ARCADIS Geraghty Miller
BC Laboratory Number: 99-01482
Client Reference: ILM Groundwater

CASE NARRATIVE
Date: 05/12/99
Page 1

SAMPLE RECEIPT:

BC Laboratories, Inc (BCL) received a total of 8 samples, and 1 trip blank on 02-04-99 at 2045. The samples were collected by Harding Lawson on 02-04-99 and were received by a BCL courier from the site and transported to the laboratory. The samples were logged into the Laboratory Information Management System (LIMS) and BCL numbers were assigned to each sample. The result of the temperature check was 3.6 °C and was recorded on the cooler receipt form. No discrepancies were found on the chain of custody (COC) or the samples.

ORGANICS:

In accordance with the COC, EPA method 8260B for VOC's, 8015M for Fuel fingerprint were performed on designated samples. Copies of the Calibration, Method Blanks, LCS, duplicates, and MS/MDS if applicable are included in the following package. All holding times and quality control requirements were met except for the following:

EPA 8260

The method calibration standard associated with sample 99-01482-8, 9 and TB did not meet established criteria for Bromoform by EPA 8260. Because this noncompliant compound was not detected in the associated sample, re-analysis was not required and not performed. The reports have been flagged accordingly.

INORGANICS:

In accordance with the COC, EPA method 6000/7000 for 17 metals and hexavalent chromium was performed on designated samples. Copies of the Calibration, Method Blanks, LCS, duplicates, and MS/MDS if applicable are included in the following package. All holding times and quality control requirements were met except for the following:

ARCADIS Geraghty Miller
BC Laboratory Number: 99-01482
Client Reference: ILM Groundwater

CASE NARRATIVE
Date: 05/12/99
Page 2

17 Metals

The matrix spike duplicate (MSD) associated with samples 99-01482-2 and 3 had high recovery of total Titanium outside the laboratory QC limits. The matrix spike (MS) and matrix spike duplicate (MSD) associated with samples 99-01482-2 and 3 had low recovery of total Antimony. outside the laboratory QC limits Accuracy was verified through LCSW. The reports have been flagged accordingly.

Hexavalent Chromium

The sample precision, Relative Percent Difference (RPD), for hexavalent chromium was outside QC limits. The reports have been flagged accordingly. Additionally, the sample was analyzed past the 30 day holding time as set in update three.

Data Package reviewed by: _____ 5-12-99
Date

CHAIN OF CUSTODY

BC LABORATORIES, INC. 4100 Atlas Court - Bakersfield, CA 93308 (805) 327-4911 - FAX (805) 327-1918

R To: IESI & AGM

Name: IESI
Address: 3990 WESTERY PL STE 210
City: NEWPORT BEACH
State: CA Zip: 92660
Attn: JOANN ORNELAS
Phone: (949) 795-5035

Project: ILM GROUND WATER
Project #: 280.02
Sampler Name: BRYAN J. HAWES
Submission #: 99-1482

Lab #	Sample Description	Date & Time Sampled	8260 (ILM List)	8015M TPH-GS	17 Metals + Al + Ti	Hexa-Chrom.	HOLD	MATRIX (DW - Drinking Water, GW - Ground Water, WW - Waste Water, S - Soil, O - Oil, SL - Sludge, M - Miscellaneous)	Turn Around Time Requested	Number and Container Type
-1	BL-5-8	2-4-99 @ 1055	X	X				S	5D	1 RING
-2	BL-5-10	@ 1105	~~X~~ BHBH	X						
-3	BL-5-20	@ 1115		X						
-4	BL-5-30	@ 1130					X			
-5	BL-5-40	@ 1140					X			
-6	BL-5-50	@ 1155					X			
-7	BL-5-60	@ 1205					X			
-TB	TB-3	1-28-99	X					M		1 VOA
-8	FB-3	2-4-99 @ 0800	X	X	X	X			BHBH ~~5D~~	ASST.
-9	RB-3	@ 1045	X	X	X	X				

NUMBERING CHECKED BY [TA]

DISTRIBUTION [SB] [RP] [TC] [JL] MA

Billing Information:

Name: ARCADIS GERAGHTY & MILLER
Address: 1400 N. HARBOR STE. 700
City FULLERTON State CA Zip 92835
Attention: DERRICK WILLIS
PO # 280.02

BC Lab. Field Service

Time : Miles:
Equipment: Flat Rate:

Report Drinking Water on State Form ? Y / N
Send Copy to State of Calif. Y / N

Comments: SEND EDDS TO:
IESI c/o JOANN E-MAIL: JP052263@AOL.COM
AGM c/o DERRICK E-MAIL: (ON FILE)

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature] TB 3/24/99	2/3-4-99	16:10
[signature]	Chrissy [signature]	2-4-99	20:45

Revised 5/97....Sample Disposal by BC Labs may be billed at $5.00 / sample for non-aqueous Samples:

BOE-C6-0234331

BC LABORATORIES INC. **SAMPLE RECEIPT FORM** Rev. No.6 10/13/98 Page ___ Of ___

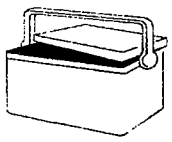
Submission #: 99-1482 **Project Code:**

SHIPPING INFORMATION	SHIPPING CONTAINER
Federal Express ☐ UPS ☐ Hand Delivery ☐	Ice Chest ☒ None ☐
BC Lab Field Service ☒ Other ☐ (Specify) _____	Box ☐ Other ☐ (Specify) _____

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☒ Intact? Yes ☐ No ☒ | Containers ☒ Intact? Yes ☒ No ☐ | None ☒ Comments: CF 2/4/99

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐



Ice Chest ID Red/white Date/Time 2/4/99 20:55
Temperature: 3.6 °C
Thermometer ID: 17 Analyst Init CFORD
Emissivity .90
Container TBlank

Ice Chest ID _____ Date/Time _____
Temperature: _____ °C
Thermometer ID: _____ Analyst Init _____
Emissivity _____
Container _____

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	TB	1	12	1	2	3	4	5	6	7	8	9	10	11	12
QT GENERAL MINERAL/ GENERAL PHYSICAL								1	1															
PT PE UNPRESERVED																								
QT INORGANIC CHEMICAL METALS								1	1															
PT INORGANIC CHEMICAL METALS																								
PT CYANIDE																								
PT NITROGEN FORMS																								
PT TOTAL SULFIDE																								
2oz. NITRATE / NITRITE																								
100ml TOTAL ORGANIC CARBON																								
QT TOX																								
PT CHEMICAL OXYGEN DEMAND																								
100ml PHENOLICS																								
40ml VOA VIAL TRAVEL BLANK										1														
40ml VOA VIAL								3	3															
QT EPA 413.1, 413.2, 418.1																								
PT ODOR																								
RADIOLOGICAL																								
BACTERIOLOGICAL																								
PT EPA 504																								
QT EPA 508/608/8080																								
QT EPA 515.1/8150																								
QT EPA 525																								
QT EPA 525 TRAVEL BLANK																								
100ml EPA 547																								
100ml EPA 531.1																								
QT EPA 548																								
QT EPA 549																								
QT EPA 632																								
QT EPA 8015M																								
QT QA/QC																								
QT AMBER								1	1															
8 OZ. JAR																								
32 OZ. JAR																								
SOIL SLEEVE	1	1	1	1	1	1	1																	
PCB VIAL																								
PLASTIC BAG																								

Comments: _____

Sample Numbering Completed By: CFORD Date/Time: 2/4/99 22:35 [F:\WP80\LAB_DOCS\FORMS\SAMREC2.WPD]

BC LABORATORIES, INC.

FIELD TEMPERATURE FORM

Date: 2-4-99

Time: 16:19

Completed By: JM

Temperature: 2 C

Type of bottle Used: TEMP BLANK

Transportation Container: COOLER

Refrigerant: W ICE

Custody Seals: YES

Comments:

Samples were picked up at: LOS ANGELES HLA

From: (signature if possible)

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 03/22/99
Date Received: 02/04/99
Laboratory No.: 99-01482-2

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-5-10

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid
Sample Collected By: BRYAN J. HAWES

Constituents		Sample Results	Units	Method P.Q.L.	Method	Date Prepared	Date Analyzed	Dilution Factor	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Hexavalent Chromium	*1	1.2	mg/kg	0.2	SW-7196	03/17/99	03/18/99	1.	5.0	500.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846.

Flag Explanations:
*1 = Sample precision not within established limits.

Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERVICES, INC. - JO ANN ORNALES

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BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Preparation & Analysis Information)
STANDARD TTLC CONSTITUENTS

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 04/02/99
Sample Matrix: Soil

Samples Affected: 99-01482-2

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Hexavalent Chromium	DI H2O EXT	03/17/99	MET	SW-7196	03/18/99	TDC

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Laboratory Control Sample)
STANDARD TTLC CONSTITUENTS

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 04/02/99
Sample Matrix: Soil

Samples Affected: 99-01482-2

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Hexavalent Chromium	LCSW-3-17-	1.02	1.0	mg/kg	102.	85 - 115

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. · Bakersfield, CA 93308 (805) 327-4911 · FAX (805) 327-1918

BOE-C6-0234336

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-2

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-5-10

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid
Sample Collected By: BRYAN J. HAWES

Constituents	Sample Results	Units	Method P.Q.L.	Method	Date Prepared	Date Analyzed	Dilution Factor	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Antimony	*1None Detected	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	15.	500.
Arsenic	4.2	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	5.0	500.
Barium	150.	mg/kg	5.0	SW-6010	02/08/99	02/11/99	2.	100.	10000.
Beryllium	1.0	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	0.75	75.
Cadmium	None Detected	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	1.0	100.
Chromium	28.	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	560.	2500.
Cobalt	13.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	80.	8000.
Copper	33.	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	25.	2500.
Lead	6.0	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	5.0	1000.
Mercury	None Detected	mg/kg	0.2	SW-7471	02/10/99	02/11/99	12.5	0.2	20.
Molybdenum	None Detected	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	350.	3500.
Nickel	21.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	20.	2000.
Selenium	1.6	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	1.0	100.
Silver	None Detected	mg/kg	1.0	SW-6010	02/08/99	02/11/99	2.	5.0	500.
Thallium	None Detected	mg/kg	5.0	SW-6010	02/08/99	02/11/99	2.	7.0	700.
Vanadium	65.	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	24.	2400.
Zinc	77.	mg/kg	1.0	SW-6010	02/08/99	02/11/99	2.	250.	5000.
Other Tests:									
Aluminum	26800.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.		
Titanium	*1 1670.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.		

(See Last Page for Comments, Definitions, and References)

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BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-2

Sample Description: 280.02, ILM GROUNDWATER, BL-5-10, 02/04/99 @ 11:05AM, BRYAN J. HAWES

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846.

Flag Explanations:
*1 = Matrix spike recoveries not within established limits. Results may be biased.

For Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERVICES, INC. - JO ANN ORNALES

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BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-3

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-5-20

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid
Sample Collected By: BRYAN J. HAWES

Constituents		Sample Results	Units	Method P.Q.L.	Method	Date Prepared	Date Analyzed	Dilution Factor	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Antimony	*1	0.52	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	15.	500.
Arsenic		3.8	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	5.0	500.
Barium		219.	mg/kg	5.0	SW-6010	02/08/99	02/11/99	2.	100.	10000.
Beryllium		0.93	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	0.75	75.
Cadmium		0.50	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	1.0	100.
Chromium		22.	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	560.	2500.
Cobalt		12.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	80.	8000.
Copper		31.	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	25.	2500.
Lead		5.7	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	5.0	1000.
Mercury		None Detected	mg/kg	0.2	SW-7471	02/10/99	02/11/99	12.5	0.2	20.
Molybdenum		None Detected	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	350.	3500.
Nickel		17.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.	20.	2000.
Selenium		1.3	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	1.0	100.
Silver		None Detected	mg/kg	1.0	SW-6010	02/08/99	02/11/99	2.	5.0	500.
Thallium		None Detected	mg/kg	5.0	SW-6010	02/08/99	02/11/99	2.	7.0	700.
Vanadium		59.	mg/kg	0.5	SW-6010	02/08/99	02/11/99	2.	24.	2400.
Zinc		76.	mg/kg	1.0	SW-6010	02/08/99	02/11/99	2.	250.	5000.
Other Tests:										
Aluminum		22000.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.		
Titanium	*1	1620.	mg/kg	2.5	SW-6010	02/08/99	02/11/99	2.		

(See Last Page for Comments, Definitions, and References)

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BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-3

Sample Description: 280.02, ILM GROUNDWATER, BL-5-20, 02/04/99 @ 11:15AM, BRYAN J. HAWES

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846.

Flag Explanations:
*1 = Matrix spike recoveries not within established limits. Results may be biased.

For Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERVICES, INC. - JO ANN ORNALES

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BC LABORATORIES

WATER ANALYSIS
(METALS)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/25/99
Date Received: 02/04/99
Laboratory No.: 99-01482-8

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: FB-3
Sampling Date/Time: 02/04/99 @ 08:00AM
Sample Collected By: BRYAN J. HAWES

Constituents	Results	Units	P.Q.L.	Method
Hexavalent Chromium	None Detected	µg/L	2.	EPA-7196
Total Aluminum	None Detected	µg/L	50.	EPA-6010
Total Antimony	None Detected	µg/L	100.	EPA-6010
Total Arsenic	None Detected	µg/L	2.	SM-3114B
Total Barium	None Detected	µg/L	10.	EPA-6010
Total Beryllium	None Detected	µg/L	10.	EPA-6010
Total Cadmium	None Detected	µg/L	5.	EPA-6010
Total Chromium	None Detected	µg/L	10.	EPA-6010
Total Cobalt	None Detected	µg/L	10.	EPA-6010
Total Copper	20.	µg/L	10.	EPA-6010
Total Lead	None Detected	µg/L	5.	EPA-7421
Total Mercury	None Detected	µg/L	0.2	EPA-7470
Total Molybdenum	None Detected	µg/L	10.	EPA-6010
Total Nickel	None Detected	µg/L	50.	EPA-6010
Total Selenium	None Detected	µg/L	2.	SM-3114B
Total Silver	None Detected	µg/L	10.	EPA-6010
Total Titanium	None Detected	µg/L	10.	EPA-6010
Total Thallium	None Detected	µg/L	5.0	EPA-7841
Total Vanadium	None Detected	µg/L	10.	EPA-6010
Total Zinc	None Detected	µg/L	50.	EPA-6010

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
California D.O.H.S. Cert. #1186, AZ License: AZ0345

Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERVICES, INC. - JO ANN ORNALES

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BC LABORATORIES

WATER ANALYSIS
(METALS)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/25/99
Date Received: 02/04/99
Laboratory No.: 99-01482-9

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: RB-3
Sampling Date/Time: 02/04/99 @ 10:45AM
Sample Collected By: BRYAN J. HAWES

Constituents	Results	Units	P.Q.L.	Method
Hexavalent Chromium	None Detected	µg/L	2.	EPA-7196
Total Aluminum	None Detected	µg/L	50.	EPA-6010
Total Antimony	None Detected	µg/L	100.	EPA-6010
Total Arsenic	None Detected	µg/L	2.	SM-3114B
Total Barium	None Detected	µg/L	10.	EPA-6010
Total Beryllium	None Detected	µg/L	10.	EPA-6010
Total Cadmium	None Detected	µg/L	5.	EPA-6010
Total Chromium	None Detected	µg/L	10.	EPA-6010
Total Cobalt	None Detected	µg/L	10.	EPA-6010
Total Copper	22.	µg/L	10.	EPA-6010
Total Lead	None Detected	µg/L	5.	EPA-7421
Total Mercury	None Detected	µg/L	0.2	EPA-7470
Total Molybdenum	None Detected	µg/L	10.	EPA-6010
Total Nickel	None Detected	µg/L	50.	EPA-6010
Total Selenium	None Detected	µg/L	2.	SM-3114B
Total Silver	None Detected	µg/L	10.	EPA-6010
Total Titanium	None Detected	µg/L	10.	EPA-6010
Total Thallium	None Detected	µg/L	5.0	EPA-7841
Total Vanadium	None Detected	µg/L	10.	EPA-6010
Total Zinc	None Detected	µg/L	50.	EPA-6010

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
California D.O.H.S. Cert. #1186, AZ License: AZ0345

For Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERVICES, INC. - JO ANN ORNALES

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BC LABORATORIES

EPA 8015M
Fuel Identification / Quantitation Summary

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/18/99
Date Received: 02/04/99
Laboratory No.: 99-01482-1

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-5-8
Sample Matrix: Soil
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/04/99 @ 10:55AM
Date Extracted: 02/09/99
Date Analyzed: 02/12/99
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Stoddard / White Spirits	None Detected	mg/kg	20.
JP 4	None Detected	mg/kg	10.
JP 5	None Detected	mg/kg	10.
JP 6	None Detected	mg/kg	10.
JP 8	None Detected	mg/kg	10.
Kerosene / Jet Fuel	None Detected	mg/kg	10.
Diesel	None Detected	mg/kg	10.
Crude Oil	None Detected	mg/kg	50.
Hydraulic Oil	None Detected	mg/kg	50.
Waste Oil	None Detected	mg/kg	50.
Motor Oil	None Detected	mg/kg	50.
Surrogate % Recovery	101.	%	27-177

METHOD: 8015M DOHS LUFT MANUAL
Boiling Range: 70 - 300 C

Mixtures of hydrocarbons are identified by a boiling point range and a fingerprint. Hydrocarbons that fall within a boiling range but do not exhibit the pattern are quantitated versus the fuel that corresponds with the boiling range, but are qualified with a note.

