ARCADIS Geraghty Miller
BC Laboratory Number: 99-01616
Client Reference: ILM GROUNDWATER

CASE NARRATIVE
Date: 05/11/99
Page 1

SAMPLE RECEIPT:

BC Laboratories, Inc (BCL) received a total of 16 soil samples and water aqueous, on 02-08-99 at 1615. The samples were collected by J. Hawes on 03-12-99 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 3.9 °C and was recorded on the cooler receipt form. The following discrepancies were found on the chain of custody (COC) or the samples and were recorded on the COC and/or cooler receipt form.

1. Trip blank (TB-4) was not received.

ORGANICS:

In accordance with the COC, EPA method 8260B for VOC's, and EPA 8270 for SVOC's was performed on selected 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 samples 99-01616-1 and 2 did not meet established criteria for 2,2-Dichloropropane by EPA 8260. Because this non-compliant compound was not detected in the associated samples, re-analysis was not required and not performed

ARCADIS Geraghty Miller
BC Laboratory Number: 99-01616
Client Reference: ILM GROUNDWATER

CASE NARRATIVE
Date: 05/11/99
Page 2

INORGANICS:

In accordance with the Chain of Custody (COC), EPA method 6010/7000 for 17 metals and hexavalent chromium was performed on selected 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:

17 METALS

The matrix spike (MS) and the matrix spike duplicate (MSD) associated with samples 99-01616-4, 5, 11, 12, and 18 are low outside the laboratory QC limits for Antimony. Additionally for samples 99-01616-11, 12, and 18 the Matrix spike for Barium and Titanium and the Matrix Spike Duplicate for Copper Zinc and Titanium is high. The reports have been flagged accordingly.

Data Package reviewed by: _____ 5-11-99
Date

CHAIN OF CUSTODY

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

Re To: IESI / AGM

Name: IESI

Address: 3990 WESTERLY PL SUITE 210

City: NEWPORT BEACH

State: CA Zip: 92660

Attn: JOANN ORNELAS

Phone: (949) 795-5035

Project: ILM GROUNDWATER

Project #: 280.02

Sampler Name: BRYAN J. HAWES

Submission #: 99-1614

Analysis Requested

DISTRIBUTION: SB MA RP CS JL TC

Lab #	Sample Description	Date & Time Sampled	8260 (ILM LIST)	8015 M TPH-GF	17 METALS + AI + TI	HEKA. - 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
	TB-4 Note: NOT Blank Recieved. CF 2/8/99	1-28-99	X					M		1 VOA
-1	FB-4	2-8-99 @ 1130	X	X	X	X				MISC
-2	RB-4	2-8-99 @ 1040	X	X	X	X				MISC
-3	BL-7-12	@ 0830					X	S		1 BRS RING
-4	-14.5	@ 0833					X			
-5	-24.5	@ 0840					X			
-6	-34.5	@ 0850					X			
-7	-44.5	@ 0855					X			
-8	-54.5	@ 0924					X			
-9	-64.5	@ 0935					X			
-10	BL-3 -10.5	2-8-99 @ 1440					X			
-11	-13	@ 1445		X			X			
-12	-23	@ 1500		X			X			
-13	-33	@ 1510					X			
-14	-43	@ 1520					X			

NUMBERING CHECKED BY

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 - JOANN E-MAIL @: JP052263@AOL.COM
AGM - DERRICK E-MAIL @: (ON FILE)

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
1655 2-8-99		2-8-99	16:55
		2-8-99	21:25

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

BOE-C6-0234402

CHAIN OF CUSTODY

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

Report To: IESI/AGM

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

Project: ILM GROUNDWATER
Project #: 280.02
Sampler Name: BRYAN J. HAWES
Submission #: 99-1616

Lab #	Sample Description	Date & Time Sampled	8260 (ILM LIST)	8015M TPH-ff	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
-15	BL-3-53	2-8-99 @ 1530												X			S		1 Bgs. Ring
-16	-63	@ 1540												X					
-17	-8.7	@ 1430												X					
-18	-25.7	@ 1505			X														

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 – JOANN E-MAIL @: JP052263@AOL.COM
AGM – DERRICK E-MAIL @: (ON FILE)

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
1655 2-8-99	2-8-99		16155
	2.8.99		21:25

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

BOE-C6-0234403

BC LABORATORIES INC.

SAMPLE RECEIPT FORM

Rev. No.6 10/13/98 Page ___ Of ___

Submission #: 99-1616

Project Code:

SHIPPING INFORMATION

Federal Express ☐ UPS ☐ Hand Delivery ☐

BC Lab Field Service ☒ Other ☐ (Specify) _____

SHIPPING CONTAINER

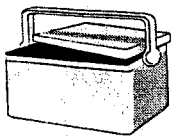
Ice Chest ☒ None ☐

Box ☐ Other ☐ (Specify) _____

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

Custody Seals: Ice Chest ☒ Intact? Yes ☐ No ☒ Containers ☒ Intact? Yes ☒ No ☐ None ☒ Comments: CF 2/8/99

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



Ice Chest ID Blue/White Date/Time 2/8/99 21:50
Temperature: 3.9 °C
Thermometer ID: 17 Analyst Init CFORD
Emissivity .90
Container Blank

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	10	11	12	13	14	15	16	17	18	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																								
ml TOTAL ORGANIC CARBON																								
TOX																								
PT CHEMICAL OXYGEN DEMAND																								
100ml PHENOLICS																								
40ml VOA VIAL TRAVEL BLANK																								
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	1	1																						
QT QA/QC																								
QT AMBER																								
8 OZ. JAR																								
32 OZ. JAR				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
SOIL SLEEVE																								
PCB VIAL																								
PLASTIC BAG																								

Comments: No Trip Blank (TB4) was recieved CF 2/8/97

Date/Time: 2/8/99

[F:\WP80\LAB_DOCS\FORMS\SAMREC2.W

BOE-C6-0234404

BC LABORATORIES, INC.

