"	-004	Soil	6/25/03	Lisa	6/27/03	Helge
"	-005	Soil	6/25/03	Lisa	6/27/03	Helge
TAL Metals	05334-001	Soil	6/25/03	Lisa	6/27/03	Helge
"	-002	Soil	6/25/03	Lisa	6/27/03	Helge
"	-003	Soil	6/25/03	Lisa	6/27/03	Helge
"	-004	Soil	6/25/03	Lisa	6/27/03	Helge
"	-005	Soil	6/25/03	Lisa	6/27/03	Helge
Department: Wet Chemistry						
Cyanide, Total	05334-001	Soil	n/a	n/a	6/27/03	Jackie
"	-002	Soil	n/a	n/a	6/27/03	Jackie

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LABORATORY CUSTODY CHRONICLE

Case No. E03-05334

Client TRC Raviv Associates, Inc.

Project QUANTA - 2084Q

			Preparation Date / Time	Preparation Analyst	Analysis Date / Time	Analysis Analyst
Department: Wet Chemistry						
"	-003	Soil	n/a	n/a	6/27/03	Jackie
"	-005	Soil	n/a	n/a	6/27/03	Jackie
Department: Subbed						
Asbestos by EMSL	05334-009	Solid	n/a	n/a	6/19/03	Elma
"	-010	Solid	n/a	n/a	6/19/03	Elma
"	-011	Solid	n/a	n/a	6/19/03	Elma

Review and Approval: RFamosy

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INTEGRATED ANALYTICAL LABORATORIES, LLC.

CONFORMANCE / NONCONFORMANCE SUMMARY

Integrated Analytical Laboratories, LLC. received one (1) aqueous and one (1) soil sample(s) from TRC Raviv Associates, Inc. (Project: QUANTA - 2084Q) on July 1, 2003 for the analysis of:

(2) Special VOA
(1) Special BNA
(1) PCB
(1) Pesticides
(1) TAL Metals
(1) Metal - Molybdenum
(1) Cyanide, Total

Analytical Notes

Semivolatiles by EPA 8270C
Project-specified detection limits could not be achieved for this analysis. A 10X dilution to the sample extract was necessary to quantitate the high concentration of target compounds.
The surrogate 2,4,6-tribromophenol met recovery criteria at a 5X diluted analysis, but was diluted below method criteria at the 10X diluted analysis. Both analyses are included in the QC section of the report.
Metals by EPA 7471A, 6010, 6020
Mercury was analyzed and reported at 5X dilution, and Iron at 10X dilution, due to high concentrations of these analytes in the sample.
Project specified detection limits were not met for metals by 6020. These are base MDLs and have been adjusted slightly to include the percent moisture of the sample and represent results on a dry weight basis.

Cyanide by EPA 9014
Project specified MDL was not met. This is a base MDL and has been adjusted slightly to include the percent moisture of the sample and represent results on a dry weight basis.

A review of the QA/QC measures for the analysis of the sample(s) contained in this report has been performed by:

Reviewed by

7/16/03
Date

INTEGRATED ANALYTICAL LABORATORIES, LLC.

LABORATORY DELIVERABLES CHECK LIST

Lab Case Number: E03-05680

		Check If Complete
1.	Cover Page, Title Page listing Lab Certification #, facility name & address and date of report preparation.	✓
2.	Table of Contents.	✓
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds.	✓
4.	Summary Table cross-referencing Field ID's vs. Lab ID's.	✓
5.	Document bound, paginated and legible.	✓
6.	Chain of Custody.	✓
7.	Methodology Summary.	✓
8.	Laboratory Chronicle and Holding Time Check.	✓
9.	Results submitted on a dry weight basis (if applicable).	✓
10.	Method Detection Limits.	✓
11.	Lab certified by NJDEP for parameters or appropriate category of parameters or a member of the USEPA CLP.	✓
12.	NonConformance Summary.	✓