California D.O.H.S. Cert. #1186, AZ License: AZ0345

Stuart G. Buttram
Department Supervisor

cc: INTEGRATED ENVIRONMENTAL SERVICES, INC. - JO ANN ORNALES

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BC LABORATORIES

EPA 8015M
Fuel Identification / Quantitation Summary

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-8

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: FB-3
Sample Matrix: WATER
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/04/99 @ 08:00AM
Date Extracted: 02/06/99
Date Analyzed: 02/07/99
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Stoddard / White Spirits	None Detected	µg/L	200.
JP 4	None Detected	µg/L	1000.
JP 5	None Detected	µg/L	1000.
JP 6	None Detected	µg/L	1000.
JP 8	None Detected	µg/L	200.
Kerosene / Jet Fuel	None Detected	µg/L	200.
Diesel	None Detected	µg/L	200.
Crude Oil	None Detected	µg/L	1000.
Hydraulic Oil	None Detected	µg/L	1000.
Waste Oil	None Detected	µg/L	1000.
Motor Oil	None Detected	µg/L	1000.
Surrogate % Recovery	72.	%	32-143

METHOD: 8015M DOHS LUFT MANUAL
Boiling Range: 70 - 300 C

Mixtures of hydrocarbons are identified by a boiling point range and a fingerprint. Hydrocarbons that fall within a boiling range but do not exhibit the pattern are quantitated versus the fuel that corresponds with the boiling range, but are qualified with a note.

California D.O.H.S. Cert. #1186, AZ License: AZ0345

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BC LABORATORIES

EPA 8015M
Fuel Identification / Quantitation Summary

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-9

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: RB-3
Sample Matrix: WATER
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/04/99 @ 10:45AM
Date Extracted: 02/06/99
Date Analyzed: 02/07/99
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Stoddard / White Spirits	None Detected	µg/L	200.
JP 4	None Detected	µg/L	1000.
JP 5	None Detected	µg/L	1000.
JP 6	None Detected	µg/L	1000.
JP 8	None Detected	µg/L	200.
Kerosene / Jet Fuel	None Detected	µg/L	200.
Diesel	None Detected	µg/L	200.
Crude Oil	None Detected	µg/L	1000.
Hydraulic Oil	None Detected	µg/L	1000.
Waste Oil	None Detected	µg/L	1000.
Motor Oil	None Detected	µg/L	1000.
Surrogate % Recovery	55.	%	32-143

METHOD: 8015M DOHS LUFT MANUAL
Boiling Range: 70 - 300 C

Mixtures of hydrocarbons are identified by a boiling point range and a fingerprint. Hydrocarbons that fall within a boiling range but do not exhibit the pattern are quantitated versus the fuel that corresponds with the boiling range, but are qualified with a note.

California D.O.H.S. Cert. #1186, AZ License: AZ0345

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-1

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-5-8
Sample Matrix: Soil
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/04/99 @ 10:55AM
Date Extracted: 02/14/99
Date Analyzed: 02/14/99
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	mg/kg	0.005
Bromobenzene	None Detected	mg/kg	0.005
Bromochloromethane	None Detected	mg/kg	0.005
Bromodichloromethane	None Detected	mg/kg	0.005
Bromoform	None Detected	mg/kg	0.005
Bromomethane	None Detected	mg/kg	0.005
n-Butylbenzene	None Detected	mg/kg	0.005
sec-Butylbenzene	None Detected	mg/kg	0.005
tert-Butylbenzene	None Detected	mg/kg	0.005
Carbon tetrachloride	None Detected	mg/kg	0.005
Chlorobenzene	None Detected	mg/kg	0.005
Chloroethane	None Detected	mg/kg	0.005
2-Chloroethylvinyl ether	None Detected	mg/kg	0.05
Chloroform	None Detected	mg/kg	0.005
Chloromethane	None Detected	mg/kg	0.005
2-Chlorotoluene	None Detected	mg/kg	0.005
4-Chlorotoluene	None Detected	mg/kg	0.005
Dibromochloromethane	None Detected	mg/kg	0.005
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	0.005
1,2-Dibromoethane	None Detected	mg/kg	0.005
Dibromomethane	None Detected	mg/kg	0.005
1,2-Dichlorobenzene	None Detected	mg/kg	0.005
1,3-Dichlorobenzene	None Detected	mg/kg	0.005
1,4-Dichlorobenzene	None Detected	mg/kg	0.005
Dichlorodifluoromethane	None Detected	mg/kg	0.005
1,1-Dichloroethane	None Detected	mg/kg	0.005
1,2-Dichloroethane	None Detected	mg/kg	0.005
1,1-Dichloroethene	None Detected	mg/kg	0.005
cis-1,2-Dichloroethene	None Detected	mg/kg	0.005
trans-1,2-Dichloroethene	None Detected	mg/kg	0.005
1,2-Dichloropropane	None Detected	mg/kg	0.005
1,3-Dichloropropane	None Detected	mg/kg	0.005
2,2-Dichloropropane	None Detected	mg/kg	0.005
1,1-Dichloropropene	None Detected	mg/kg	0.005
cis-1,3-Dichloropropene	None Detected	mg/kg	0.005
trans-1,3-Dichloropropene	None Detected	mg/kg	0.005
Ethyl Benzene	None Detected	mg/kg	0.005
Hexachlorobutadiene	None Detected	mg/kg	0.005
Isopropylbenzene	None Detected	mg/kg	0.005
p-Isopropyltoluene	None Detected	mg/kg	0.005
Methylene Chloride	None Detected	mg/kg	0.01
Naphthalene	None Detected	mg/kg	0.005

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Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-1

Sample Description: 280.02, ILM GROUNDWATER, BL-5-8, 02/04/99 @ 10:55AM, BRYAN J. HAWES

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
n-Propylbenzene	None Detected	mg/kg	0.005
Styrene	None Detected	mg/kg	0.005
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	0.005
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.005
Tetrachloroethene	None Detected	mg/kg	0.005
Toluene	None Detected	mg/kg	0.005
1,2,3-Trichlorobenzene	None Detected	mg/kg	0.005
1,2,4-Trichlorobenzene	None Detected	mg/kg	0.005
1,1,1-Trichloroethane	None Detected	mg/kg	0.005
1,1,2-Trichloroethane	None Detected	mg/kg	0.005
Trichloroethene	None Detected	mg/kg	0.005
Trichlorofluoromethane	None Detected	mg/kg	0.005
1,2,3-Trichloropropane	None Detected	mg/kg	0.005
Trichlorotrifluoroethane	None Detected	mg/kg	
1,1,2-Trichloro-1,2,2-trifluoroethane	None Detected	mg/kg	0.005
1,2,4-Trimethylbenzene	None Detected	mg/kg	0.005
1,3,5-Trimethylbenzene	None Detected	mg/kg	0.005
Vinyl Chloride	None Detected	mg/kg	0.005
Total Xylenes	None Detected	mg/kg	0.01

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	95.	70-121
Toluene-d8	100.	81-117
4-Bromofluorobenzene	97.	74-121

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Stuart G. Buttram
Department Supervisor

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Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-8

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: FB-3
Sample Matrix: WATER
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/04/99 @ 08:00AM
Date Extracted: 02/06/99
Date Analyzed: 02/06/99
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit	
Benzene	None Detected	µg/L	0.5	
Bromobenzene	None Detected	µg/L	0.5	
Bromochloromethane	None Detected	µg/L	0.5	
Bromodichloromethane	None Detected	µg/L	0.5	
Bromoform	None Detected	µg/L	0.5	
Bromomethane	None Detected	µg/L	0.5	*1
n-Butylbenzene	None Detected	µg/L	0.5	
sec-Butylbenzene	None Detected	µg/L	0.5	
tert-Butylbenzene	None Detected	µg/L	0.5	
Carbon tetrachloride	None Detected	µg/L	0.5	
Chlorobenzene	None Detected	µg/L	0.5	
Chloroethane	None Detected	µg/L	0.5	
2-Chloroethylvinyl ether	None Detected	µg/L	20.	
Chloroform	None Detected	µg/L	0.5	
Chloromethane	None Detected	µg/L	0.5	
2-Chlorotoluene	None Detected	µg/L	0.5	
4-Chlorotoluene	None Detected	µg/L	0.5	
Dibromochloromethane	None Detected	µg/L	0.5	
1,2-Dibromo-3-Chloropropane	None Detected	µg/L	0.5	
1,2-Dibromoethane	None Detected	µg/L	0.5	
Dibromomethane	None Detected	µg/L	0.5	
1,2-Dichlorobenzene	None Detected	µg/L	0.5	
1,3-Dichlorobenzene	None Detected	µg/L	0.5	
1,4-Dichlorobenzene	None Detected	µg/L	0.5	
Dichlorodifluoromethane	None Detected	µg/L	0.5	
1,1-Dichloroethane	None Detected	µg/L	0.5	
1,2-Dichloroethane	None Detected	µg/L	0.5	
1,1-Dichloroethene	None Detected	µg/L	0.5	
cis-1,2-Dichloroethene	None Detected	µg/L	0.5	
trans-1,2-Dichloroethene	None Detected	µg/L	0.5	
1,2-Dichloropropane	None Detected	µg/L	0.5	
1,3-Dichloropropane	None Detected	µg/L	0.5	
2,2-Dichloropropane	None Detected	µg/L	0.5	
1,1-Dichloropropene	None Detected	µg/L	0.5	
cis-1,3-Dichloropropene	None Detected	µg/L	0.5	
trans-1,3-Dichloropropene	None Detected	µg/L	0.5	
Ethyl Benzene	None Detected	µg/L	0.5	
Hexachlorobutadiene	None Detected	µg/L	0.5	
Isopropylbenzene	None Detected	µg/L	0.5	
p-Isopropyltoluene	None Detected	µg/L	0.5	
Methylene Chloride	None Detected	µg/L	0.5	
Naphthalene	None Detected	µg/L	0.5	

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Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-8

Sample Description: 280.02, ILM GROUNDWATER, FB-3, 02/04/99 @ 08:00AM, BRYAN J. HAWES

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
n-Propylbenzene	None Detected	µg/L	0.5
Styrene	None Detected	µg/L	0.5
1,1,1,2-Tetrachloroethane	None Detected	µg/L	0.5
1,1,2,2-Tetrachloroethane	None Detected	µg/L	0.5
Tetrachloroethene	None Detected	µg/L	0.5
Toluene	None Detected	µg/L	0.5
1,2,3-Trichlorobenzene	None Detected	µg/L	0.5
1,2,4-Trichlorobenzene	None Detected	µg/L	0.5
1,1,1-Trichloroethane	None Detected	µg/L	0.5
1,1,2-Trichloroethane	None Detected	µg/L	0.5
Trichloroethene	None Detected	µg/L	0.5
Trichlorofluoromethane	None Detected	µg/L	0.5
1,2,3-Trichloropropane	None Detected	µg/L	0.5
1,2,4-Trimethylbenzene	None Detected	µg/L	0.5
1,3,5-Trimethylbenzene	None Detected	µg/L	0.5
Vinyl Chloride	None Detected	µg/L	0.5
Total Xylenes	None Detected	µg/L	1.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	113.	76-114
Toluene-d8	88.	88-110
4-Bromofluorobenzene	98.	86-115

Flag Explanations:
*1 = CCV recovery not within method limits.
California D.O.H.S. Cert. #1186, AZ License: AZ0345

Stuart G. Buttram
Department Supervisor

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Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-9

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: RB-3
Sample Matrix: WATER
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/04/99 @ 10:45AM
Date Extracted: 02/06/99
Date Analyzed: 02/06/99
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit	
Benzene	None Detected	µg/L	0.5	
Bromobenzene	None Detected	µg/L	0.5	
Bromochloromethane	None Detected	µg/L	0.5	
Bromodichloromethane	None Detected	µg/L	0.5	
Bromoform	None Detected	µg/L	0.5	
Bromomethane	None Detected	µg/L	0.5	*1
n-Butylbenzene	None Detected	µg/L	0.5	
sec-Butylbenzene	None Detected	µg/L	0.5	
tert-Butylbenzene	None Detected	µg/L	0.5	
Carbon tetrachloride	None Detected	µg/L	0.5	
Chlorobenzene	None Detected	µg/L	0.5	
Chloroethane	None Detected	µg/L	0.5	
2-Chloroethylvinyl ether	None Detected	µg/L	20.	
Chloroform	None Detected	µg/L	0.5	
Chloromethane	None Detected	µg/L	0.5	
2-Chlorotoluene	None Detected	µg/L	0.5	
4-Chlorotoluene	None Detected	µg/L	0.5	
Dibromochloromethane	None Detected	µg/L	0.5	
1,2-Dibromo-3-Chloropropane	None Detected	µg/L	0.5	
1,2-Dibromoethane	None Detected	µg/L	0.5	
Dibromomethane	None Detected	µg/L	0.5	
1,2-Dichlorobenzene	None Detected	µg/L	0.5	
1,3-Dichlorobenzene	None Detected	µg/L	0.5	
1,4-Dichlorobenzene	None Detected	µg/L	0.5	
Dichlorodifluoromethane	None Detected	µg/L	0.5	
1,1-Dichloroethane	None Detected	µg/L	0.5	
1,2-Dichloroethane	None Detected	µg/L	0.5	
1,1-Dichloroethene	None Detected	µg/L	0.5	
cis-1,2-Dichloroethene	None Detected	µg/L	0.5	
trans-1,2-Dichloroethene	None Detected	µg/L	0.5	
1,2-Dichloropropane	None Detected	µg/L	0.5	
1,3-Dichloropropane	None Detected	µg/L	0.5	
2,2-Dichloropropane	None Detected	µg/L	0.5	
1,1-Dichloropropene	None Detected	µg/L	0.5	
cis-1,3-Dichloropropene	None Detected	µg/L	0.5	
trans-1,3-Dichloropropene	None Detected	µg/L	0.5	
Ethyl Benzene	None Detected	µg/L	0.5	
Hexachlorobutadiene	None Detected	µg/L	0.5	
Isopropylbenzene	None Detected	µg/L	0.5	
p-Isopropyltoluene	None Detected	µg/L	0.5	
Methylene Chloride	None Detected	µg/L	0.5	
Naphthalene	None Detected	µg/L	0.5	