FIELD TEMPERATURE FORM

Date: 2-8-99

Time: 17:10

Completed By: JM

Temperature: 2C

Type of bottle Used: TEMP BLANK

Transportation Container: COOLER

Refrigerant: W ICE

Custody Seals: ~~N~~ YES

Comments:

Samples were picked up at: LOS ANGELES H/LA

From: (signature if possible)

BC LABORATORIES

WATER ANALYSIS
(METALS)

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

Date Reported: 02/25/99
Date Received: 02/08/99
Laboratory No.: 99-01616-1

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: FB-4
Sampling Date/Time: 02/08/99 @ 11:30AM
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

Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERV., INC. - JOANN ORNELAS

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

BC LABORATORIES

WATER ANALYSIS
(METALS)

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

Date Reported: 02/25/99
Date Received: 02/08/99
Laboratory No.: 99-01616-2

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: RB-4
Sampling Date/Time: 02/08/99 @ 10:40AM
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	21.	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

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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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/24/99
Date Received: 02/08/99
Laboratory No.: 99-01616-4

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-7-14.5
Sample Collected By: BRYAN J. HAWES

Constituents		Sample Results	Units	Method P.Q.L.	Method	Date Prepared	Date Analyzed
Antimony	*1	1.2	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Arsenic		4.0	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Barium		213.	mg/kg	5.0	SW-6010	02/18/99	02/18/99
Beryllium		0.99	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Cadmium		None Detected	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Chromium		26.	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Cobalt		14.	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Copper		40.	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Lead		7.5	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Mercury		None Detected	mg/kg	0.2	SW-7471	02/22/99	02/23/99
Molybdenum		None Detected	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Nickel		20.	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Selenium		None Detected	mg/kg	0.50	SW-6010	02/18/99	02/18/99
Silver		None Detected	mg/kg	1.0	SW-6010	02/18/99	02/18/99
Thallium		None Detected	mg/kg	5.0	SW-6010	02/18/99	02/18/99
Vanadium		69.	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Zinc		86.	mg/kg	1.0	SW-6010	02/18/99	02/18/99
Other Tests:							
Aluminum		27400.	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Titanium		1890.	mg/kg	2.5	SW-6010	02/18/99	02/18/99

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).

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.

Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERV., INC. - JOANN ORNELAS

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

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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/24/99
Date Received: 02/08/99
Laboratory No.: 99-01616-5

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-7-24.5
Sample Collected By: BRYAN J. HAWES

Constituents		Sample Results	Units	Method P.Q.L.	Method	Date Prepared	Date Analyzed
Antimony	*1	0.86	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Arsenic		6.9	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Barium		85.	mg/kg	5.0	SW-6010	02/18/99	02/18/99
Beryllium		0.72	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Cadmium		None Detected	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Chromium		22.	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Cobalt		7.2	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Copper		18.	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Lead		4.0	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Mercury		None Detected	mg/kg	0.2	SW-7471	02/22/99	02/23/99
Molybdenum		2.8	mg/kg	2.5	SW-6010	02/18/99	02[illegible]99
Nickel		18.	mg/kg	2.5	SW-6010	02/18/99	02[illegible]9
Selenium		None Detected	mg/kg	0.50	SW-6010	02/18/99	02/[illegible]/99
Silver		None Detected	mg/kg	1.0	SW-6010	02/18/99	02/18/99
Thallium		None Detected	mg/kg	5.0	SW-6010	02/18/99	02/18/99
Vanadium		49.	mg/kg	0.5	SW-6010	02/18/99	02/18/99
Zinc		46.	mg/kg	1.0	SW-6010	02/18/99	02/18/99
Other Tests:							
Aluminum		15300.	mg/kg	2.5	SW-6010	02/18/99	02/18/99
Titanium		899.	mg/kg	2.5	SW-6010	02/18/99	02/18/99

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).

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 SERV., INC. - JOANN ORNELAS

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

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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-11

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-3-13

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	0.89	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	15.	500.
Arsenic		5.7	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	5.0	500.
Barium		193.	mg/kg	5.0	SW-6010	02/11/99	02/16/99	2.	100.	10000.
Beryllium		0.75	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	0.75	75.
Cadmium		None Detected	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	1.0	100.
Chromium		23.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	560.	2500.
Cobalt		12.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	80.	8000.
Copper	*2	34.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	25.	2500.
Lead		5.3	mg/kg	2.5	SW-6010	02/11/99	02/16/99	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	02/11/99	02/16/99	2.	350.	3500.
Nickel		20.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	20.	2000.
Selenium		None Detected	mg/kg	0.50	SW-6010	02/11/99	02/16/99	2.	1.0	100.
Silver		None Detected	mg/kg	1.0	SW-6010	02/11/99	02/16/99	2.	5.0	500.
Thallium		None Detected	mg/kg	5.0	SW-6010	02/11/99	02/16/99	2.	7.0	700.
Vanadium		60.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	24.	2400.
Zinc	*2	70.	mg/kg	1.0	SW-6010	02/11/99	02/16/99	2.	250.	5000.
Other Tests:										
Aluminum		19500.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.		
Titanium	*1	7490.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-11

Sample Description: 280.02, ILM GROUNDWATER, BL-3-13, 02/08/99 @ 02:45PM, 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.
*2 = Matrix spike recovery/precision not within established limits. Results may be biased.

Richard T. Lunn
For Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERV., INC. - JOANN ORNELAS

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

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-12

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-3-23

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	0.59	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	15.	500.
Arsenic		3.0	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	5.0	500.
Barium	*1	105.	mg/kg	5.0	SW-6010	02/11/99	02/16/99	2.	100.	10000.
Beryllium		0.74	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	0.75	75.
Cadmium		None Detected	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	1.0	100.
Chromium		23.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	560.	2500.
Cobalt		11.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	80.	8000.
Copper	*2	30.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	25.	2500.
Lead		5.6	mg/kg	2.5	SW-6010	02/11/99	02/16/99	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	02/11/99	02/16/99	2.	350.	3500.
Nickel		16.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	20.	2000.
Selenium		None Detected	mg/kg	0.50	SW-6010	02/11/99	02/16/99	2.	1.0	100.
Silver		None Detected	mg/kg	1.0	SW-6010	02/11/99	02/16/99	2.	5.0	500.
Thallium		None Detected	mg/kg	5.0	SW-6010	02/11/99	02/16/99	2.	7.0	700.
Vanadium		51.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	24.	2400.
Zinc	*2	70.	mg/kg	1.0	SW-6010	02/11/99	02/16/99	2.	250.	5000.
Other Tests:										
Aluminum		20300.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.		
Titanium	*1	1350.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.		