[signature]
QC Reviewed by

7/16/03
Date

INTEGRATED ANALYTICAL LABORATORIES
CONFORMANCE/NONCONFORMANCE SUMMARY
GC/MS VOLATILE ANALYSIS

Lab Case Number: E03 - 05680

	No	Yes
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks).		✓
2. GC/MS Tuning Specifications: a. BFB Passed		✓
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series, 12 hours for 8000 series and 8 hours for 500 series.		✓
4. GC/MS Calibration - Initial calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours before sample analysis for 600 series, 12 hours for 8000 series		✓
5. GC/MS Calibration Requirements:		
a. Calibration Check Compounds		✓
b. System Performance Check Compounds		✓
6. Blank Contamination - If yes, list compounds and concentrations in each blank:	✓	
7. Surrogate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)		✓
If not met, were the calculations checked and the results qualified as "estimated"?		na
8. Matrix Spike/Matrix Spike Duplicate meet criteria (if not, list those compounds and their recoveries/% differences which fall outside the acceptable range)		✓
9. Internal Standard Area/Retention Time Shift meet criteria		✓
10. Extraction Holding Time Met If not met, list number of days exceeded for each sample:		NA
11. Analysis Holding Time Met If not met, list number of days exceeded for each sample:		✓
12. Sample Dilution Performed	✓	

High Target Compounds	High Nontarget Compounds	Matrix Interference	Other

13. Comments:

Organics Manager

7/3/03
Date

mto 12/26/02

Sample Summary

Case No.	E03-05680
Project Name	QUANTA - 2084Q
Customer	TRC Raviv Associates, Inc.
Received On	7/1/2003@16:30

Lab ID	Client Sample ID	Depth Top / Bottom	Sampling Time	Matrix	# of Cont.
05680-001	PL-1	0 / 0.5	7/1/2003@10:00	Soil	2
05680-002	TB-8665-8666	n/a	6/30/2003	Aqueous	2

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Phone # (973) 361-4252
Fax # (973) 989-5288

INTEGRATED ANALYTICAL LABORATORIES
CHAIN OF CUSTODY

273 Franklin Rd
Randolph, NJ 07869

CLIENT & PROJECT

Name: ~~Quo~~ TRC Raviv
Address: 57 East Willow St
Millburn, NJ 07041
Telephone #: 973-564-6006
Fax #: 973-564-6442
Project Name: Quanta
Project Manager: P. Grogan
Reference ID#: 2084Q PO#:

REPORTING & BILLING

Fax to: P. GROGAN
Fax #:
EMail to: pgrogan@trcsolutions.com
Report to: SAA
Address:
Invoice to: SAA
Address:

Turnaround Time

Conditional / TPHC: 24 hr* 48 hr 72 hr 1 wk NA Other:
Verbal/Fax: 24 hr* 48 hr* 72 hr* 1 wk* (2 wk) Other:
Hard Copy: 72 hr* 1 wk* 2 wk* (3 wk) Other:
*Prior to sample arrival, Lab notification is required.

Report Format

Results Only
Reduced
(Regulatory)
Site Check**: Obf or wkl
Special Requirements:

ANALYTICAL PARAMETERS / PRESERVATIVES

** Circle format required

Preservatives: (X) HCL 3. HNO_3 2. NaOH 4. H_2SO_4 5. MeOH 6. Other

COOLER TEMP 3 °C

SAMPLE INFORMATION

SAMPLE MATRIX: W - Waste, SL - Sludge, A - Aqueous, O - Oil, X - Other, S - Soil, GW - Groundwater, SOL - Solid

Sample ID	Sample Depth (in Feet)	Sampling Date	Sampling Time	am	pm	Matrix	# of Containers	Lab ID	Full TCL/TAL	VOC+10									Comments/Area of Concern
PL-1	0-0.5	7/1/03	1000	X		S	2 1 8oz	1	X										
TB 8665-8666	-	6/30/03				A	2	2		X									

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Concentrations Expected: LOW MED HIGH
Known Hazard: yes no
Describe:

CUSTODY LOG

Signature/Company	Date	Time	Signature/Company
Relinquished by: [signature]	7/1/03	1345	Received by: [signature]
Relinquished by: [signature]	7/1/03	1630	Received by: [signature] (TAL)
Relinquished by:			Received by:
Relinquished by:			Received by:
Relinquished by:			Received by:

Comments: See Table I for specific compound list

Lab Case #: 5680

PAGE: 1 OF 1

0437

B COPIES - WHITE & YELLOW; CLIENT COPY - PINK

PROJECT INFORMATION

E03-05680

Case No. E03-05680 Project QUANTA - 2084Q

Customer	TRC Raviv Associates, Inc.	P.O. #	
Contact	Pete Grogan	Received	7/1/2003 16:30
EMail	pgrogan@trcsolutions.com ☐ EMail EDDs	Verbal Due	7/16/2003
Phone	(973) 564-6006 xt232 Fax 1(973) 564-6442	Report Due	7/23/2003
Report To		Bill To	-
57 East Willow Street		57 East Willow Street	
Millburn, NJ 07041		Millburn, NJ 07041	
Attn: Pete Grogan		Attn: Maddy Gallant	