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-9

Sample Description: 280.02, ILM GROUNDWATER, RB-3, 02/04/99 @ 10:45AM, BRYAN J. HAWES

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
n-Propylbenzene	None Detected	µg/L	0.5
Styrene	None Detected	µg/L	0.5
1,1,1,2-Tetrachloroethane	None Detected	µg/L	0.5
1,1,2,2-Tetrachloroethane	None Detected	µg/L	0.5
Tetrachloroethene	None Detected	µg/L	0.5
Toluene	None Detected	µg/L	0.5
1,2,3-Trichlorobenzene	None Detected	µg/L	0.5
1,2,4-Trichlorobenzene	None Detected	µg/L	0.5
1,1,1-Trichloroethane	None Detected	µg/L	0.5
1,1,2-Trichloroethane	None Detected	µg/L	0.5
Trichloroethene	None Detected	µg/L	0.5
Trichlorofluoromethane	None Detected	µg/L	0.5
1,2,3-Trichloropropane	None Detected	µg/L	0.5
1,2,4-Trimethylbenzene	None Detected	µg/L	0.5
1,3,5-Trimethylbenzene	None Detected	µg/L	0.5
Vinyl Chloride	None Detected	µg/L	0.5
Total Xylenes	None Detected	µg/L	1.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	106.	76-114
Toluene-d8	92.	88-110
4-Bromofluorobenzene	99.	86-115

Flag Explanations:
*1 = CCV recovery not within method limits.
California D.O.H.S. Cert. #1186, AZ License: AZ0345

Stuart G. Buttram
Department Supervisor

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BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-TB

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: TB-3
Sample Matrix: Blank Water
Sample Collected By: BRYAN J. HAWES

Date Collected: 01/28/99 @ 10:45AM
Date Extracted: 02/06/99
Date Analyzed: 02/06/99
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit	
Benzene	None Detected	µg/L	0.5	
Bromobenzene	None Detected	µg/L	0.5	
Bromochloromethane	None Detected	µg/L	0.5	
Bromodichloromethane	None Detected	µg/L	0.5	
Bromoform	None Detected	µg/L	0.5	
Bromomethane	None Detected	µg/L	0.5	*1
n-Butylbenzene	None Detected	µg/L	0.5	
sec-Butylbenzene	None Detected	µg/L	0.5	
tert-Butylbenzene	None Detected	µg/L	0.5	
Carbon tetrachloride	None Detected	µg/L	0.5	
Chlorobenzene	None Detected	µg/L	0.5	
Chloroethane	None Detected	µg/L	0.5	
2-Chloroethylvinyl ether	None Detected	µg/L	20.	
Chloroform	None Detected	µg/L	0.5	
Chloromethane	None Detected	µg/L	0.5	
2-Chlorotoluene	None Detected	µg/L	0.5	
4-Chlorotoluene	None Detected	µg/L	0.5	
Dibromochloromethane	None Detected	µg/L	0.5	
1,2-Dibromo-3-Chloropropane	None Detected	µg/L	0.5	
1,2-Dibromoethane	None Detected	µg/L	0.5	
Dibromomethane	None Detected	µg/L	0.5	
1,2-Dichlorobenzene	None Detected	µg/L	0.5	
1,3-Dichlorobenzene	None Detected	µg/L	0.5	
1,4-Dichlorobenzene	None Detected	µg/L	0.5	
Dichlorodifluoromethane	None Detected	µg/L	0.5	
1,1-Dichloroethane	None Detected	µg/L	0.5	
1,2-Dichloroethane	None Detected	µg/L	0.5	
1,1-Dichloroethene	None Detected	µg/L	0.5	
cis-1,2-Dichloroethene	None Detected	µg/L	0.5	
trans-1,2-Dichloroethene	None Detected	µg/L	0.5	
1,2-Dichloropropane	None Detected	µg/L	0.5	
1,3-Dichloropropane	None Detected	µg/L	0.5	
2,2-Dichloropropane	None Detected	µg/L	0.5	
1,1-Dichloropropene	None Detected	µg/L	0.5	
cis-1,3-Dichloropropene	None Detected	µg/L	0.5	
trans-1,3-Dichloropropene	None Detected	µg/L	0.5	
Ethyl Benzene	None Detected	µg/L	0.5	
Hexachlorobutadiene	None Detected	µg/L	0.5	
Isopropylbenzene	None Detected	µg/L	0.5	
p-Isopropyltoluene	None Detected	µg/L	0.5	
Methylene Chloride	1.2	µg/L	0.5	
Naphthalene	None Detected	µg/L	0.5	

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Volatile Organic Analysis
(EPA Method 8260)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/17/99
Date Received: 02/04/99
Laboratory No.: 99-01482-TB

Sample Description: 280.02, ILM GROUNDWATER, TB-3, 01/28/99 @ 10:45AM, BRYAN J. HAWES

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
n-Propylbenzene	None Detected	µg/L	0.5
Styrene	None Detected	µg/L	0.5
1,1,1,2-Tetrachloroethane	None Detected	µg/L	0.5
1,1,2,2-Tetrachloroethane	None Detected	µg/L	0.5
Tetrachloroethene	None Detected	µg/L	0.5
Toluene	None Detected	µg/L	0.5
1,2,3-Trichlorobenzene	None Detected	µg/L	0.5
1,2,4-Trichlorobenzene	None Detected	µg/L	0.5
1,1,1-Trichloroethane	None Detected	µg/L	0.5
1,1,2-Trichloroethane	None Detected	µg/L	0.5
Trichloroethene	None Detected	µg/L	0.5
Trichlorofluoromethane	None Detected	µg/L	0.5
1,2,3-Trichloropropane	None Detected	µg/L	0.5
1,2,4-Trimethylbenzene	None Detected	µg/L	0.5
1,3,5-Trimethylbenzene	None Detected	µg/L	0.5
Vinyl Chloride	None Detected	µg/L	0.5
Total Xylenes	None Detected	µg/L	1.

Quality Control Data

Surrogates	% Recovery	Control Limits
1,2-Dichloroethane-d4	105.	76-114
Toluene-d8	98.	88-110
4-Bromofluorobenzene	95.	86-115

Flag Explanations:
*1 = CCV recovery not within method limits.
California D.O.H.S. Cert. #1186, AZ License: AZ0345

Stuart G. Buttram
Department Supervisor

cc: INTEGRATED ENVIRONMENTAL SERVICES, INC. - JO ANN ORNALES

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BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Preparation & Analysis Information)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Hexavalent Chromium	0.45uFilt	02/05/99	SC	EPA-7196	02/05/99	TDC
Total Aluminum	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Antimony	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Arsenic	SM-3114B	02/08/99	KSV	SM-3114B	02/09/99	TMS
Total Barium	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Beryllium	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Cadmium	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Chromium	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Cobalt	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Copper	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Lead	EPA-3020	02/08/99	PAP	EPA-7421	02/09/99	KAS
Total Mercury	EPA-7470	02/08/99	DIW	EPA-7470	02/08/99	DIW
Total Molybdenum	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Nickel	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Selenium	SM-3114B	02/08/99	KSV	SM-3114B	02/09/99	TMS
Total Silver	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Titanium	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Thallium	EPA-3010	02/08/99	PAP	EPA-7841	02/10/99	KAS
Total Vanadium	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM
Total Zinc	EPA-3010	02/11/99	PAP	EPA-6010	02/12/99	MTM

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234354

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	ICV % Found	ICV %Found Control Limits	CCV % Found Before	CCV % Found After	% Found Control Limits	CCB Readings Before	Units	CCB Readings After	Units	Method Blank Readings	Units
Hexavalent Chromium	98.	90 - 110	98.	102.	90 - 110	< 0.002	mg/L	< 0.002	mg/L	< 2.	µg/L
Total Aluminum	101.	90 - 110	101.	103.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Antimony	98.	90 - 110	98.	99.	90 - 110	<100.	µg/L	<100.	µg/L	<100.	µg/L
Total Arsenic	105.	90 - 110	105.	99.	90 - 110	< 1.	µg/L	< 1.	µg/L	< 2.	µg/L
Total Barium	99.	90 - 110	99.	98.	90 - 110	<100.	µg/L	<100.	µg/L	<100.	µg/L
Total Beryllium	100.	90 - 110	100.	101.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Cadmium	99.	90 - 110	99.	98.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Chromium	100.	90 - 110	100.	101.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Cobalt	100.	90 - 110	100.	99.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Copper	101.	90 - 110	101.	100.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Lead	99.	90 - 110	99.	101.	90 - 110	< 5.	µg/L	< 5.	µg/L	< 5.	µg/L
Total Mercury	103.	90 - 110	103.	103.	90 - 110	< 0.08	µg/L	< 0.08	µg/L	< 0.2	µg/L
Total Molybdenum	100.	90 - 110	100.	101.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Nickel	103.	90 - 110	103.	103.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Selenium	103.	90 - 110	103.	99.	90 - 110	< 1.	µg/L	< 1.	µg/L	< 2.	µg/L
Total Silver	102.	90 - 110	102.	103.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Titanium	98.	90 - 110	98.	99.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Thallium	100.	90 - 110	100.	101.	90 - 110	< 1.	µg/L	< 1.	µg/L	< 1.	µg/L
Total Vanadium	99.	90 - 110	99.	98.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Zinc	102.	90 - 110	102.	101.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L

ICV = Initial Calibration Verification; CCV = Continuing Calibration Verification; CCB = Continuing Calibration Blank

Quality Control Officer

Anthony Bonanno

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BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	QC Sample ID	Sample Result	Sample Duplicate	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Sample R.P.D.	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Hexavalent Chromium	1482-8	< 2.000	< 2.000	55.69	56.41	52.60	52.60	µg/L	<PQL	1.	10	106.	107.	85 - 115
Total Aluminum	TOTAL-1482-9-0	< 50.	< 50.	439.6	442.8	400.0	400.0	µg/L	<PQL	1.	20	109.	110.	80 - 120
Total Antimony	TOTAL-1482-9-0	<100.	<100.	405.9	407.6	400.0	400.0	µg/L	<PQL	0.	20	104.	104.	80 - 120
Total Arsenic	TOTAL-1424-10	< 2.	< 2.	20.4	19.78	20.00	20.00	µg/L	<PQL	3.	20	102.	99.	80 - 120
Total Barium	TOTAL-1482-9-0	<100.	<100.	197.5	197.2	200.0	200.0	µg/L	<PQL	0.	20	99.	99.	80 - 120
Total Beryllium	TOTAL-1482-9-0	< 10.	< 10.	195.2	194.7	200.0	200.0	µg/L	<PQL	0.	20	98.	97.	80 - 120
Total Cadmium	TOTAL-1482-9-0	< 10.	< 10.	195.7	195.9	200.0	200.0	µg/L	<PQL	0.	20	97.	97.	80 - 120
Total Chromium	TOTAL-1482-9-0	< 10.	< 10.	198.1	195.4	200.0	200.0	µg/L	<PQL	1.	20	99.	98.	80 - 120
Total Cobalt	TOTAL-1482-9-0	< 50.	< 50.	205.	205.5	200.0	200.0	µg/L	<PQL	0.	20	103.	103.	80 - 120
Total Copper	TOTAL-1482-9-0	21.8	20.5	214.6	215.1	200.0	200.0	µg/L	<PQL	0.	20	96.	97.	80 - 120
Total Lead	TOTAL-01482-8	< 5.	< 5.	21.58	21.53	20.00	20.00	µg/L	<PQL	0.	20	107.	107.	80 - 120
Total Mercury	TOTAL-01482-8	< 0.2	< 0.2	1.037	1.027	1.000	1.000	µg/L	<PQL	1.	20	99.	98.	70 - 130
Total Molybdenum	TOTAL-1482-9-0	< 50.	< 50.	208.7	208.2	200.0	200.0	µg/L	<PQL	0.	20	104.	104.	80 - 120
Total Nickel	TOTAL-1482-9-0	< 50.	< 50.	406.3	406.6	400.0	400.0	µg/L	<PQL	0.	20	102.	102.	80 - 120
Total Selenium	TOTAL-1424-10	< 2.	< 2.	20.08	18.68	20.00	20.00	µg/L	<PQL	7.	20	101.	94.	80 - 120
Total Silver	TOTAL-1482-9-0	< 10.	< 10.	192.1	191.2	200.0	200.0	µg/L	<PQL	0.	20	97.	96.	80 - 120
Total Titanium	TOTAL-1482-9-0	< 10.	< 10.	194.8	195.2	200.0	200.0	µg/L	<PQL	0.	20	98.	98.	80 - 120
Total Thallium	TOTAL-01482-8	< 1.	< 1.	21.65	21.87	20.00	20.00	µg/L	<PQL	1.	20	109.	110.	80 - 120
Total Vanadium	TOTAL-1482-9-0	< 10.	< 10.	194.5	193.2	200.0	200.0	µg/L	<PQL	1.	20	97.	96.	80 - 120
Total Zinc	TOTAL-1482-9-0	< 50.	< 50.	204.8	204.7	200.0	200.0	µg/L	<PQL	0.	20	101.	101.	80 - 120

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer

Anthony Bonanno

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BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Hexavalent Chromium	LCSW-02-05	1003.	1000.	µg/L	100.	90 - 110
Total Aluminum	TOTAL-LCSW	450.6	400.	µg/L	113.	80 - 120
Total Antimony	TOTAL-LCSW	399.	400.	µg/L	100.	80 - 120
Total Arsenic	LCSW1-02-0	10.11	10.	µg/L	101.	80 - 120
Total Barium	TOTAL-LCSW	197.9	200.	µg/L	99.	80 - 120
Total Beryllium	TOTAL-LCSW	196.7	200.	µg/L	98.	80 - 120
Total Cadmium	TOTAL-LCSW	199.2	200.	µg/L	100.	80 - 120
Total Chromium	TOTAL-LCSW	198.8	200.	µg/L	99.	80 - 120
Total Cobalt	TOTAL-LCSW	207.5	200.	µg/L	104.	80 - 120
Total Copper	TOTAL-LCSW	193.2	200.	µg/L	97.	80 - 120
Total Lead	TOTAL-LCSW	21.34	20.	µg/L	107.	80 - 120
Total Mercury	LCSW1-02-0	1.018	1.0	µg/L	102.	85 - 115
Total Molybdenum	TOTAL-LCSW	207.7	200.	µg/L	104.	80 - 120
Total Nickel	TOTAL-LCSW	409.2	400.	µg/L	102.	80 - 120
Total Selenium	LCSW1-02-0	9.42	10.	µg/L	94.	85 - 115
Total Silver	TOTAL-LCSW	192.7	200.	µg/L	96.	80 - 120
Total Titanium	TOTAL-LCSW	195.7	200.	µg/L	98.	80 - 120
Total Thallium	TOTAL-LCSW	21.85	20.	µg/L	109.	80 - 120
Total Vanadium	TOTAL-LCSW	193.4	200.	µg/L	97.	80 - 120
Total Zinc	TOTAL-LCSW	206.5	200.	µg/L	103.	80 - 120