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

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

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-12

Sample Description: 280.02, ILM GROUNDWATER, BL-3-23, 02/08/99 @ 03:00PM, 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.
*2 = Matrix spike recovery/precision not within established limits. Results may be biased.

Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERV., INC. - JOANN ORNELAS

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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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-18

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: BL-3-25.7

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	1.0	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	15.	500.
Arsenic		3.0	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	5.0	500.
Barium	*1	148.	mg/kg	5.0	SW-6010	02/11/99	02/16/99	2.	100.	10000.
Beryllium		0.83	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	0.75	75.
Cadmium		None Detected	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	1.0	100.
hromium		25.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	560.	2500.
Cobalt		12.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	80.	8000.
Copper	*2	33.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	25.	2500.
Lead		5.9	mg/kg	2.5	SW-6010	02/11/99	02/16/99	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	02/11/99	02/16/99	2.	350.	3500.
Nickel		17.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.	20.	2000.
Selenium		None Detected	mg/kg	0.50	SW-6010	02/11/99	02/16/99	2.	1.0	100.
Silver		None Detected	mg/kg	1.0	SW-6010	02/11/99	02/16/99	2.	5.0	500.
Thallium		None Detected	mg/kg	5.0	SW-6010	02/11/99	02/16/99	2.	7.0	700.
Vanadium		58.	mg/kg	0.5	SW-6010	02/11/99	02/16/99	2.	24.	2400.
Zinc	*2	74.	mg/kg	1.0	SW-6010	02/11/99	02/16/99	2.	250.	5000.
Other Tests:										
Aluminum		23300.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.		
Titanium	*1	1630.	mg/kg	2.5	SW-6010	02/11/99	02/16/99	2.		

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

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

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

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-18

Sample Description: 280.02, ILM GROUNDWATER, BL-3-25.7, 02/08/99 @ 03:05PM, 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.
*2 = Matrix spike recovery/precision not within established limits. Results may be biased.

Dan Schultz
Laboratory Director

cc: INTEGRATED ENVIRONMENTAL SERV., INC. - JOANN ORNELAS

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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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-1

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: FB-4
Sample Matrix: Water
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/08/99 @ 11:30AM
Date Extracted: 02/09/99
Date Analyzed: 02/17/99
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	64.	%	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

cc: INTEGRATED ENVIRONMENTAL SERV., INC. - JOANN ORNELAS

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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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-2

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: RB-4
Sample Matrix: Water
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/08/99 @ 10:40AM
Date Extracted: 02/09/99
Date Analyzed: 02/17/99
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	59.	%	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

cc: INTEGRATED ENVIRONMENTAL SERV., INC. - JOANN ORNELAS

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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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-1

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: FB-4
Sample Matrix: Water
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/08/99 @ 11:30AM
Date Extracted: 02/13/99
Date Analyzed: 02/13/99
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	
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
1,1-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	

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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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-1

Sample Description: 280.02, ILM GROUNDWATER, FB-4, 02/08/99 @ 11:30AM, BRYAN J. HAWES

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Naphthalene	None Detected	µg/L	0.5
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	108.	76-114
Toluene-d8	94.	88-110
4-Bromofluorobenzene	91.	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 SERV., INC. - JOANN ORNELAS

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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
Attn: DERRICK WILLIS 714-278-0992

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-2

Project Number: 280.02
Sampling Location: ILM GROUNDWATER
Sample ID: RB-4
Sample Matrix: Water
Sample Collected By: BRYAN J. HAWES

Date Collected: 02/08/99 @ 10:40AM
Date Extracted: 02/13/99
Date Analyzed: 02/13/99
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	
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
1,1-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	

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.

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

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8260)

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

Date Reported: 02/19/99
Date Received: 02/08/99
Laboratory No.: 99-01616-2

Sample Description: 280.02, ILM GROUNDWATER, RB-4, 02/08/99 @ 10:40AM, BRYAN J. HAWES

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Naphthalene	None Detected	µg/L	0.5
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	109.	76-114
Toluene-d8	88.	88-110
4-Bromofluorobenzene	88.	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 SERV., INC. - JOANN ORNELAS

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BC LABORATORIES

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)