Report Format **Regulatory**

Additional Info ☐ State Form ☐ Field Sampling ☐ Conditional VOA

Lab ID	Client Sample ID	Depth Top / Bottom	Sampling Time	Matrix	Unit	# of Containers
05680-001	PL-1	0 / 0.5	7/1/2003@10:00	Soil	mg/Kg	2
05680-002	TB 8665-8666	n/a	6/30/2003	Aqueous	µg/L	2

Sample #	Tests	Status	QA Method
001	Special VOA - MeOH Preserved	Complete	8260B
"	Special BNA	Run	8270C
"	PCB	Complete	8082
"	Pesticides	Complete	8081A
"	Molybdenum - Mo	Run	6010B
"	TAL Metals	Run	6020/6010B/7471A
"	Cyanide, Total	Run	9014
002	Special VOA	Complete	8260B

07/02/2003 08:43 by Ellen - NOTE 1

VO COLLECTED IN ENCORS TO BE TRANSFERRED TO METHANOL.

SEE ATTACH A067 FOR REQUIRED VO LIST & LIMITS.

07/02/2003 08:45 by Ellen - NOTE 2

SEE ATTACH A068 FOR REQUIRED BNA LIST & LIMITS.

07/02/2003 08:46 by Ellen - NOTE 3

SEE ATTACH A069 FOR REQUIRED PEST. LIST & LIMITS.

07/02/2003 08:46 by Ellen - NOTE 4

SEE ATTACH A071 FOR REQUIRED METALS LIST & LIMITS.

07/02/2003 08:47 by Ellen - NOTE 5

SEE ATTACH A072 FOR REQUIRED LIMITS.

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PROJECT INFORMATION

E03-05680

Case No. E03-05680 Project QUANTA - 2084Q

07/02/2003 23:01 by Denise - NOTE 6

PER PETE G., SRP DISK REQUIRED.

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INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E03** **5680** CLIENT: TRC RAVIV

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

CHAIN OF CUSTODY: COMPLETE / INCOMPLETE Comments:

		Comments:
Sample Bottles Intact:	✓	5680-1- Rec'd ② ① Encore
Sample Labels Intact/ Correct:	✓	① 1 oz? Jar.
Sufficient Sample Volume:	✓	
Correct bottles/ preservative:	✓	
Samples received in holding time/ prep time:	✓	
Headspace/ bubbles in voa samples:	✓	
Samples to be subcontracted:	✓	

Preserved Sample pH checked: ✓
(Excluding voa samples)

KEY
✓ = YES
✗ = NO
✓ = N/A

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL FR DATE 7/1/03

CORRECTIVE ACTION REQUIRED: YES [ ] (SEE BELOW) NO [ ]

CLIENT NOTIFIED: YES [ ] Date/ Time: NO [ ]

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL [signature] DATE

REV 10/00

LABORATORY CUSTODY CHRONICLE

Case No. E03-05680

Client TRC Raviv Associates, Inc.

Project QUANTA - 2084Q

			Preparation Date / Time	Preparation Analyst	Analysis Date / Time	Analysis Analyst
Department: Volatiles						
Special VOA - MeOH Preserved	05680-001	Soil	n/a	n/a	7/2/03	Donnie
[illegible]	003	Aqueous	n/a	n/a	7/2/03	Donnie
Department: Semivolatiles						
Special BNA	05680-001	Soil	7/7/03	Dan	7/8/03	JC
Department: GC						
PCB	05680-001	Soil	7/2/03	Eleanor	7/2/03	Slazenec
Pesticides	05680-001	Soil	7/2/03	Eleanor	7/2/03	Yuru
Department: Metals						
Molybdenum - Mo	05680-001	Soil	7/10/03	Lisa	7/10/03	Helge
TAL Metals	05680-001	Soil	7/10/03	Lisa	7/10/03	Helge
Department: Wet Chemistry						
Cyanide, Total	05680-001	Soil	n/a	n/a	7/10/03	Jackie

Review and Approval: [illegible] 7/16/03

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