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234357

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Preparation & Analysis Information)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Stoddard / White Spirits	3550	02/09/99	SEM	8015M	02/12/99	DS
JP 4	3550	02/09/99	SEM	8015M	02/12/99	DS
JP 5	3550	02/09/99	SEM	8015M	02/12/99	DS
JP 6	3550	02/09/99	SEM	8015M	02/12/99	DS
JP 8	3550	02/09/99	SEM	8015M	02/12/99	DS
Kerosene / Jet Fuel	3550	02/09/99	SEM	8015M	02/12/99	DS
Diesel	3550	02/09/99	SEM	8015M	02/12/99	DS
Crude Oil	3550	02/09/99	SEM	8015M	02/12/99	DS
Hydraulic Oil	3550	02/09/99	SEM	8015M	02/12/99	DS
Waste Oil	3550	02/09/99	SEM	8015M	02/12/99	DS
Motor Oil	3550	02/09/99	SEM	8015M	02/12/99	DS
Surrogate % Recovery	3550	02/09/99	SEM	8015M	02/12/99	DS

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234358

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	Method Blank Readings	Units
Stoddard / White Spirits	<20.	mg/kg
JP 4	<10.	mg/kg
JP 5	<10.	mg/kg
JP 6	<10.	mg/kg
JP 8	<10.	mg/kg
Kerosene / Jet Fuel	<10.	mg/kg
Diesel	<10.	mg/kg
Crude Oil	<50.	mg/kg
Hydraulic Oil	<50.	mg/kg
Waste Oil	<50.	mg/kg
Motor Oil	<50.	mg/kg
Surrogate % Recovery	113.	%

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234359

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	QC Sample ID	Sample Result	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Diesel	1508-5	< 10.	84.3	85.8	83.3	83.3	mg/kg	2.	22	101.	103.	51 - 139
Surrogate	MS/MSD									118.	116.	27 - 177

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234360

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Diesel	LCSW	68.0	83.3	mg/kg	82.	70 - 124
Surrogate	LCSW				101.	27 - 177

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234361

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Preparation & Analysis Information)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Stoddard / White Spirits	5030	02/06/99	YP	8015M	02/07/99	DS
JP 4	5030	02/06/99	YP	8015M	02/07/99	DS
JP 5	5030	02/06/99	YP	8015M	02/07/99	DS
JP 6	5030	02/06/99	YP	8015M	02/07/99	DS
JP 8	5030	02/06/99	YP	8015M	02/07/99	DS
Kerosene / Jet Fuel	5030	02/06/99	YP	8015M	02/07/99	DS
Diesel	5030	02/06/99	YP	8015M	02/07/99	DS
Crude Oil	5030	02/06/99	YP	8015M	02/07/99	DS
Hydraulic Oil	5030	02/06/99	YP	8015M	02/07/99	DS
Waste Oil	5030	02/06/99	YP	8015M	02/07/99	DS
Motor Oil	5030	02/06/99	YP	8015M	02/07/99	DS

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. • Bakersfield, CA 9330 (805) 327-4911 • FAX (805) 327-1918

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	Method Blank Readings	Units
Stoddard / White Spirits	<200.	µg/L
JP 4	<1000.	µg/L
JP 5	<1000.	µg/L
JP 6	<1000.	µg/L
JP 8	<200.	µg/L
Kerosene / Jet Fuel	<200.	µg/L
Diesel	<200.	µg/L
Crude Oil	<1000.	µg/L
Hydraulic Oil	<1000.	µg/L
Waste Oil	<1000.	µg/L
Motor Oil	<1000.	µg/L
Surrogate % Recovery	76.	%

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234363

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	QC Sample ID	Sample Result	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Diesel	DI-2/6	<200.	2326.	2300.	2500.	2500.	µg/L	1.	30	93.	92.	47 - 129
Surrogate	MS/MSD									72.	88.	32 - 143

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234364

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
METHOD 8015M TPH-FUEL FINGERPRINT

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Diesel	LCSW	3205.	2500.	µg/L	128.	45 - 133
Surrogate	LCSW				110.	32 - 143

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234365

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Preparation & Analysis Information)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Method 8260 compounds	EPA-5030	02/14/99	SNM	EPA-8260	02/14/99	SNM

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234366

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	Method Blank Readings	Units
Benzene	< 0.005	mg/kg
Bromobenzene	< 0.005	mg/kg
Bromochloromethane	< 0.005	mg/kg
Bromodichloromethane	< 0.005	mg/kg
Bromoform	< 0.005	mg/kg
Bromomethane	< 0.005	mg/kg
n-Butylbenzene	< 0.005	mg/kg
sec-Butylbenzene	< 0.005	mg/kg
tert-Butylbenzene	< 0.005	mg/kg
Carbon tetrachloride	< 0.005	mg/kg
Chlorobenzene	< 0.005	mg/kg
Chloroethane	< 0.005	mg/kg
2-Chloroethylvinyl ether	< 0.05	mg/kg
Chloroform	< 0.005	mg/kg
Chloromethane	< 0.005	mg/kg
2-Chlorotoluene	< 0.005	mg/kg
4-Chlorotoluene	< 0.005	mg/kg
Dibromochloromethane	< 0.005	mg/kg
1,2-Dibromo-3-Chloropropane	< 0.005	mg/kg
1,2-Dibromoethane	< 0.005	mg/kg
Dibromomethane	< 0.005	mg/kg
1,2-Dichlorobenzene	< 0.005	mg/kg
1,3-Dichlorobenzene	< 0.005	mg/kg
1,4-Dichlorobenzene	< 0.005	mg/kg
Dichlorodifluoromethane	< 0.005	mg/kg
1,1-Dichloroethane	< 0.005	mg/kg
1,2-Dichloroethane	< 0.005	mg/kg
1,1-Dichloroethene	< 0.005	mg/kg
cis-1,2-Dichloroethene	< 0.005	mg/kg
trans-1,2-Dichloroethene	< 0.005	mg/kg

BOE-C6-0234367

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	Method Blank Readings	Units
1,2-Dichloropropane	< 0.005	mg/kg
1,3-Dichloropropane	< 0.005	mg/kg
2,2-Dichloropropane	< 0.005	mg/kg
1,1-Dichloropropene	< 0.005	mg/kg
cis-1,3-Dichloropropene	< 0.005	mg/kg
trans-1,3-Dichloropropene	< 0.005	mg/kg
Ethyl Benzene	< 0.005	mg/kg
Hexachlorobutadiene	< 0.005	mg/kg
Isopropylbenzene	< 0.005	mg/kg
p-Isopropyltoluene	< 0.005	mg/kg
Methylene Chloride	< 0.01	mg/kg
Naphthalene	< 0.005	mg/kg
n-Propylbenzene	< 0.005	mg/kg
Styrene	< 0.005	mg/kg
1,1,1,2-Tetrachloroethane	< 0.005	mg/kg
1,1,2,2-Tetrachloroethane	< 0.005	mg/kg
Tetrachloroethene	< 0.005	mg/kg
Toluene	< 0.005	mg/kg
1,2,3-Trichlorobenzene	< 0.005	mg/kg
1,2,4-Trichlorobenzene	< 0.005	mg/kg
1,1,1-Trichloroethane	< 0.005	mg/kg
1,1,2-Trichloroethane	< 0.005	mg/kg
Trichloroethene	< 0.005	mg/kg
Trichlorofluoromethane	< 0.005	mg/kg
1,2,3-Trichloropropane	< 0.005	mg/kg
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.005	mg/kg
1,2,4-Trimethylbenzene	< 0.005	mg/kg
1,3,5-Trimethylbenzene	< 0.005	mg/kg
Vinyl Chloride	< 0.005	mg/kg

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BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	Method Blank Readings	Units
Total Xylenes	< 0.01	mg/kg
1,2-Dichloroethane-d4	91.	%
Toluene-d8	92.	%
4-Bromofluorobenzene	100.	%

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234369

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB13\13FEB27.D Vial: 1
Acq On : 14 Feb 99 2:38 am Operator: M. CHAVEZ
Sample : CCV 18 Inst : MS-V3
Misc : 25 ML; VO-8-3123 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\82603.M
Title : VOAL Purgable Organics
Last Update : Fri Feb 05 14:22:54 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	pentafluorobenzene IS #1	1.000	1.000	0.0	107	0.00
2		dichlorodifluoromethane	0.572	0.496	13.2	95	0.01
3	P	chloromethane	0.324	0.304	6.4	95	0.01
4	C	vinyl chloride	0.406	0.398	1.9	104	0.01
5		bromomethane	0.358	0.325	9.3	96	0.00
6	M	chloroethane	0.314	0.282	10.2	93	0.01
7		trichlorofluoromethane	1.057	1.064	-0.6	109	0.00
8		1,1,2-trichloro1,2,2trifluo	1.155	0.984	14.8	94	0.00
9	MC	1,1-dichloroethene	0.451	0.442	1.9	102	0.00
10		methylene chloride	0.469	0.407	13.2	98	0.01
11		MTBE	0.839	0.706	15.8	97	0.00
12		trans-1,2-dichloroethene	0.535	0.492	8.0	99	0.01
13	MP	1,1-dichloroethane	1.069	0.954	10.8	100	0.00
14		2,2-dichloropropane	0.907	0.755	16.8	91	0.00
15		cis-1,2-dichloroethene	0.529	0.465	12.1	92	0.0[illegible]
16		bromochloromethane	0.259	0.207	19.9	86	0.0[illegible]
17	C	chloroform	1.161	0.986	15.1	93	0.00
18		1,1,1-trichloroethane	1.183	1.067	9.8	100	0.00
19	S	1,2-dichloroethane-d4 SMC	0.458	0.454	0.9	102	0.01
20		carbon tetrachloride	1.198	1.114	7.0	102	0.01
21		1,1-dichloropropene	0.860	0.780	9.2	98	0.01
22	M	benzene	1.654	1.410	14.7	91	0.01
23		1,2-dichloroethane	0.550	0.507	7.7	97	0.01
24	I	1,4-difluorobenzene IS #	1.000	1.000	0.0	95	0.01
25	M	trichloroethene	0.408	0.409	-0.2	94	0.00
26	C	1,2-dichloropropane	0.365	0.360	1.3	93	0.02
27		dibromomethane	0.214	0.181	15.5	85	0.00
28	M	bromodichloromethane	0.636	0.601	5.6	94	0.00
29		2-CEVE	0.011	0.002	83.2#	23#	0.02
30		trans-1,3-dichloropropene	0.344	0.332	3.4	97	0.00
31	S	toluene-d8 SMC	1.000	1.010	-1.0	97	0.02
32	MC	toluene	0.645	0.614	4.8	92	0.02
33		cis-1,3-dichloropropene	0.456	0.439	3.8	95	0.00
34		1,1,2-trichloroethane	0.179	0.172	4.1	97	0.02
35		tetrachloroethene	0.453	0.461	-1.7	94	0.00
36		1,3-dichloropropane	0.340	0.333	2.3	96	0.00
37		dibromochloromethane	0.434	0.406	6.3	89	-0.01
38		1,2-dibromoethane	0.257	0.237	7.9	90	0.00
39	I	chlorobenzene-d5 IS # 3	1.000	1.000	0.0	96	0.0[illegible]
40	MP	chlorobenzene	2.718	2.538	6.6	93	-0.01

(#) = Out of Range

BOE-C6-0234370

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB13\13FEB27.D
Acq On : 14 Feb 99 2:38 am
Sample : CCV 18
Misc : 25 ML; VO-8-3123

Vial: 1
Operator: M. CHAVEZ
Inst : MS-V3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\82603.M
Title : VOAL Purgable Organics
Last Update : Fri Feb 05 14:22:54 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
41		1,1,1,2-tetrachloroethane	1.489	1.463	1.8	92	-0.01
42	C	ethylbenzene	4.973	4.889	1.7	94	-0.01
43		m+p-xylene	1.759	1.677	4.7	90	0.00
44		o-xylene	1.658	1.582	4.6	93	0.00
45		styrene	2.697	2.428	10.0	88	0.00
46	P	bromoform	0.921	0.871	5.4	91	-0.01
47		isopropylbenzene	5.019	5.031	-0.2	95	-0.01
48	S	4-bromofluorobenzene SMC #	2.055	2.118	-3.1	98	0.00
49		bromobenzene	1.290	1.197	7.2	91	0.00
50	P	1,1,2,2-tetrachloroethane	0.819	0.772	5.7	94	-0.01
51		1,2,3-trichloropropane	0.233	0.220	5.7	91	0.00
52		n-propylbenzene	5.817	5.918	-1.8	95	0.00
53		2-chlorotoluene	4.424	4.380	1.0	99	-0.01
54		4-chlorotoluene	3.791	3.965	-4.6	94	0.00
		1,3,5-trimethylbenzene	4.035	4.124	-2.2	96	0.00
		tert-butylbenzene	4.191	4.448	-6.1	100	0.00
57		1,2,4-trimethylbenzene	4.000	3.963	0.9	94	0.00
58		sec-butylbenzene	5.410	5.716	-5.7	100	0.00
59		1,3-dichlorobenzene	2.277	2.147	5.7	91	0.00
60		4-isopropyltoluene	4.628	4.654	-0.6	95	0.01
61	M	1,4-dichlorobenzene	2.172	2.059	5.2	93	0.00
62		1,2-dichlorobenzene	1.851	1.681	9.2	92	0.00
63		n-butylbenzene	4.310	4.228	1.9	94	0.00
64		1,2-dibromo-3-chloropropane	0.170	0.175	-3.0	103	0.00
65		1,2,4-trichlorobenzene	1.471	1.338	9.0	88	0.00
66		hexachlorobutadiene	1.619	1.814	-12.0	114	0.00
67		naphthalene	1.195	1.019	14.7	84	0.00
68		1,2,3-trichlorobenzene	1.183	1.120	5.3	90	0.00