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

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

Samples Affected: 99-01616-1, 99-01616-2

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	1616-1	< 2.000	< 2.000	56.33	54.33	52.60	52.60	µg/L	<PQL	4.	10	107.	103.	85 - 115
Total Aluminum	TOTAL-1616-2	< 50.	< 50.	455.9	455.9	400.0	400.0	µg/L	<PQL	0.	20	118.	118.	80 - 120
Total Antimony	TOTAL-1616-2	<100.	<100.	411.5	408.2	400.0	400.0	µg/L	<PQL	1.	20	104.	103.	80 - 120
Total Arsenic	TOTAL-1616-1	< 2.	< 2.	19.14	19.62	20.00	20.00	µg/L	<PQL	2.	20	96.	99.	80 - 120
Total Barium	TOTAL-1616-2	<100.	<100.	192.3	193.7	200.0	200.0	µg/L	<PQL	1.	20	96.	97.	80 - 120
Total Beryllium	TOTAL-1616-2	< 10.	< 10.	194.2	196.5	200.0	200.0	µg/L	<PQL	1.	20	97.	98.	80 - 120
Total Cadmium	TOTAL-1616-2	< 10.	< 10.	194.5	195.7	200.0	200.0	µg/L	<PQL	1.	20	97.	97.	80 - 120
Total Chromium	TOTAL-1616-2	< 10.	< 10.	203.8	208.6	200.0	200.0	µg/L	<PQL	2.	20	100.	103.	80 - 120
Total Cobalt	TOTAL-1616-2	< 50.	< 50.	204.8	206.2	200.0	200.0	µg/L	<PQL	1.	20	102.	103.	80 - 120
Total Copper	TOTAL-1616-2	20.7	16.9	216.7	216.5	200.0	200.0	µg/L	20.	0.	20	98.	98.	80 - 120
Total Lead	TOTAL-1616-1	< 5.	< 5.	20.33	20.17	20.00	20.00	µg/L	<PQL	1.	20	99.	98.	80 - 120
Total Mercury	TOTAL-01616-2	< 0.2	< 0.2	0.9752	1.009	1.000	1.000	µg/L	<PQL	3.	20	93.	97.	70 - 130
Total Molybdenum	TOTAL-1616-2	< 50.	< 50.	206.9	210.	200.0	200.0	µg/L	<PQL	1.	20	104.	106.	80 - 120
Total Nickel	TOTAL-1616-2	< 50.	< 50.	401.8	404.7	400.0	400.0	µg/L	<PQL	1.	20	100.	101.	80 - 120
Total Selenium	TOTAL-1616-1	< 2.	< 2.	19.98	20.8	20.00	20.00	µg/L	<PQL	4.	20	101.	105.	80 - 120
Total Silver	TOTAL-1616-2	< 10.	< 10.	195.8	195.9	200.0	200.0	µg/L	<PQL	0.	20	98.	98.	80 - 120
Total Titanium	TOTAL-1616-2	< 10.	< 10.	195.4	195.5	200.0	200.0	µg/L	<PQL	0.	20	98.	98.	80 - 120
Total Thallium	TOTAL-1616-1	< 1.	< 1.	22.05	21.74	20.00	20.00	µg/L	<PQL	1.	20	110.	109.	85 - 115
Total Vanadium	TOTAL-1616-2	< 10.	< 10.	202.3	202.9	200.0	200.0	µg/L	<PQL	0.	20	101.	101.	80 - 120
Total Zinc	TOTAL-1616-2	< 50.	< 50.	205.1	204.9	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 Romanno

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

BC LABORATORIES

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

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

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

Samples Affected: 99-01616-1, 99-01616-2

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	101.	90 - 110	101.	97.	90 - 110	< 0.002	mg/L	< 0.002	mg/L	< 2.	µg/L
Total Aluminum	101.	90 - 110	101.	102.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Antimony	100.	90 - 110	100.	101.	90 - 110	<100.	µg/L	<100.	µg/L	<100.	µg/L
Total Arsenic	98.	90 - 110	98.	102.	90 - 110	< 1.	µg/L	< 1.	µg/L	< 2.	µg/L
Total Barium	96.	90 - 110	96.	96.	90 - 110	<100.	µg/L	<100.	µg/L	<100.	µg/L
Total Beryllium	101.	90 - 110	101.	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	103.	90 - 110	103.	104.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Cobalt	100.	90 - 110	100.	100.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Copper	99.	90 - 110	99.	99.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Lead	104.	90 - 110	99.	103.	90 - 110	< 5.	µg/L	< 5.	µg/L	< 5.	µg/L
Total Mercury	100.	90 - 110	100.	98.	90 - 110	< 0.08	µg/L	< 0.08	µg/L	< 0.2	µg/L
Total Molybdenum	100.	90 - 110	100.	100.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Nickel	102.	90 - 110	102.	102.	90 - 110	<50.	µg/L	<50.	µg/L	<50.	µg/L
Total Selenium	104.	90 - 110	104.	103.	90 - 110	< 1.	µg/L	< 1.	µg/L	< 2.	µg/L
Total Silver	101.	90 - 110	101.	104.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Titanium	99.	90 - 110	99.	99.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Thallium	100.	90 - 110	108.	101.	90 - 110	< 1.	µg/L	< 1.	µg/L	< 1.	µg/L
Total Vanadium	103.	90 - 110	103.	102.	90 - 110	<10.	µg/L	<10.	µg/L	<10.	µg/L
Total Zinc	102.	90 - 110	102.	102.	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
(Preparation & Analysis Information)

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

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Hexavalent Chromium	0.45uFilt	02/09/99	CS	EPA-7196	02/09/99	TDC
Total Aluminum	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Antimony	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Arsenic	SM-3114B	02/09/99	PAP	SM-3114B	02/11/99	TMS
Total Barium	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Beryllium	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Cadmium	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Chromium	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Cobalt	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Copper	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Lead	EPA-3020	02/10/99	PAP	EPA-7421	02/16/99	KAS
Total Mercury	EPA-7470	02/10/99	DIW	EPA-7470	02/11/99	DIW
Total Molybdenum	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Nickel	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Selenium	SM-3114B	02/09/99	PAP	SM-3114B	02/11/99	TMS
Total Silver	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Titanium	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Thallium	EPA-3010	02/10/99	PAP	EPA-7841	02/12/99	KAS
Total Vanadium	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM
Total Zinc	EPA-3010	02/10/99	PAP	EPA-6010	02/11/99	MTM