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

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB14\14FEB12.D Vial: 1
Acq On : 14 Feb 99 2:18 pm Operator: S MAURER
Sample : CCV 19 Inst : MS-V3
Misc : 25 ML 16.0 UG/L V0-8-3123 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\82603.M
Title : VOAL Purgable Organics
Last Update : Fri Feb 05 14:22:54 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	pentafluorobenzene IS #1	1.000	1.000	0.0	105	-0.01
2		dichlorodifluoromethane	0.572	0.459	19.8	86	0.01
3	P	chloromethane	0.324	0.276	15.0	85	0.01
4	C	vinyl chloride	0.406	0.388	4.4	100	0.01
5		bromomethane	0.358	0.328	8.4	95	0.00
6	M	chloroethane	0.314	0.285	9.4	92	0.01
7		trichlorofluoromethane	1.057	1.087	-2.8	109	0.00
8		1,1,2-trichloro1,2,2trifluo	1.155	1.017	11.9	96	0.00
9	MC	1,1-dichloroethene	0.451	0.461	-2.3	104	0.00
10		methylene chloride	0.469	0.412	12.1	97	0.00
11		MTBE	0.839	0.791	5.7	106	0.00
12		trans-1,2-dichloroethene	0.535	0.499	6.8	98	0.00
13	MP	1,1-dichloroethane	1.069	1.013	5.2	104	-0.01
14		2,2-dichloropropane	0.907	0.918	-1.2	109	-0.01
15		cis-1,2-dichloroethene	0.529	0.502	5.1	97	0.0[illegible]
16		bromochloromethane	0.259	0.232	10.5	95	0.0[illegible]
17	C	chloroform	1.161	1.091	6.1	101	-0.01
18		1,1,1-trichloroethane	1.183	1.087	8.1	99	0.00
19	S	1,2-dichloroethane-d4 SMC	0.458	0.467	-2.0	103	0.00
20		carbon tetrachloride	1.198	1.129	5.8	102	0.00
21		1,1-dichloropropene	0.860	0.788	8.4	97	-0.01
22	M	benzene	1.654	1.450	12.3	92	0.00
23		1,2-dichloroethane	0.550	0.546	0.7	102	0.00
24	I	1,4-difluorobenzene IS #	1.000	1.000	0.0	89	0.00
25	M	trichloroethene	0.408	0.441	-8.1	96	0.00
26	C	1,2-dichloropropane	0.365	0.393	-7.7	96	0.00
27		dibromomethane	0.214	0.214	0.1	95	-0.01
28	M	bromodichloromethane	0.636	0.660	-3.7	97	0.00
29		2-CEVE	0.011	0.006	47.8#	67	0.00
30		trans-1,3-dichloropropene	0.344	0.401	-16.8	110	-0.01
31	S	toluene-d8 SMC	1.000	1.019	-1.9	92	0.00
32	MC	toluene	0.645	0.646	-0.1	91	0.00
33		cis-1,3-dichloropropene	0.456	0.503	-10.4	102	0.00
34		1,1,2-trichloroethane	0.179	0.189	-5.4	101	0.02
35		tetrachloroethene	0.453	0.481	-6.3	93	0.00
36		1,3-dichloropropane	0.340	0.369	-8.4	100	0.00
37		dibromochloromethane	0.434	0.467	-7.8	97	0.00
38		1,2-dibromoethane	0.257	0.278	-7.9	99	-0.02
39	I	chlorobenzene-d5 IS # 3	1.000	1.000	0.0	90	0.0[illegible]
40	MP	chlorobenzene	2.718	2.705	0.4	93	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB14\14FEB12.D Vial: 1
Acq On : 14 Feb 99 2:18 pm Operator: S MAURER
Sample : CCV 19 Inst : MS-V3
Misc : 25 ML 16.0 UG/L V0-8-3123 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\82603.M
Title : VOAL Purgable Organics
Last Update : Fri Feb 05 14:22:54 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
41		1,1,1,2-tetrachloroethane	1.489	1.629	-9.4	97	-0.02
42	C	ethylbenzene	4.973	5.242	-5.4	95	-0.02
43		m+p-xylene	1.759	1.820	-3.5	92	0.00
44		o-xylene	1.658	1.699	-2.5	94	0.00
45		styrene	2.697	2.667	1.1	91	0.00
46	P	bromoform	0.921	1.061	-15.2	104	0.00
47		isopropylbenzene	5.019	5.506	-9.7	97	0.00
48	S	4-bromofluorobenzene SMC #	2.055	2.111	-2.7	92	0.00
49		bromobenzene	1.290	1.289	0.1	93	0.00
50	P	1,1,2,2-tetrachloroethane	0.819	0.919	-12.3	105	0.00
51		1,2,3-trichloropropane	0.233	0.202	13.4	79	-0.02
52		n-propylbenzene	5.817	6.345	-9.1	96	-0.01
53		2-chlorotoluene	4.424	4.504	-1.8	96	0.00
[illegible]		4-chlorotoluene	3.791	4.544	-19.9	102	0.00
[illegible]		1,3,5-trimethylbenzene	4.035	4.445	-10.2	98	0.00
[illegible]		tert-butylbenzene	4.191	4.845	-15.6	103	0.00
57		1,2,4-trimethylbenzene	4.000	4.348	-8.7	98	0.00
58		sec-butylbenzene	5.410	6.177	-14.2	101	-0.02
59		1,3-dichlorobenzene	2.277	2.299	-1.0	92	0.00
60		4-isopropyltoluene	4.628	4.978	-7.6	96	0.00
61	M	1,4-dichlorobenzene	2.172	2.232	-2.7	95	-0.01
62		1,2-dichlorobenzene	1.851	1.863	-0.6	96	0.00
63		n-butylbenzene	4.310	4.490	-4.2	95	0.00
64		1,2-dibromo-3-chloropropane	0.170	0.223	-31.1#	124	0.00
65		1,2,4-trichlorobenzene	1.471	1.484	-0.9	92	0.01
66		hexachlorobutadiene	1.619	1.939	-19.8	115	0.00
67		naphthalene	1.195	1.236	-3.5	97	0.00
68		1,2,3-trichlorobenzene	1.183	1.235	-4.4	94	0.00

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

BOE-C6-0234373

Response Factor Report MS-V3

Method : C:\HPCHEM\1\METHODS\82603.M
Title : VOAL Purgable Organics
Last Update : Fri Feb 05 14:19:47 1999
Response via : Initial Calibration

V0-8-3079

Calibration Files
3.2 =05FEB05.D 8.0 =05FEB07.D 16.0 =05FEB08.D
24.0 =05FEB09.D 32.0 =05FEB10.D

		Compound	3.2	8.0	16.0	24.0	32.0	Avg	%RSD	
1)	I	pentafluorobenzene I	----------ISTD----------							
2)		dichlorodifluorometha	0.618	0.613	0.558	0.528	0.543	0.6	7.18	
3)	P	chloromethane	0.352	0.340	0.341	0.295	0.294	0.3	8.58	
4)	C	vinyl chloride	0.445	0.437	0.409	0.373	0.365	0.4	8.88	
5)		bromomethane	0.372	0.342	0.362	0.368	0.348	0.4	3.60	
6)	M	chloroethane	0.337	0.322	0.325	0.292	0.295	0.3	6.25	
7)		trichlorofluoromethan	1.129	1.067	1.045	1.007	1.039	1.1	4.31	
8)		1,1,2-trichloro1,2,2t	1.224	1.203	1.116	1.094	1.139	1.2	4.84	
9)	MC	1,1-dichloroethene	0.470	0.475	0.465	0.423	0.423	0.5	5.81	
10)		methylene chloride	0.531	0.489	0.445	0.432	0.446	0.5	8.73	
11)		MTBE	0.864	0.844	0.780	0.819	0.885	0.8	4.85	
12)		trans-1,2-dichloroeth	0.561	0.554	0.531	0.501	0.528	0.5	4.46	
13)	MP	1,1-dichloroethane	1.168	1.073	1.025	1.032	1.046	1.1	5.46	
14)		2,2-dichloropropane	0.941	0.910	0.884	0.890	0.908	0.9	2.46	
15)		cis-1,2-dichloroethen	0.544	0.544	0.541	0.501	0.517	0.5	3.72	
16)		bromochloromethane	0.251	0.257	0.257	0.260	0.270	0.3	2.65	
17)	C	chloroform	1.227	1.150	1.135	1.131	1.164	1.2	3.3	
18)		1,1,1-trichloroethane	1.263	1.245	1.146	1.086	1.174	1.2	6.1	
19)	S	1,2-dichloroethane-d4	0.438	0.457	0.474	0.462	0.461	0.5	2.86	
20)		carbon tetrachloride	1.252	1.252	1.165	1.114	1.208	1.2	4.94	
21)		1,1-dichloropropene	0.883	0.894	0.850	0.796	0.877	0.9	4.58	
22)	M	benzene	1.686	1.582	1.660	1.620	1.719	1.7	3.26	
23)		1,2-dichloroethane	0.537	0.565	0.559	0.537	0.550	0.5	2.36	
24)	I	1,4-difluorobenzene	----------ISTD----------							
25)	M	trichloroethene	0.428	0.422	0.411	0.380	0.398	0.4	4.64	
26)	C	1,2-dichloropropane	0.375	0.369	0.366	0.356	0.358	0.4	2.18	
27)		dibromomethane	0.217	0.215	0.202	0.215	0.223	0.2	3.58	
28)	M	bromodichloromethane	0.662	0.670	0.606	0.591	0.653	0.6	5.55	
29)		2-CEVE	0.009	0.008	0.008	0.018	0.013	0.0	40.59	QR
30)		trans-1,3-dichloropro	0.364	0.338	0.325	0.340	0.351	0.3	4.21	
31)	S	toluene-d8	1.018	1.008	0.987	1.005	0.981	1.0	1.56	
32)	MC	toluene	0.710	0.655	0.635	0.592	0.636	0.6	6.58	
33)		cis-1,3-dichloroprope	0.487	0.459	0.440	0.435	0.457	0.5	4.51	
34)		1,1,2-trichloroethane	0.186	0.187	0.168	0.168	0.186	0.2	5.82	
35)		tetrachloroethene	0.471	0.473	0.463	0.424	0.434	0.5	4.96	
36)		1,3-dichloropropane	0.344	0.348	0.329	0.339	0.342	0.3	2.07	
37)		dibromochloromethane	0.439	0.439	0.432	0.413	0.444	0.4	2.82	
38)		1,2-dibromoethane	0.262	0.258	0.249	0.258	0.260	0.3	1.85	
39)	I	chlorobenzene-d5 IS	----------ISTD----------							
40)	MP	chlorobenzene	2.841	2.669	2.615	2.607	2.857	2.7	4.50	
41)		1,1,1,2-tetrachloroet	1.490	1.459	1.520	1.438	1.540	1.5	2.82	
42)	C	ethylbenzene	5.250	4.743	5.002	4.759	5.111	5.0	4.45	
43)		m+p-xylene	1.800	1.662	1.777	1.712	1.844	1.8	4.10	
44)		o-xylene	1.691	1.700	1.626	1.550	1.723	1.7	4.24	
45)		styrene	2.725	2.638	2.636	2.619	2.866	2.7	3.83	
46)	P	bromoform	0.930	0.924	0.920	0.891	0.941	0.9	2.04	
47)		isopropylbenzene	5.028	4.885	5.099	4.857	5.224	5.0	3.03	

48)	S	4-bromofluorobenzene	2.016	2.057	2.073	2.099	2.030	2.1	1.61
49)		bromobenzene	1.292	1.372	1.256	1.200	1.333	1.3	5.19
50)	P	1,1,2,2-tetrachloroet	0.812	0.821	0.788	0.821	0.852	0.8	2.81
51)		1,2,3-trichloropropan	0.210	0.231	0.231	0.239	0.256	0.2	7.03
52)		n-propylbenzene	5.823	5.780	5.957	5.580	5.942	5.8	2.62
		2-chlorotoluene	4.812	4.186	4.245	4.293	4.586	4.4	6.01
		4-chlorotoluene	3.897	3.629	4.028	3.612	3.788	3.8	4.67
55)		1,3,5-trimethylbenzen	4.237	3.861	4.111	3.857	4.110	4.0	4.19
56)		tert-butylbenzene	4.310	4.025	4.262	4.039	4.318	4.2	3.50
57)		1,2,4-trimethylbenzen	4.172	3.863	4.022	3.885	4.056	4.0	3.19
58)		sec-butylbenzene	5.462	5.305	5.501	5.180	5.601	5.4	3.08
59)		1,3-dichlorobenzene	2.360	2.212	2.257	2.203	2.352	2.3	3.31
60)		4-isopropyltoluene	4.566	4.527	4.680	4.492	4.875	4.6	3.35
61)	M	1,4-dichlorobenzene	2.241	2.137	2.124	2.101	2.258	2.2	3.31
62)		1,2-dichlorobenzene	1.940	1.882	1.745	1.786	1.903	1.9	4.45
63)		n-butylbenzene	4.300	4.325	4.288	4.125	4.509	4.3	3.16
64)		1,2-dibromo-3-chlorop	0.174	0.166	0.163	0.168	0.180	0.2	4.06
65)		1,2,4-trichlorobenzen	1.366	1.528	1.450	1.414	1.595	1.5	6.22
66)		hexachlorobutadiene	1.754	1.754	1.518	1.396	1.672	1.6	9.72
67)		naphthalene	0.967	1.123	1.156	1.288	1.438	1.2	14.89
68)		1,2,3-trichlorobenzen	1.056	1.251	1.188	1.132	1.289	1.2	7.86

(#) = Out of Range

82603.M Fri Feb 05 14:21:08 1999

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB05\05FEB13.D
Acq On : 5 Feb 99 4:07 pm
Sample : 524.2\8260 ICVB 16.0 UG/L
Misc : 10 ML V0-8-3080

Vial: 2
Operator: S MAURER
Inst : MS-V3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\82603.M
Title : VOAL Purgable Organics
Last Update : Fri Feb 05 14:22:54 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	pentafluorobenzene IS #1	1.000	1.000	0.0	100	0.00
2		dichlorodifluoromethane	0.572	0.686	-20.0	123	0.00
3	P	chloromethane	0.324	0.309	4.7	91	0.01
4	C	vinyl chloride	0.406	0.428	-5.5	105	0.01
5		bromomethane	0.358	0.381	-6.4	106	0.00
6	M	chloroethane	0.314	0.307	2.2	95	0.00
7		trichlorofluoromethane	1.057	1.149	-8.6	110	0.00
8		1,1,2-trichloro1,2,2trifluo	1.155	0.993	14.0	89	0.00
9	MC	1,1-dichloroethene	0.451	0.479	-6.1	103	0.00
10		methylene chloride	0.469	0.475	-1.4	107	0.00
11		MTBE	0.839	0.839	-0.1	108	0.00
12		trans-1,2-dichloroethene	0.535	0.541	-1.2	102	0.00
13	MP	1,1-dichloroethane	1.069	1.042	2.5	102	0.00
14		2,2-dichloropropane	0.907	0.882	2.7	100	0.00
15		cis-1,2-dichloroethene	0.529	0.541	-2.3	100	0.00
16		bromochloromethane	0.259	0.267	-3.2	104	-0.01
17	C	chloroform	1.161	1.111	4.4	98	0.00
18		1,1,1-trichloroethane	1.183	1.127	4.7	99	0.00
19	S	1,2-dichloroethane-d4 SMC	0.458	0.482	-5.1	102	0.00
20		carbon tetrachloride	1.198	1.180	1.5	102	0.00
21		1,1-dichloropropene	0.860	0.871	-1.3	103	0.00
22	M	benzene	1.654	1.683	-1.8	102	0.00
23		1,2-dichloroethane	0.550	0.573	-4.2	103	0.00
24	I	1,4-difluorobenzene IS #	1.000	1.000	0.0	99	0.00
25	M	trichloroethene	0.408	0.416	-2.0	100	0.00
26	C	1,2-dichloropropane	0.365	0.379	-4.0	103	0.00
27		dibromomethane	0.214	0.218	-1.6	107	0.00
28	M	bromodichloromethane	0.636	0.612	3.9	100	0.00
29		2-CEVE	0.011	0.018	-65.4#	236#	0.01QR
30		trans-1,3-dichloropropene	0.344	0.372	-8.2	113	0.00
31	S	toluene-d8 SMC	1.000	0.998	0.2	100	0.01
32	MC	toluene	0.645	0.644	0.2	101	0.00
33		cis-1,3-dichloropropene	0.456	0.483	-6.0	109	0.00
34		1,1,2-trichloroethane	0.179	0.186	-3.8	110	0.00
35		tetrachloroethene	0.453	0.469	-3.5	100	0.00
36		1,3-dichloropropane	0.340	0.352	-3.3	106	0.00
37		dibromochloromethane	0.434	0.436	-0.5	100	-0.01
38		1,2-dibromoethane	0.257	0.266	-3.4	106	-0.01
39	I	chlorobenzene-d5 IS # 3	1.000	1.000	0.0	102	-0.01
40	MP	chlorobenzene	2.718	2.669	1.8	104	-0.01
41		1,1,1,2-tetrachloroethane	1.489	1.522	-2.2	102	-0.01
42	C	ethylbenzene	4.973	4.826	3.0	98	-0.01
43		m+p-xylene	1.759	1.722	2.1	99	0.00
44		o-xylene	1.658	1.602	3.4	100	-0.01