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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Hexavalent Chromium	LCSW-02-09	1007.	1000.	µg/L	101.	90 - 110
Total Aluminum	TOTAL-LCSW	423.6	400.	µg/L	106.	80 - 120
Total Antimony	TOTAL-LCSW	407.7	400.	µg/L	102.	80 - 120
Total Arsenic	LCSW2-02-0	9.36	10.	µg/L	94.	80 - 120
Total Barium	TOTAL-LCSW	191.5	200.	µg/L	96.	80 - 120
Total Beryllium	TOTAL-LCSW	195.2	200.	µg/L	98.	80 - 120
Total Cadmium	TOTAL-LCSW	192.9	200.	µg/L	96.	80 - 120
Total Chromium	TOTAL-LCSW	205.3	200.	µg/L	103.	80 - 120
Total Cobalt	TOTAL-LCSW	205.5	200.	µg/L	103.	80 - 120
Total Copper	TOTAL-LCSW	196.3	200.	µg/L	98.	80 - 120
Total Lead	TOTAL-LCSW	19.93	20.	µg/L	100.	80 - 120
Total Mercury	LCSW1-02-1	0.9511	1.0	µg/L	95.	85 - 115
Total Molybdenum	TOTAL-LCSW	204.3	200.	µg/L	102.	80 - 120
Total Nickel	TOTAL-LCSW	401.2	400.	µg/L	100.	80 - 120
Total Selenium	LCSW2-02-0	9.72	10.	µg/L	97.	80 - 120
Total Silver	TOTAL-LCSW	196.3	200.	µg/L	98.	80 - 120
Total Titanium	TOTAL-LCSW	195.2	200.	µg/L	98.	80 - 120
Total Thallium	TOTAL-LCSW	21.52	20.	µg/L	108.	80 - 120
Total Vanadium	TOTAL-LCSW	203.	200.	µg/L	102.	80 - 120
Total Zinc	TOTAL-LCSW	208.	200.	µg/L	104.	80 - 120

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. • Bakersfield, CA 93308 5) 327-4911 • FAX (805) 327-1918

BOE-C6-0234425

BC LABORATORIES

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

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

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

Samples Affected: 99-01616-11, 99-01616-12, 99-01616-18

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-1616-11-X5	< 25.	< 25.	46.74	47.89	98.04	98.04	mg/kg	<PQL	2.	20	47.	48.	75 - 125
Arsenic	HP-1616-11-X5	5.676	5.686	10.65	10.91	4.902	4.902	mg/kg	0.	2.	20	101.	107.	80 - 120
Barium	HP-1616-11-X5	192.9	176.9	312.1	287.4	98.04	98.04	mg/kg	9.	8.	20	122.	96.	80 - 120
Beryllium	HP-1616-11-X5	< 2.5	< 2.5	10.8	10.87	9.804	9.804	mg/kg	<PQL	1.	20	102.	103.	80 - 120
Cadmium	HP-1616-11-X5	< 2.5	< 2.5	9.843	9.882	9.804	9.804	mg/kg	<PQL	0.	20	98.	98.	80 - 120
Chromium	HP-1616-11-X5	22.82	24.37	124.3	124.4	98.04	98.04	mg/kg	7.	0.	20	104.	104.	80 - 120
Cobalt	HP-1616-11-X5	12.12	12.95	110.2	110.6	98.04	98.04	mg/kg	7.	0.	20	100.	100.	80 - 120
Copper	HP-1616-11-X5	33.87	41.61	146.2	367.3	98.04	98.04	mg/kg	21.	86.	20	115.	340.	80 - 120
Lead	HP-1616-11-X5	< 12.5	< 12.5	93.65	93.74	98.04	98.04	mg/kg	<PQL	0.	20	90.	90.	80 - 120
Mercury	01482-3	< 0.2	< 0.2	0.8562	0.8562	0.7812	0.7812	mg/kg	<PQL	0.	20	101.	101.	85 - 115
Molybdenum	HP-1616-11-X5	< 12.5	< 12.5	98.33	99.41	98.04	98.04	mg/kg	<PQL	1.	20	99.	101.	80 - 120
Nickel	HP-1616-11-X5	19.9	21.23	122.9	123.6	98.04	98.04	mg/kg	6.	1.	20	105.	106.	80 - 120
Selenium	HP-1616-11-X5	< 2.5	< 2.5	4.529	4.804	4.902	4.902	mg/kg	<PQL	6.	20	94.	100.	80 - 120
Silver	HP-1616-11-X5	< 5.	< 5.	8.569	8.637	9.804	9.804	mg/kg	<PQL	1.	20	88.	89.	80 - 120
Thallium	HP-1616-11-X5	< 25.	< 25.	95.14	96.38	98.04	98.04	mg/kg	<PQL	1.	20	97.	98.	80 - 120
Vanadium	HP-1616-11-X5	59.9	63.43	171.1	170.	98.04	98.04	mg/kg	6.	1.	20	113.	112.	80 - 120
Zinc	HP-1616-11-X5	69.97	77.54	173.5	269.9	98.04	98.04	mg/kg	10.	43.	20	106.	204.	80 - 120
Aluminum	HP-1616-11-X5	19460.	21040.	23940.	22990.	490.2	490.2	mg/kg	8.	4.	20	H MEAN	H MEAN	80 - 120
Titanium	HP-1616-11-X5	1485.	1578.	2385.	2315.	490.2	490.2	mg/kg	6.	3.	20	184.	169.	80 - 120

BOE-C6-0234426

BC LABORATORIES

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

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

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

Samples Affected: 99-01616-11, 99-01616-12, 99-01616-18

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

Matrix spike recoveries for antimony and titanium are outside project limits. Matrix spike duplicate recoveries and spike RPDs for copper and zinc are outside QC limits. Sample reports are flagged accordingly.

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. • Bakersfield, CA 93308 5) 327-4911 • FAX (805) 327-1918