45		styrene	2.697	2.601	3.6	101	0.00
46	P	bromoform	0.921	0.924	-0.3	102	-0.02
47		isopropylbenzene	5.019	4.836	3.6	97	-0.01
48	S	4-bromofluorobenzene SMC #	2.055	2.036	0.9	100	0.00
49		bromobenzene	1.290	1.230	4.7	100	-0.02
	P	1,1,2,2-tetrachloroethane	0.819	0.839	-2.4	109	-0.01
		1,2,3-trichloropropane	0.233	0.243	-4.3	107	-0.01
52		n-propylbenzene	5.817	5.664	2.6	97	0.00
53		2-chlorotoluene	4.424	4.326	2.2	104	-0.01
54		4-chlorotoluene	3.791	3.694	2.6	93	0.00
55		1,3,5-trimethylbenzene	4.035	3.881	3.8	96	0.00
56		tert-butylbenzene	4.191	4.225	-0.8	101	0.00
57		1,2,4-trimethylbenzene	4.000	3.791	5.2	96	0.00
58		sec-butylbenzene	5.410	5.254	2.9	97	0.00
59		1,3-dichlorobenzene	2.277	2.199	3.4	99	0.00
60		4-isopropyltoluene	4.628	4.457	3.7	97	0.00
61	M	1,4-dichlorobenzene	2.172	2.124	2.2	102	0.00
62		1,2-dichlorobenzene	1.851	1.762	4.8	103	-0.01
63		n-butylbenzene	4.310	4.060	5.8	97	0.00
64		1,2-dibromo-3-chloropropane	0.170	0.176	-3.2	110	0.00
65		1,2,4-trichlorobenzene	1.471	1.426	3.0	100	0.00
66		hexachlorobutadiene	1.619	1.652	-2.0	111	0.00
67		naphthalene	1.195	1.267	-6.1	112	0.00
68		1,2,3-trichlorobenzene	1.183	1.199	-1.4	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
05FEB08.D 82603.M Fri Feb 05 17:22:20 1999

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\FEB99\FEB06\06FEB01.D Vial: 1
Acq On : 6 Feb 1999 10:42 am Operator: M. CHAVEZ
Sample : pb1 Inst : MS-V4
Misc : 25 ML mb vrl-2-665 Multiplr: 1.00
MS Integration Params: 82604.M
Quant Time: Feb 6 13:24 1999 Quant Results File: 82604.RE

Quant Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Fri Feb 05 08:03:24 1999
Response via : Initial Calibration
DataAcq Meth : 82604

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) pentafluorobenzene	7.48	99	777663	10.00 UG\L	-0.05
24) 1,4-difluorobenzene	9.33	114	1826220	10.00 UG\L	-0.07
39) chlorobenzene-d5	17.80	119	421725	10.00 UG\L	-0.06
System Monitoring Compounds					
21) 1,2-dichloroethane-d4	8.70	65	311919	10.69 UG\L	-0.08
31) toluene-d8	13.66	98	1663676m	10.27 UG\L	-0.09
49) 4-bromofluorobenzene	20.08	95	747683	9.82 UG\L	-0.04

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

BOE-C6-0234378

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	QC Sample ID	Sample Result	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Benzene	99-01482-1	< 5.	66.1	69.6	80.	80.	µg/kg	5.	20	83.	87.	80 - 120
Bromodichloromethane	99-01482-1	< 5.	80.3	81.0	80.	80.	µg/kg	1.	20	100.	101.	80 - 120
Chlorobenzene	99-01482-1	< 5.	77.9	79.5	80.	80.	µg/kg	2.	20	97.	99.	80 - 120
Chloroethane	99-01482-1	< 5.	73.5	78.6	80.	80.	µg/kg	7.	20	92.	98.	80 - 120
1,4-Dichlorobenzene	99-01482-1	< 5.	78.4	82.5	80.	80.	µg/kg	5.	20	98.	103.	80 - 120
1,1-Dichloroethane	99-01482-1	< 5.	72.9	72.4	80.	80.	µg/kg	1.	20	91.	91.	80 - 120
1,1-Dichloroethene	99-01482-1	< 5.	80.4	82.4	80.	80.	µg/kg	2.	20	101.	103.	80 - 120
Toluene	99-01482-1	< 5.	79.0	80.2	80.	80.	µg/kg	2.	20	99.	100.	80 - 120
Trichloroethene	99-01482-1	< 5.	84.9	87.7	80.	80.	µg/kg	3.	20	106.	110.	80 - 120
1,2-Dichloroethane-d4	MS/MSD									94.	98.	70 - 121
Toluene-d8	MS/MSD									102.	101.	81 - 117
4-Bromofluorobenzene	MS/MSD									105.	104.	74 - 121

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/14/99
Sample Matrix: Soil

Samples Affected: 99-01482-1

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Benzene	CCV18	13.6	16.0	µg/L	85.	80 - 120
Bromodichloromethane	CCV18	15.1	16.0	µg/L	94.	80 - 120
Chlorobenzene	CCV18	14.9	16.0	µg/L	93.	80 - 120
Chloroethane	CCV18	14.4	16.0	µg/L	90.	80 - 120
1,4-Dichlorobenzene	CCV18	15.2	16.0	µg/L	95.	80 - 120
1,1-Dichloroethane	CCV18	14.3	16.0	µg/L	89.	80 - 120
1,1-Dichloroethene	CCV18	15.7	16.0	µg/L	98.	80 - 120
Toluene	CCV18	15.2	16.0	µg/L	95.	80 - 120
Trichloroethene	CCV18	16.0	16.0	µg/L	100.	80 - 120
1,2-Dichloroethane-d4	CCV18				99.	76 - 114
Toluene-d8	CCV18				101.	88 - 110
4-Bromofluorobenzene	CCV18				103.	86 - 115

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234380

LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Preparation & Analysis Information)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9, 99-01482-TB

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Method 8260 compounds	EPA-5030	02/06/99	SNM	EPA-8260	02/06/99	SNM

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

BOE-C6-0234381

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9, 99-01482-TB

Constituents	Method Blank Readings	Units
Benzene	< 0.5	µg/L
Bromobenzene	< 0.5	µg/L
Bromochloromethane	< 0.5	µg/L
Bromodichloromethane	< 0.5	µg/L
Bromoform	< 0.5	µg/L
Bromomethane	< 0.5	µg/L
n-Butylbenzene	< 0.5	µg/L
sec-Butylbenzene	< 0.5	µg/L
tert-Butylbenzene	< 0.5	µg/L
Carbon tetrachloride	< 0.5	µg/L
Chlorobenzene	< 0.5	µg/L
Chloroethane	< 0.5	µg/L
2-Chloroethylvinyl ether	<20.	µg/L
Chloroform	< 0.5	µg/L
Chloromethane	< 0.5	µg/L
2-Chlorotoluene	< 0.5	µg/L
4-Chlorotoluene	< 0.5	µg/L
Dibromochloromethane	< 0.5	µg/L
1,2-Dibromo-3-Chloropropane	< 0.5	µg/L
1,2-Dibromoethane	< 0.5	µg/L
Dibromomethane	< 0.5	µg/L
1,2-Dichlorobenzene	< 0.5	µg/L
1,3-Dichlorobenzene	< 0.5	µg/L
1,4-Dichlorobenzene	< 0.5	µg/L
Dichlorodifluoromethane	< 0.5	µg/L
1,1-Dichloroethane	< 0.5	µg/L
1,2-Dichloroethane	< 0.5	µg/L
1,1-Dichloroethene	< 0.5	µg/L
cis-1,2-Dichloroethene	< 0.5	µg/L
trans-1,2-Dichloroethene	< 0.5	µg/L

BOE-C6-0234382

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9, 99-01482-TB

Constituents	Method Blank Readings	Units
1,2-Dichloropropane	< 0.5	µg/L
1,3-Dichloropropane	< 0.5	µg/L
2,2-Dichloropropane	< 0.5	µg/L
1,1-Dichloropropene	< 0.5	µg/L
cis-1,3-Dichloropropene	< 0.5	µg/L
trans-1,3-Dichloropropene	< 0.5	µg/L
Ethyl Benzene	< 0.5	µg/L
Hexachlorobutadiene	< 0.5	µg/L
Isopropylbenzene	< 0.5	µg/L
p-Isopropyltoluene	< 0.5	µg/L
Methylene Chloride	< 0.5	µg/L
Naphthalene	< 0.5	µg/L
n-Propylbenzene	< 0.5	µg/L
Styrene	< 0.5	µg/L
1,1,1,2-Tetrachloroethane	< 0.5	µg/L
1,1,2,2-Tetrachloroethane	< 0.5	µg/L
Tetrachloroethene	< 0.5	µg/L
Toluene	< 0.5	µg/L
1,2,3-Trichlorobenzene	< 0.5	µg/L
1,2,4-Trichlorobenzene	< 0.5	µg/L
1,1,1-Trichloroethane	< 0.5	µg/L
1,1,2-Trichloroethane	< 0.5	µg/L
Trichloroethene	< 0.5	µg/L
Trichlorofluoromethane	< 0.5	µg/L
1,2,3-Trichloropropane	< 0.5	µg/L
1,2,4-Trimethylbenzene	< 0.5	µg/L
1,3,5-Trimethylbenzene	< 0.5	µg/L
Vinyl Chloride	< 0.5	µg/L
Total Xylenes	< 1.	µg/L
1,2-Dichloroethane-d4	107.	%

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

BOE-C6-0234383

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9, 99-01482-TB

Constituents	Method Blank Readings	Units
Toluene-d8	103.	%
4-Bromofluorobenzene	98.	%

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. • Bakersfield, CA 9330(05) 327-4911 • FAX (805) 327-1918

BOE-C6-0234384

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB06\06FEB10.D Vial: 9
Acq On : 6 Feb 1999 4:19 pm Operator: M. CHAVEZ
Sample : CCV 9 Inst : MS-V4
Misc : 25 ML; 25 UG/L; VO-8-3091 Multiplr: 1.00
Integration Params: 82604.M

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Fri Feb 05 08:03:24 1999
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	pentafluorobenzene	1.000	1.000	0.0	88	-0.05
2		dichlorodifluoromethane	0.505	0.463	8.3	74	-0.02
3	P	chloromethane	0.491	0.579	-17.9	102	-0.01
4	C	vinyl chloride	0.555	0.596	-7.4	89	-0.03
5		bromomethane	0.478	0.249	47.9#	44#	-0.03
6	M	chloroethane	0.390	0.443	-13.6	95	-0.03
7		trichlorofluoromethane	0.701	0.803	-14.6	92	-0.03
8		1,1,2-trichloro-1,2,2-trifl	0.985	1.109	-12.6	91	-0.04
9	MC	1,1-dichloroethene	0.497	0.572	-15.1	95	-0.04
10		methylene chloride	0.560	0.594	-6.1	96	-0.04
11		MTBE	0.984	0.953	3.2	83	-0.04
12		trans-1,2-dichloroethene	0.670	0.735	-9.7	92	-0.04
13	MP	1,1-dichloroethane	1.383	1.515	-9.5	94	-0.04
		2,2-dichloropropane	0.879	0.986	-12.2	97	-0.05
		cis-1,2-dichloroethene	0.714	0.775	-8.5	93	-0.05
16	C	chloroform	1.181	1.293	-9.5	93	-0.06
17		bromochloromethane	0.321	0.361	-12.5	96	-0.05
18		1,1,1-trichloroethane	0.945	1.036	-9.6	91	-0.05
19		1,1-dichloropropene	0.949	1.043	-9.9	91	-0.07
20		carbon tetrachloride	0.836	0.912	-9.1	89	-0.06
21	S	1,2-dichloroethane-d4	0.375	0.375	0.0	86	-0.08
22		1,2-dichloroethane	0.482	0.509	-5.6	88	-0.06
23	M	benzene	2.148	2.230	-3.8	89	-0.07
24	I	1,4-difluorobenzene	1.000	1.000	0.0	84	-0.07
25	M	trichloroethene	0.353	0.374	-5.9	89	-0.08
26	C	1,2-dichloropropane	0.368	0.383	-4.1	88	-0.08
27	M	bromodichloromethane	0.439	0.463	-5.5	89	-0.09
28		dibromomethane	0.164	0.169	-3.0	86	-0.09
29		2-CEVE	0.074	0.060#	18.9	61	-0.09LR
30		cis-1,3-dichloropropene	0.415	0.425	-2.4	85	-0.09
31	S	toluene-d8	0.887	0.923	-4.1	87	-0.10
32	MC	toluene	0.559	0.606	-8.4	91	-0.10
33		trans-1,3-dichloropene	0.276	0.279	-1.1	84	-0.09
34		1,1,2-trichloroethane	0.163	0.172	-5.5	88	-0.09
35		1,3-dichloropropane	0.312	0.328	-5.1	89	-0.07
36		tetrachloroethene	0.362	0.391	-8.0	89	-0.07
37		dibromochloromethane	0.285	0.297	-4.2	85	-0.07
[illegible]		1,2-dibromoethane	0.230	0.243	-5.7	87	-0.06
[illegible]	I	chlorobenzene-d5	1.000	1.000	0.0	91	-0.06
40	MP	chlorobenzene	2.831	2.990	-5.6	96	-0.06
41		1,1,1,2-tetrachloroethane	1.316	1.268	3.6	88	-0.05
42	C	ethylbenzene	3.966	4.382	-10.5	100	-0.05
43		m&p-xylene	1.594	1.793	-12.5	104	-0.05

44		o-xylene	2.949	3.277	-11.1	103	-0.05
45		styrene	2.444	2.759	-12.9	103	-0.04
46	P	isopropylbenzene	4.107	4.689	-14.2	103	-0.04
47	P	bromoform	0.705	0.609	13.6	76	-0.04
48	P	1,1,2,2-tetrachloroethane	0.899	0.952	-5.9	94	-0.04
49	S	4-bromofluorobenzene	1.806	1.869	-3.5	92	-0.04
50	P	1,2,3-trichloropropane	0.226	0.227	-0.4	87	-0.04
51		n-propylbenzene	4.390	5.069	-15.5	103	-0.04
52		bromobenzene	1.110	1.252	-12.8	101	-0.04
53		1,3,5-trimethylbenzene	3.017	3.194	-5.9	93	-0.04
54		2-chlorotoluene	2.929	3.310	-13.0	105	-0.04
55		4-chlorotoluene	3.030	3.431	-13.2	100	-0.04
56		tert-butylbenzene	3.212	3.646	-13.5	102	-0.04
57		1,2,4-trimethylbenzene	3.008	3.135	-4.2	92	-0.04
58		sec-butylbenzene	4.059	4.766	-17.4	104	-0.03
59		4-isopropyltoluene	3.420	3.834	-12.1	97	-0.04
60		1,3-dichlorobenzene	1.794	2.034	-13.4	101	-0.03
61	M	1,4-dichlorobenzene	1.764	1.899	-7.7	96	-0.03
62		n-butylbenzene	2.796	3.229	-15.5	98	-0.03
63		1,2-dichlorobenzene	1.479	1.652	-11.7	98	-0.03
64		1,2-dibromo-3-chloropropane	0.115	0.120	-4.3	87	-0.01LR
65		1,2,4-trichlorobenzene	1.131	1.286	-13.7	98	-0.01LR
66		hexachlorobutadiene	0.807	0.907	-12.4	96	-0.01
67		naphthalene	1.088	1.139	-4.7	91	-0.02
68		1,2,3-trichlorobenzene	0.899	0.985	-9.6	94	-0.01