BOE-C6-0234427

BC LABORATORIES

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

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

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

Samples Affected: 99-01616-11, 99-01616-12, 99-01616-18

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
Antimony	100.	90 - 110	100.	100.	90 - 110	< 0.1	mg/L	< 0.1	mg/L	< 0.5	mg/kg
Arsenic	105.	90 - 110	105.	104.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Barium	102.	90 - 110	102.	103.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Beryllium	105.	90 - 110	105.	107.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Cadmium	104.	90 - 110	104.	104.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Chromium	105.	90 - 110	105.	106.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Cobalt	103.	90 - 110	103.	104.	90 - 110	< 0.05	mg/L	< 0.05	mg/L	< 2.5	mg/kg
Copper	99.	90 - 110	99.	100.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Lead	102.	90 - 110	102.	102.	90 - 110	< 0.05	mg/L	< 0.05	mg/L	< 2.5	mg/kg
Mercury	103.	90 - 110	103.	103.	90 - 110	< 0.00008	mg/L	< 0.00008	mg/L	< 0.2	mg/kg
Molybdenum	101.	90 - 110	101.	102.	90 - 110	< 0.05	mg/L	< 0.05	mg/L	< 2.5	mg/kg
Nickel	104.	90 - 110	104.	104.	90 - 110	< 0.05	mg/L	< 0.05	mg/L	< 2.5	mg/kg
Selenium	100.	90 - 110	100.	100.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Silver	100.	90 - 110	100.	100.	90 - 110	< 0.02	mg/L	< 0.02	mg/L	< 1.0	mg/kg
Thallium	101.	90 - 110	101.	99.	90 - 110	< 0.1	mg/L	< 0.1	mg/L	< 5.0	mg/kg
Vanadium	103.	90 - 110	103.	104.	90 - 110	< 0.01	mg/L	< 0.01	mg/L	< 0.5	mg/kg
Zinc	104.	90 - 110	104.	104.	90 - 110	< 0.05	mg/L	< 0.05	mg/L	< 1.0	mg/kg
Aluminum	102.	90 - 110	102.	104.	90 - 110	< 0.1	mg/L	< 0.1	mg/L	< 2.5	mg/kg
Titanium	100.	90 - 110	100.	102.	90 - 110	< 0.01	mg/L	< 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

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
DERRICK WILLIS

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

Samples Affected: 99-01616-11, 99-01616-12, 99-01616-18

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Antimony	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Arsenic	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Barium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Beryllium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Cadmium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Chromium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Cobalt	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Copper	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Lead	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Mercury	SW-7471	02/10/99	DIW	SW-7471	02/11/99	DIW
Molybdenum	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Nickel	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Selenium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Silver	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Thallium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Vanadium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Zinc	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Aluminum	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC
Titanium	SW-3050	02/11/99	VBA	SW-6010	02/16/99	JCC

Quality Control Officer

Anthony Bonanno

4100 Atlas Ct. · Bakersfield, CA 93308 5) 327-4911 · FAX (805) 327-1918

BOE-C6-0234429

BC LABORATORIES

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

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

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

Samples Affected: 99-01616-11, 99-01616-12, 99-01616-18

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Antimony	HP-LCSW#1-	2.043	2.	mg/L	102.	80 - 120
Arsenic	HP-LCSW#1-	0.098	0.1000	mg/L	98.	80 - 120
Barium	HP-LCSW#1-	1.99	2.00	mg/L	100.	80 - 120
Beryllium	HP-LCSW#1-	0.2104	0.2000	mg/L	105.	80 - 120
Cadmium	HP-LCSW#1-	0.2051	0.2000	mg/L	103.	80 - 120
Chromium	HP-LCSW#1-	2.06	2.	mg/L	103.	80 - 120
Cobalt	HP-LCSW#1-	2.071	2.	mg/L	104.	80 - 120
Copper	HP-LCSW#1-	2.196	2.	mg/L	110.	80 - 120
Lead	HP-LCSW#1-	1.851	2.	mg/L	93.	80 - 120
Mercury	LCSS-3-02-	6.771	6.144	mg/kg	110.	70 - 130
Molybdenum	HP-LCSW#1-	2.113	2.	mg/L	106.	80 - 120
Nickel	HP-LCSW#1-	2.186	2.	mg/L	109.	80 - 120
Selenium	HP-LCSW#1-	0.101	0.1000	mg/L	101.	80 - 120
Silver	HP-LCSW#1-	0.1786	0.2000	mg/L	89.	80 - 120
Thallium	HP-LCSW#1-	1.987	2.	mg/L	99.	80 - 120
Vanadium	HP-LCSW#1-	2.147	2.	mg/L	107.	80 - 120
Zinc	HP-LCSW#1-	2.049	2.	mg/L	102.	80 - 120
Aluminum	HP-LCSW#1-	10.37	10.	mg/L	104.	80 - 120
Titanium	HP-LCSW#1-	10.22	10.	mg/L	102.	80 - 120

Quality Control Officer

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BOE-C6-0234430

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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Stoddard / White Spirits	3510	02/09/99	SEM	8015M	02/17/99	DS
JP 4	3510	02/09/99	SEM	8015M	02/17/99	DS
JP 5	3510	02/09/99	SEM	8015M	02/17/99	DS
JP 6	3510	02/09/99	SEM	8015M	02/17/99	DS
JP 8	3510	02/09/99	SEM	8015M	02/17/99	DS
Kerosene / Jet Fuel	3510	02/09/99	SEM	8015M	02/17/99	DS
Diesel	3510	02/09/99	SEM	8015M	02/17/99	DS
Crude Oil	3510	02/09/99	SEM	8015M	02/17/99	DS
Hydraulic Oil	3510	02/09/99	SEM	8015M	02/17/99	DS
Waste Oil	3510	02/09/99	SEM	8015M	02/17/99	DS
Motor Oil	3510	02/09/99	SEM	8015M	02/17/99	DS

Quality Control Officer

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BOE-C6-0234431

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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

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	66.	%

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234432

Response Factor Report GC-13

Method : C:\HPCHEM\1\METHODS\8015FFP.M (Chemstation Integrator)
Title : 8015 TPH Diesel GC-13
Last Update : Fri Dec 11 10:45:37 1998

Calibration Files
1 =16DEC10.D 2 =16DEC09.D 3 =16DEC11.D
4 =16DEC07.D 5 =16DEC06.D

Compound	1	2	3	4	5	Avg	%RSD
*1) AHM DIESEL	1.094	0.973	0.979	0.992	1.004	1.008 E7	4.87
2) BH CRUDE/WASTE OIL	4.552	4.611	4.320	4.260	4.034	4.355 E6	5.35
3) DH MOTOR /HYDRAULIC OIL	9.367	9.562	9.401	9.738	9.987	9.611 E6	2.67
4) EH KEROSENE	9.938	8.886	8.870	8.989	8.540	9.045 E6	5.83
5) FH GASOLINE	7.478	7.018	6.744	6.797	6.557	6.919 E6	5.10
6) JH STODDARD/ MINERAL SPI	2.812	3.483	3.371	3.582	3.431	3.336 E6	9.08
*7) AS TETRACOSANE (SURR)	0.968	1.010	0.958	1.043	1.023	1.000 E7	3.65

(#) = Out of Range

8015FFP.M Thu Dec 17 08:18:21 1998 DSLGC12

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\DATA\GC13\DEC98\DEC16\16DEC12.D Vial: 12
Acq On : 16 Dec 1998 5:30 pm Operator: SPB
Sample : DIESEL ICV EX-8-0145 Inst : GC-13
Misc : MIX [A] Multiplr: 1.00
IntFile : AUTOINT1.E

Method : C:\HPCHEM\1\METHODS\8015FFP.M (Chemstation Integrator)
Title : 8015 TPH Diesel GC-13
Last Update : Fri Dec 11 10:45:37 1998
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 AHM DIESEL	10.084	9.926 E6	1.6	101	0.00
7 AS TETRACOSANE (SURR)	10.004	10.055 E6	-0.5	105	0.00

(#) = Out of Range
16DEC11.D 8015FFP.M Thu Dec 17 08:25:19 1998 DSLGC12

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\DATA\GC13\FEB99\FEB16\16FEB03.D Vial: 3
Acq On : 16 Feb 1999 1:07 pm Operator: SPB
Sample : DIESEL CCV#60 EX-8-0623 Inst : GC-13
Misc : MIX [A] Multiplr: 1.00
IntFile : SURR.E

Method : C:\HPCHEM\1\METHODS\8015FFP.M (Chemstation Integrator)
Title : 8015 TPH Diesel GC-13
Last Update : Tue Feb 16 11:36:50 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 AHM DIESEL	10.084	9.656 E6	4.2	99	0.00
8 AS TETRACOSANE (SURR)	10.004	9.927 E6	0.8	104	0.00

(#) = Out of Range
28DEC14.D 8015FFP.M Thu Feb 18 14:32:43 1999 RPT1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\DATA\GC13\FEB99\FEB16\16FEB15.D Vial: 15
Acq On : 17 Feb 1999 12:53 am Operator: SPB
Sample : DIESEL CCV#61 Inst : GC-13
sc : MIX [A] Multiplr: 1.00
tFile : SURR.E

Method : C:\HPCHEM\1\METHODS\8015FFP.M (Chemstation Integrator)
Title : 8015 TPH Diesel GC-13
Last Update : Tue Feb 16 11:36:50 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 AHM DIESEL	10.084	10.081 E6	0.0	103	0.00
8 AS TETRACOSANE (SURR)	10.004	10.014 E6	-0.1	105	0.00

(#) = Out of Range
28DEC14.D 8015FFP.M Thu Feb 18 14:46:36 1999 RPT1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\DATA\GC13\FEB99\FEB16\16FEB24.D Vial: 24
Acq On : 17 Feb 1999 1:05 pm Operator: SPB
Sample : DIESEL CCV#62 Inst : GC-13
Misc : MIX [A] Multiplr: 1.00
IntFile : SURR.E

Method : C:\HPCHEM\1\METHODS\8015FFP.M (Chemstation Integrator)
Title : 8015 TPH Diesel GC-13
Last Update : Tue Feb 16 11:36:50 1999
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 AHM DIESEL	10.084	9.822 E6	2.6	100	0.00
8 AS TETRACOSANE (SURR)	10.004	9.999 E6	0.0	104	0.00

(#) = Out of Range
28DEC14.D 8015FFP.M Thu Feb 18 15:36:30 1999 RPT1

BC LABORATORIES

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

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

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

Samples Affected: 99-01616-1, 99-01616-2

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 2/9	<200.	2338.	2321.	2500.	2500.	µg/L	1.	30	94.	93.	47 - 129
Surrogate % Recovery	MS/MSD						%			76.	75.	32 - 143

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)
METHOD 8015M TPH-FUEL FINGERPRINT

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

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Diesel	DI 2/9	2259.	2500.	µg/L	90.	45 - 133
Surrogate % Recovery	DI 2/9			%	81.	32 - 143

Quality Control Officer

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BC LABORATORIES

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

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

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Method 8260 compounds	EPA-5030	02/13/99	MCH	EPA-8260	02/13/99	MCH

Quality Control Officer

Anthony Bonanno

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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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

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

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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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	Method Blank Readings	Units
trans-1,2-Dichloroethene	< 0.5	µg/L
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

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BOE-C6-0234442

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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	Method Blank Readings	Units
Total Xylenes	< 1.0	µg/L
1,2-Dichloroethane-d4	107.	%
Toluene-d8	92.	%
4-Bromofluorobenzene	88.	%

Quality Control Officer

Anthony Bonanno

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Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB12\12FEB21.D
Acq On : 12 Feb 1999 7:57 pm
Sample : CCV 4
sc : 25 ML; 25 UG/L; VO-8-3128
Integration Params: 82604.M