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

04FEB33.D 82604.M Sat Feb 06 16:54:14 1999

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB06\06FEB27.D Vial: 16
Acq On : 7 Feb 1999 2:52 am Operator: M. CHAVEZ
Sample : CCV 10 Inst : MS-V4
Misc : 25 ML 25 UG/L; VO-8-3092 Multiplr: 1.00
MS Integration Params: 82604.M

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Fri Feb 05 08:03:24 1999
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	pentafluorobenzene	1.000	1.000	0.0	90	-0.04
2		dichlorodifluoromethane	0.505	0.453	10.3	74	-0.03
3	P	chloromethane	0.491	0.494	-0.6	89	-0.02
4	C	vinyl chloride	0.555	0.562	-1.3	85	-0.03
5		bromomethane	0.478	0.220	54.0#	40#	-0.04
6	M	chloroethane	0.390	0.419	-7.4	92	-0.03
7		trichlorofluoromethane	0.701	0.785	-12.0	92	-0.04
8		1,1,2-trichloro-1,2,2-trifl	0.985	1.052	-6.8	88	-0.04
9	MC	1,1-dichloroethene	0.497	0.530	-6.6	90	-0.04
10		methylene chloride	0.560	0.576	-2.9	95	-0.04
11		MTBE	0.984	0.969	1.5	87	-0.05
12		trans-1,2-dichloroethene	0.670	0.687	-2.5	88	-0.05
13	MP	1,1-dichloroethane	1.383	1.453	-5.1	93	-0.05
		2,2-dichloropropane	0.879	0.811	7.7	82	-0.05
		cis-1,2-dichloroethene	0.714	0.731	-2.4	90	-0.06
16	C	chloroform	1.181	1.251	-5.9	92	-0.07
17		bromochloromethane	0.321	0.349	-8.7	95	-0.06
18		1,1,1-trichloroethane	0.945	1.007	-6.6	91	-0.07
19		1,1-dichloropropene	0.949	0.995	-4.8	89	-0.07
20		carbon tetrachloride	0.836	0.879	-5.1	88	-0.06
21	S	1,2-dichloroethane-d4	0.375	0.388	-3.5	92	-0.08
22		1,2-dichloroethane	0.482	0.516	-7.1	91	-0.07
23	M	benzene	2.148	2.125	1.1	87	-0.08
24	I	1,4-difluorobenzene	1.000	1.000	0.0	83	-0.08
25	M	trichloroethene	0.353	0.393	-11.3	93	-0.08
26	C	1,2-dichloropropane	0.368	0.380	-3.3	87	-0.09
27	M	bromodichloromethane	0.439	0.468	-6.6	89	-0.10
28		dibromomethane	0.164	0.170	-3.7	86	-0.09
29		2-CEVE	0.074	0.063#	14.9	64	-0.09
30		cis-1,3-dichloropropene	0.415	0.420	-1.2	84	-0.10
31	S	toluene-d8	0.887	0.872	1.7	82	-0.11
32	MC	toluene	0.559	0.588	-5.2	88	-0.11
33		trans-1,3-dichloropene	0.276	0.280	-1.4	84	-0.10
34		1,1,2-trichloroethane	0.163	0.173	-6.1	88	-0.09
35		1,3-dichloropropane	0.312	0.330	-5.8	89	-0.08
36		tetrachloroethene	0.362	0.368	-1.7	83	-0.08
37		dibromochloromethane	0.285	0.300	-5.3	86	-0.07
[illegible]		1,2-dibromoethane	0.230	0.239	-3.9	85	-0.07
[illegible]	I	chlorobenzene-d5	1.000	1.000	0.0	91	-0.06

(#) = Out of Range

BOE-C6-0234387

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB06\06FEB27.D Vial: 16
Acq On : 7 Feb 1999 2:52 am Operator: M. CHAVEZ
Sample : CCV 10 Inst : MS-V4
Misc : 25 ML 25 UG/L; VO-8-3092 Multiplr: 1.00
MS Integration Params: 82604.M

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Fri Feb 05 08:03:24 1999
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	MP	chlorobenzene	2.831	2.914	-2.9	93	-0.06
41		1,1,1,2-tetrachloroethane	1.316	1.269	3.6	88	-0.05
42	C	ethylbenzene	3.966	4.315	-8.8	98	-0.05
43		m&p-xylene	1.594	1.778	-11.5	103	-0.05
44		o-xylene	2.949	3.292	-11.6	103	-0.04
45		styrene	2.444	2.648	-8.3	99	-0.04
46	P	isopropylbenzene	4.107	4.470	-8.8	98	-0.04
47	P	bromoform	0.705	0.606	14.0	75	-0.04
48	P	1,1,2,2-tetrachloroethane	0.899	0.856	4.8	84	-0.04
49	S	4-bromofluorobenzene	1.806	1.867	-3.4	92	-0.04
50	P	1,2,3-trichloropropane	0.226	0.226	0.0	86	-0.04
51		n-propylbenzene	4.390	4.883	-11.2	99	-0.04
52		bromobenzene	1.110	1.203	-8.4	97	-0.04
53		1,3,5-trimethylbenzene	3.017	3.202	-6.1	93	-0.04
54		2-chlorotoluene	2.929	3.064	-4.6	97	-0.03
55		4-chlorotoluene	3.030	3.547	-17.1	103	-0.03
56		tert-butylbenzene	3.212	3.536	-10.1	99	-0.03
57		1,2,4-trimethylbenzene	3.008	3.146	-4.6	92	-0.03
58		sec-butylbenzene	4.059	4.525	-11.5	98	-0.03
59		4-isopropyltoluene	3.420	3.717	-8.7	94	-0.03
60		1,3-dichlorobenzene	1.794	1.976	-10.1	97	-0.02
61	M	1,4-dichlorobenzene	1.764	1.853	-5.0	93	-0.02
62		n-butylbenzene	2.796	3.078	-10.1	93	-0.02
63		1,2-dichlorobenzene	1.479	1.609	-8.8	95	-0.02
64		1,2-dibromo-3-chloropropane	0.115	0.123	-7.0	89	0.00
65		1,2,4-trichlorobenzene	1.131	1.182	-4.5	89	-0.01
66		hexachlorobutadiene	0.807	0.820	-1.6	86	0.00
67		naphthalene	1.088	1.143	-5.1	91	-0.01
68		1,2,3-trichlorobenzene	0.899	0.929	-3.3	88	0.00

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

BOE-C6-0234388

Response Factor Report MS-V4

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Fri Feb 05 08:03:24 1999
esponse via : Initial Calibration V0-8-3052

Retention times updated 2/5/99 SM

Calibration Files
1 =02FEB06.D 2 =02FEB07.D 3 =04FEB33.D
4 =02FEB09.D 5 =02FEB10.D

		Compound	1	2	3	4	5	Avg	%RSD	
1)	I	pentafluorobenzene	----------ISTD----------							
2)		dichlorodifluorometha	0.459	0.537	0.552	0.504	0.471	0.505	7.97	
3)	P	chloromethane	0.526	0.491	0.502	0.483	0.450	0.491	5.72	
4)	C	vinyl chloride	0.547	0.577	0.593	0.552	0.507	0.555	5.89	
5)		bromomethane	0.442	0.495	0.497	0.488	0.469	0.478	4.79	
6)	M	chloroethane	0.384	0.408	0.411	0.388	0.361	0.390	5.22	
7)		trichlorofluoromethan	0.684	0.756	0.770	0.683	0.610	0.701	9.19	
8)		1,1,2-trichloro-1,2,2	1.014	1.056	1.078	0.968	0.807	0.985	10.94	
9)	MC	1,1-dichloroethene	0.495	0.521	0.531	0.494	0.445	0.497	6.73	
10)		methylene chloride	0.684	0.547	0.545	0.523	0.500	0.560	12.82	
11)		MTBE	0.956	1.019	1.011	0.979	0.957	0.984	3.00	
12)		trans-1,2-dichloroeth	0.663	0.691	0.702	0.669	0.626	0.670	4.42	
13)	MP	1,1-dichloroethane	1.432	1.439	1.417	1.360	1.264	1.383	5.29	
14)		2,2-dichloropropane	1.012	0.903	0.894	0.823	0.762	0.879	10.68	
15)		cis-1,2-dichloroethen	0.726	0.724	0.731	0.711	0.678	0.714	3.00	
16)	C	chloroform	1.164	1.215	1.224	1.178	1.122	1.181	3.48	
17)		bromochloromethane	0.304	0.334	0.330	0.325	0.313	0.321	3.97	
		1,1,1-trichloroethane	0.954	0.994	1.004	0.929	0.847	0.945	6.67	
		1,1-dichloropropene	0.953	0.979	1.011	0.938	0.865	0.949	5.74	
20)		carbon tetrachloride	0.791	0.880	0.904	0.844	0.760	0.836	7.21	
21)	S	1,2-dichloroethane-d4	0.389	0.396	0.383	0.356	0.353	0.375	5.20	
22)		1,2-dichloroethane	0.464	0.502	0.509	0.478	0.457	0.482	4.72	
23)	M	benzene	2.238	2.134	2.198	2.132	2.040	2.148	3.51	
24)	I	1,4-difluorobenzene	----------ISTD----------							
25)	M	trichloroethene	0.366	0.365	0.351	0.352	0.331	0.353	4.07	
26)	C	1,2-dichloropropane	0.386	0.384	0.363	0.361	0.346	0.368	4.58	
27)	M	bromodichloromethane	0.438	0.457	0.438	0.440	0.420	0.439	3.06	
28)		dibromomethane	0.161	0.172	0.164	0.165	0.157	0.164	3.18	
29)		2-CEVE	0.042	0.064	0.082	0.090	0.093	0.074	28.52	LR
30)		cis-1,3-dichloroprope	0.400	0.436	0.417	0.418	0.404	0.415	3.42	
31)	S	toluene-d8	0.875	0.883	0.888	0.886	0.905	0.887	1.26	
32)	MC	toluene	0.557	0.574	0.558	0.567	0.541	0.559	2.19	
33)		trans-1,3-dichloropen	0.264	0.288	0.279	0.281	0.270	0.276	3.34	
34)		1,1,2-trichloroethane	0.167	0.170	0.163	0.161	0.154	0.163	3.86	
35)		1,3-dichloropropane	0.316	0.327	0.309	0.309	0.299	0.312	3.27	
36)		tetrachloroethene	0.359	0.380	0.367	0.366	0.335	0.362	4.64	
37)		dibromochloromethane	0.261	0.302	0.291	0.292	0.279	0.285	5.55	
38)		1,2-dibromoethane	0.218	0.242	0.234	0.233	0.221	0.230	4.33	
39)	I	chlorobenzene-d5	----------ISTD----------							
40)	MP	chlorobenzene	2.773	2.915	2.829	2.872	2.769	2.831	2.23	
4		1,1,1,2-tetrachloroet	1.281	1.348	1.311	1.345	1.297	1.316	2.24	
4	C	ethylbenzene	4.002	4.114	3.985	3.991	3.739	3.966	3.48	
43)		m&p-xylene	1.654	1.614	1.562	1.603	1.536	1.594	2.88	
44)		o-xylene	3.214	3.043	2.894	2.869	2.726	2.949	6.30	
45)		styrene	2.372	2.482	2.433	2.495	2.438	2.444	1.97	
46)	P	isopropylbenzene	4.219	4.243	4.148	4.099	3.825	4.107	4.08	
47)	P	bromoform	0.592	0.726	0.732	0.745	0.732	0.705	9.05	

48)	P	1,1,2,2-tetrachloroet	0.889	0.955	0.923	0.895	0.835	0.899	4.92	
49)	S	4-bromofluorobenzene	1.737	1.776	1.843	1.820	1.856	1.806	2.73	
50)	P	1,2,3-trichloropropan	0.198	0.235	0.237	0.234	0.224	0.226	7.12	
51)		n-propylbenzene	4.364	4.608	4.489	4.418	4.070	4.390	4.57	
52)		bromobenzene	1.040	1.137	1.130	1.138	1.105	1.110	3.72	
53)		1,3,5-trimethylbenzen	3.057	3.243	3.118	2.999	2.670	3.017	7.10	
54)		2-chlorotoluene	3.292	2.948	2.873	2.870	2.663	2.929	7.81	
55)		4-chlorotoluene	2.922	3.289	3.139	3.003	2.799	3.030	6.28	
56)		tert-butylbenzene	3.343	3.338	3.245	3.194	2.940	3.212	5.12	
57)		1,2,4-trimethylbenzen	2.999	3.185	3.096	3.017	2.742	3.008	5.51	
58)		sec-butylbenzene	4.056	4.241	4.186	4.084	3.731	4.059	4.88	
59)		4-isopropyltoluene	3.270	3.623	3.590	3.488	3.132	3.420	6.20	
60)		1,3-dichlorobenzene	1.675	1.876	1.841	1.843	1.736	1.794	4.72	
61)	M	1,4-dichlorobenzene	1.756	1.819	1.804	1.774	1.666	1.764	3.40	
62)		n-butylbenzene	2.426	2.933	3.009	2.960	2.652	2.796	8.91	
63)		1,2-dichlorobenzene	1.346	1.569	1.532	1.519	1.428	1.479	6.13	
64)		1,2-dibromo-3-chlorop	0.078	0.116	0.125	0.128	0.126	0.115	18.34	LR
65)		1,2,4-trichlorobenzen	0.840	1.117	1.200	1.247	1.248	1.131	15.10	LR
66)		hexachlorobutadiene	0.727	0.814	0.864	0.847	0.783	0.807	6.75	
67)		naphthalene	0.845	1.082	1.143	1.189	1.181	1.088	13.09	
68)		1,2,3-trichlorobenzen	0.674	0.911	0.953	0.988	0.969	0.899	14.34	

(#) = Out of Range

82604.M Mon Feb 08 10:51:35 1999

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB02\02FEB14.D Vial: 13
Acq On : 3 Feb 1999 12:45 am Operator: S MAURER
Sample : 524.2/8260 ICV B Inst : MS-V4
Misc : 25 ML 25UG/L Multiplr: 1.00
Integration Params: 82604.M

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Fri Feb 05 08:03:24 1999 V0-8-3060
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	
1	I	pentafluorobenzene	1.000	1.000	0.0	99	0.22	
2		dichlorodifluoromethane	0.505	0.691	-36.8#	124	0.13	
3	P	chloromethane	0.491	0.535	-9.0	106	0.17	
4	C	vinyl chloride	0.555	0.658	-18.6	110	0.14	
5		bromomethane	0.478	0.522	-9.2	104	0.15	
6	M	chloroethane	0.390	0.425	-9.0	103	0.15	
7		trichlorofluoromethane	0.701	0.882	-25.8	114	0.15	
8		1,1,2-trichloro-1,2,2-trifl	0.985	1.167	-18.5	107	0.17	
9	MC	1,1-dichloroethene	0.497	0.603	-21.3	112	0.16	
10		methylene chloride	0.560	0.584	-4.3	106	0.19	
11		MTBE	0.984	0.966	1.8	95	0.18	
12		trans-1,2-dichloroethene	0.670	0.766	-14.3	108	0.19	
13	MP	1,1-dichloroethane	1.383	1.504	-8.7	105	0.20	
		2,2-dichloropropane	0.879	0.975	-10.9	108	0.22	
		cis-1,2-dichloroethene	0.714	0.772	-8.1	105	0.22	
16	C	chloroform	1.181	1.275	-8.0	103	0.23	
17		bromochloromethane	0.321	0.364	-13.4	109	0.24	
18		1,1,1-trichloroethane	0.945	1.063	-12.5	105	0.25	
19		1,1-dichloropropene	0.949	1.107	-16.6	109	0.25	
20		carbon tetrachloride	0.836	0.980	-17.2	107	0.27	
21	S	1,2-dichloroethane-d4	0.375	0.382	-1.9	99	0.25	
22		1,2-dichloroethane	0.482	0.530	-10.0	103	0.27	
23	M	benzene	2.148	2.345	-9.2	106	0.27	
24	I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.28	
25	M	trichloroethene	0.353	0.365	-3.4	104	0.32	
26	C	1,2-dichloropropane	0.368	0.370	-0.5	102	0.33	
27	M	bromodichloromethane	0.439	0.445	-1.4	101	0.33	
28		dibromomethane	0.164	0.161	1.8	98	0.35	
29		2-CEVE	0.074	0.077	-4.1	93	0.37	LR
30		cis-1,3-dichloropropene	0.415	0.435	-4.8	104	0.39	
31	S	toluene-d8	0.887	0.851	4.1	96	0.43	
32	MC	toluene	0.559	0.567	-1.4	101	0.39	
33		trans-1,3-dichloropene	0.276	0.292	-5.8	105	0.34	
34		1,1,2-trichloroethane	0.163	0.166	-1.8	102	0.29	
35		1,3-dichloropropane	0.312	0.323	-3.5	104	0.27	
36		tetrachloroethene	0.362	0.395	-9.1	108	0.25	
37		dibromochloromethane	0.285	0.299	-4.9	103	0.24	
		1,2-dibromoethane	0.230	0.243	-5.7	104	0.24	
39	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.21	
40	MP	chlorobenzene	2.831	2.962	-4.6	105	0.21	
41		1,1,1,2-tetrachloroethane	1.316	1.371	-4.2	105	0.21	
42	C	ethylbenzene	3.966	4.097	-3.3	103	0.21	
43		m&p-xylene	1.594	1.618	-1.5	104	0.20	

44		o-xylene	2.949	2.972	-0.8	103	0.19	
45		styrene	2.444	2.471	-1.1	102	0.19	
46	P	isopropylbenzene	4.107	4.282	-4.3	104	0.19	
47	P	bromoform	0.705	0.726	-3.0	100	0.19	
48	P	1,1,2,2-tetrachloroethane	0.899	0.951	-5.8	104	0.18	
49	S	4-bromofluorobenzene	1.806	1.776	1.7	97	0.18	
50	P	1,2,3-trichloropropane	0.226	0.238	-5.3	101	0.18	
51		n-propylbenzene	4.390	4.642	-5.7	104	0.18	
52		bromobenzene	1.110	1.144	-3.1	102	0.18	
53		1,3,5-trimethylbenzene	3.017	3.174	-5.2	102	0.17	
54		2-chlorotoluene	2.929	2.975	-1.6	104	0.18	
55		4-chlorotoluene	3.030	3.164	-4.4	101	0.18	
56		tert-butylbenzene	3.212	3.374	-5.0	105	0.17	
57		1,2,4-trimethylbenzene	3.008	3.153	-4.8	102	0.17	
58		sec-butylbenzene	4.059	4.340	-6.9	104	0.17	
59		4-isopropyltoluene	3.420	3.674	-7.4	103	0.16	
60		1,3-dichlorobenzene	1.794	1.905	-6.2	104	0.17	
61	M	1,4-dichlorobenzene	1.764	1.849	-4.8	103	0.18	
62		n-butylbenzene	2.796	3.089	-10.5	103	0.17	
63		1,2-dichlorobenzene	1.479	1.574	-6.4	103	0.17	
64		1,2-dibromo-3-chloropropane	0.115	0.127	-10.4	102	0.18	LR
65		1,2,4-trichlorobenzene	1.131	1.234	-9.1	103	0.20	LR
66		hexachlorobutadiene	0.807	0.912	-13.0	106	0.20	
67		naphthalene	1.088	1.177	-8.2	104	0.21	
68		1,2,3-trichlorobenzene	0.899	0.978	-8.8	103	0.23	

(#) = Out of Range SPCC's out = 0 CCC's out = 1

04FEB33.D 82604.M Mon Feb 08 10:54:14 1999

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9, 99-01482-TB

Constituents	QC Sample ID	Sample Result	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Benzene	1482-8	< 0.5	26.29	25.95	25.00	25.00	µg/L	1.	20	105.	104.	80 - 120
Bromodichloromethane	1482-8	< 0.5	24.46	23.72	25.00	25.00	µg/L	3.	20	98.	95.	80 - 120
Chlorobenzene	1482-8	< 0.5	25.78	25.35	25.00	25.00	µg/L	2.	20	103.	101.	80 - 120
Chloroethane	1482-8	< 0.5	29.55	28.71	25.00	25.00	µg/L	3.	20	118.	115.	80 - 120
1,4-Dichlorobenzene	1482-8	< 0.5	25.99	25.30	25.00	25.00	µg/L	3.	20	101.	101.	80 - 120
1,1-Dichloroethane	1482-8	< 0.5	28.01	27.44	25.00	25.00	µg/L	2.	20	112.	110.	80 - 120
1,1-Dichloroethene	1482-8	< 0.5	30.03	29.62	25.00	25.00	µg/L	1.	20	120.	118.	80 - 120
Toluene	1482-8	< 0.5	25.51	25.72	25.00	25.00	µg/L	1.	20	102.	103.	80 - 120
Trichloroethene	1482-8	< 0.5	25.77	25.70	25.00	25.00	µg/L	0.	20	103.	103.	80 - 120
1,2-Dichloroethane-d4	MS/MSD									101.	103.	76 - 114
Toluene-d8	MS/MSD									96.	98.	88 - 110
4-Bromofluorobenzene	MS/MSD									100.	101.	86 - 115

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
Method 8260

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 03/15/99
Sample Matrix: WATER

Samples Affected: 99-01482-8, 99-01482-9, 99-01482-TB

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Benzene	LCSW	16.6	16.0	µg/L	104.	80 - 120
Bromodichloromethane	LCSW	16.9	16.0	µg/L	105.	80 - 120
Chlorobenzene	LCSW	16.9	16.0	µg/L	106.	80 - 120
Chloroethane	LCSW	18.2	16.0	µg/L	114.	80 - 120
1,4-Dichlorobenzene	LCSW	17.2	16.0	µg/L	108.	80 - 120
1,1-Dichloroethane	LCSW	17.5	16.0	µg/L	110.	80 - 120
1,1-Dichloroethene	LCSW	18.4	16.0	µg/L	115.	80 - 120
Toluene	LCSW	17.3	16.0	µg/L	108.	80 - 120
Trichloroethene	LCSW	17.0	16.0	µg/L	106.	80 - 120
1,2-Dichloroethane-d4	LCSW				100.	76 - 114
Toluene-d8	LCSW				104.	88 - 110
4-Bromofluorobenzene	LCSW				104.	86 - 115

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234394

BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Preparation & Analysis Information)
STANDARD TTLC CONSTITUENTS

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 05/10/99
Sample Matrix: Soil

Samples Affected: 99-01482-2, 99-01482-3

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Antimony	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Arsenic	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Barium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Beryllium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Cadmium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Chromium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Cobalt	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Copper	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Lead	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Mercury	SW-7471	02/10/99	DIW	SW-7471	02/11/99	DIW
Molybdenum	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Nickel	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Selenium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Silver	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Thallium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Vanadium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Zinc	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Aluminum	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC
Titanium	SW-3050	02/08/99	VBA	SW-6010	02/11/99	JCC

Quality Control Officer

Anthony Bonanno

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BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Instrumental & Blank Parameters)
STANDARD TTLC CONSTITUENTS

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 05/10/99
Sample Matrix: Soil

Samples Affected: 99-01482-2, 99-01482-3

Constituents	ICV % Found	CCV % Found Before	CCV % Found After	% Found Control Limits	CCB Readings Before	CCB Readings After	Units	Method Blank Readings	Units
Antimony	102.	102.	96.	90 - 110	< 0.1	< 0.1	mg/L	< 0.5	mg/kg
Arsenic	105.	105.	98.	90 - 110	< 0.01	< 0.01	mg/L	< 2.5	mg/kg
Barium	102.	103.	95.	90 - 110	< 0.01	< 0.01	mg/L	< 5.0	mg/kg
Beryllium	104.	106.	97.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Cadmium	104.	105.	98.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Chromium	101.	104.	95.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Cobalt	101.	103.	94.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Copper	98.	99.	90.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Lead	100.	99.	94.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Mercury	103.	103.	104.	80 - 120	< 0.0002	< 0.0002	mg/L	< 0.2	mg/kg
Molybdenum	101.	102.	94.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Nickel	103.	105.	97.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Selenium	101.	101.	94.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Silver	98.	98.	92.	90 - 110	< 0.02	< 0.02	mg/L	< 1.0	mg/kg
Thallium	103.	103.	98.	90 - 110	< 0.1	< 0.1	mg/L	< 5.0	mg/kg
Vanadium	103.	104.	96.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Zinc	101.	103.	95.	90 - 110	< 0.05	< 0.05	mg/L	< 1.0	mg/kg
Aluminum	102.	102.	101.	90 - 110	< 0.1	< 0.1	mg/L	< 2.5	mg/kg
Titanium	101.	102.	94.	90 - 110	< 0.01	< 0.01	mg/L	< 2.5	mg/kg

ICV = Initial Calibration Verification; CCV = Continuing Calibration Verification
CCB = Continuing Calibration Blank

Quality Control Officer

Anthony Bonanno

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BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Precision & Accuracy)
STANDARD TTLC CONSTITUENTS

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 05/10/99
Sample Matrix: Soil

Samples Affected: 99-01482-2, 99-01482-3

Constituents	QC Sample ID	Sample Result	Sample Duplicate	MS Result	MSD Result	MS Spike Level	MSD Spike Level	Units	Sample R.P.D.	Spike R.P.D.	Precision Control Limits	MS % Rec	MSD % Rec	Accuracy Control Limits
Antimony	HP-1482-3-X2	< 10.	< 10.	43.73	41.16	98.04	98.04	mg/kg	<PQL	6.	20	44.	41.	75 - 125
Arsenic	HP-1482-3-X2	3.843	3.676	8.255	8.529	4.902	4.902	mg/kg	<PQL	3.	20	90.	96.	75 - 125
Barium	HP-1482-3-X2	219.5	209.4	310.1	329.2	98.04	98.04	mg/kg	5.	6.	20	92.	112.	75 - 125
Beryllium	HP-1482-3-X2	0.9314	0.9314	10.84	10.9	9.804	9.804	mg/kg	<PQL	1.	20	101.	102.	75 - 125
Cadmium	HP-1482-3-X2	< 1.	< 1.	9.333	9.412	9.804	9.804	mg/kg	<PQL	1.	20	102.	103.	75 - 125
Chromium	HP-1482-3-X2	22.47	22.21	125.5	126.2	98.04	98.04	mg/kg	1.	1.	20	105.	106.	75 - 125
Cobalt	HP-1482-3-X2	12.39	12.42	113.3	113.2	98.04	98.04	mg/kg	<PQL	0.	20	103.	103.	75 - 125
Copper	HP-1482-3-X2	30.88	36.34	148.5	148.8	98.04	98.04	mg/kg	16.	0.	20	120.	120.	75 - 125
Lead	HP-1482-3-X2	5.676	5.706	99.12	99.12	98.04	98.04	mg/kg	<PQL	0.	20	95.	95.	75 - 125
Mercury	01482-3	< 0.2	< 0.2	0.8562	0.8562	0.7812	0.7812	mg/kg	<PQL	0.	20	101.	101.	75 - 125
Molybdenum	HP-1482-3-X2	< 5.	< 5.	95.6	96.32	98.04	98.04	mg/kg	<PQL	1.	20	97.	98.	75 - 125
Nickel	HP-1482-3-X2	17.34	17.22	118.	118.5	98.04	98.04	mg/kg	<PQL	0.	20	103.	103.	75 - 125
Selenium	HP-1482-3-X2	1.333	1.	5.569	5.824	4.902	4.902	mg/kg	<PQL	4.	20	86.	92.	75 - 125
Silver	HP-1482-3-X2	< 2.	< 2.	8.824	8.833	9.804	9.804	mg/kg	<PQL	0.	20	91.	91.	75 - 125
Thallium	HP-1482-3-X2	< 10.	< 10.	101.4	101.5	98.04	98.04	mg/kg	<PQL	0.	20	102.	102.	75 - 125
Vanadium	HP-1482-3-X2	59.42	58.69	167.4	168.7	98.04	98.04	mg/kg	1.	1.	20	110.	111.	75 - 125
Zinc	HP-1482-3-X2	76.22	78.34	180.7	180.5	98.04	98.04	mg/kg	3.	0.	20	107.	106.	75 - 125
Aluminum	HP-1482-3-X2	21520.	21300.	24090.	24580.	490.2	490.2	mg/kg	1.	2.	20	H MEAN	H MEAN	75 - 125
Titanium	HP-1482-3-X2	1622.	1603.	2210.	2263.	490.2	490.2	mg/kg	1.	2.	20	120.	131.	75 - 125

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BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Precision & Accuracy)
STANDARD TTLC CONSTITUENTS

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 05/10/99
Sample Matrix: Soil

Samples Affected: 99-01482-2, 99-01482-3

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

H Mean - sample concentration is four times greater than the spike level.
The matrix spike recoveries for antimony and titanium are outside QC limits.
The sample reports are flagged accordingly.

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234398

BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT - LEVEL III
(Laboratory Control Sample)
STANDARD TTLC CONSTITUENTS

ARCADIS GERAGHTY & MILLER, INC.
1400 N. HARBOR BLVD., SUITE 700
FULLERTON, CA 92835-4127
DERRICK WILLIS

Date of Report: 05/10/99
Sample Matrix: Soil

Samples Affected: 99-01482-2, 99-01482-3

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Antimony	HP-LCSW#1-	2.032	2.	mg/L	102.	80 - 120
Arsenic	HP-LCSW#1-	0.0956	0.1000	mg/L	96.	80 - 120
Barium	HP-LCSW#1-	2.066	2.00	mg/L	103.	80 - 120
Beryllium	HP-LCSW#1-	0.2062	0.2000	mg/L	103.	80 - 120
Cadmium	HP-LCSW#1-	0.2137	0.2000	mg/L	107.	80 - 120
Chromium	HP-LCSW#1-	2.125	2.	mg/L	106.	80 - 120
Cobalt	HP-LCSW#1-	2.121	2.	mg/L	106.	80 - 120
Copper	HP-LCSW#1-	2.238	2.	mg/L	112.	80 - 120
Lead	HP-LCSW#1-	1.951	2.	mg/L	98.	80 - 120
Mercury	LCSW1-02-1	0.005198	0.005	mg/L	104.	85 - 115
Molybdenum	HP-LCSW#1-	2.094	2.	mg/L	105.	80 - 120
Nickel	HP-LCSW#1-	2.126	2.	mg/L	106.	80 - 120
Selenium	HP-LCSW#1-	0.098	0.1000	mg/L	98.	80 - 120
Silver	HP-LCSW#1-	0.1796	0.2000	mg/L	90.	80 - 120
Thallium	HP-LCSW#1-	2.056	2.	mg/L	103.	80 - 120
Vanadium	HP-LCSW#1-	2.172	2.	mg/L	109.	80 - 120
Zinc	HP-LCSW#1-	2.123	2.	mg/L	106.	80 - 120
Aluminum	HP-LCSW#1-	10.52	10.	mg/L	105.	80 - 120
Titanium	HP-LCSW#1-	9.942	10.	mg/L	99.	80 - 120

Quality Control Officer

Anthony Bonanno

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