Vial: 9
Operator: M. CHAVEZ
Inst : MS-V4
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Wed Feb 10 21:28:05 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	97	0.03
2		dichlorodifluoromethane	0.550	0.616	-12.0	107	0.00
3	P	chloromethane	0.468	0.444	5.1	96	0.02
4	C	vinyl chloride	0.548	0.588	-7.3	105	0.00
5		bromomethane	0.297	0.334	-12.5	105	0.01LR
6	M	chloroethane	0.386	0.409	-6.0	105	0.03
7		trichlorofluoromethane	0.813	0.792	2.6	95	0.03
8		1,1,2-trichloro-1,2,2-trifl	1.132	1.181	-4.3	103	0.03
9	MC	1,1-dichloroethene	0.587	0.579	1.4	94	0.03
10		methylene chloride	0.617	0.635	-2.9	101	0.03
11		MTBE	1.131	1.171	-3.5	103	0.03
12		trans-1,2-dichloroethene	0.675	0.698	-3.4	101	0.03
	MP	1,1-dichloroethane	1.461	1.468	-0.5	96	0.03
		2,2-dichloropropane	0.881	0.774	12.1	85	0.02LR
15		cis-1,2-dichloroethene	0.826	0.840	-1.7	100	0.03
16	C	chloroform	1.288	1.334	-3.6	101	0.03
17		bromochloromethane	0.411	0.407	1.0	98	0.03
18		1,1,1-trichloroethane	1.028	1.065	-3.6	101	0.05
19		1,1-dichloropropene	1.084	1.121	-3.4	101	0.03
20		carbon tetrachloride	0.923	0.980	-6.2	101	0.03
21	S	1,2-dichloroethane-d4	0.473	0.488	-3.2	98	0.05
22		1,2-dichloroethane	0.620	0.647	-4.4	102	0.03
23	M	benzene	2.299	2.338	-1.7	102	0.04
24	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.04
25	M	trichloroethene	0.359	0.356	0.8	101	0.03
26	C	1,2-dichloropropane	0.415	0.409	1.4	100	0.03
27	M	bromodichloromethane	0.506	0.498	1.6	98	0.03
28		dibromomethane	0.214	0.205	4.2	96	0.05
29		2-CEVE	0.090	0.113	-25.6#	105	0.05LR
30		cis-1,3-dichloropropene	0.495	0.498	-0.6	100	0.05
31	S	toluene-d8	0.897	0.854	4.8	95	0.03
32	MC	toluene	0.577	0.554	4.0	98	0.03
33		trans-1,3-dichloropene	0.342	0.358	-4.7	104	0.03
34		1,1,2-trichloroethane	0.211	0.211	0.0	102	0.03
35		1,3-dichloropropane	0.404	0.410	-1.5	102	0.03
36		tetrachloroethene	0.397	0.398	-0.3	102	0.03
37		dibromochloromethane	0.361	0.374	-3.6	102	0.03
		1,2-dibromoethane	0.313	0.323	-3.2	102	0.03
39	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.03
40	MP	chlorobenzene	2.876	2.852	0.8	101	0.03
41		1,1,1,2-tetrachloroethane	1.319	1.330	-0.8	102	0.02
42	C	ethylbenzene	3.892	3.781	2.9	102	0.02
43		m&p-xylene	1.620	1.586	2.1	99	0.02

44		o-xylene	2.996	2.939	1.9	100	0.02
45		styrene	2.564	2.524	1.6	100	0.02
46	P	isopropylbenzene	4.153	4.110	1.0	100	0.00
47	P	bromoform	0.870	0.901	-3.6	102	0.00
48	P	1,1,2,2-tetrachloroethane	1.198	1.232	-2.8	102	0.02
49	S	4-bromofluorobenzene	1.949	1.885	3.3	95	0.00
50	P	1,2,3-trichloropropane	0.287	0.303	-5.6	103	0.02
51		n-propylbenzene	4.452	4.464	-0.3	100	0.00
52		bromobenzene	1.231	1.236	-0.4	102	0.02
53		1,3,5-trimethylbenzene	2.827	2.870	-1.5	100	0.00
54		2-chlorotoluene	2.935	2.872	2.1	94	0.02
55		4-chlorotoluene	3.056	3.134	-2.6	102	0.00
56		tert-butylbenzene	3.228	3.268	-1.2	100	0.00
57		1,2,4-trimethylbenzene	2.798	2.835	-1.3	100	0.00
58		sec-butylbenzene	4.193	4.247	-1.3	99	0.00
59		4-isopropyltoluene	3.345	3.438	-2.8	100	0.00
60		1,3-dichlorobenzene	1.944	1.984	-2.1	101	0.00
61	M	1,4-dichlorobenzene	1.944	1.985	-2.1	99	0.00
62		n-butylbenzene	2.854	2.931	-2.7	100	0.00
63		1,2-dichlorobenzene	1.692	1.750	-3.4	100	0.00
64		1,2-dibromo-3-chloropropane	0.160	0.171	-6.9	104	0.00
65		1,2,4-trichlorobenzene	1.295	1.416	-9.3	101	0.00LR
66		hexachlorobutadiene	0.885	0.911	-2.9	99	0.00
67		naphthalene	1.381	1.538	-11.4	100	0.00LR
68		1,2,3-trichlorobenzene	1.043	1.172	-12.4	100	0.00LR

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

10FEB12.D 82604.M Fri Feb 12 21:49:14 1999

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB12\12FEB41.D
Acq On : 13 Feb 1999 7:44 am
Sample : CCV 5
Misc : 25 ML ;25 UG/L; VO-8-3131
Integration Params: 82604.M

Vial: 14
Operator: M. CHAVEZ
Inst : MS-V4
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Wed Feb 10 21:28:05 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	93	0.05
2		dichlorodifluoromethane	0.550	0.643	-16.9	107	-0.04
3	P	chloromethane	0.468	0.536	-14.5	111	-0.02
4	C	vinyl chloride	0.548	0.635	-15.9	109	0.00
5		bromomethane	0.297	0.316	-6.4	95	0.00LR
6	M	chloroethane	0.386	0.436	-13.0	107	0.03
7		trichlorofluoromethane	0.813	0.824	-1.4	95	0.05
8		1,1,2-trichloro-1,2,2-trifl	1.132	1.199	-5.9	100	0.03
9	MC	1,1-dichloroethene	0.587	0.613	-4.4	96	0.05
10		methylene chloride	0.617	0.662	-7.3	101	0.03
11		MTBE	1.131	1.139	-0.7	96	0.03
12		trans-1,2-dichloroethene	0.675	0.707	-4.7	98	0.04
[illegible]	MP	1,1-dichloroethane	1.461	1.494	-2.3	94	0.05
		2,2-dichloropropane	0.881	0.602	31.7#	63	0.03LR
[illegible]		cis-1,2-dichloroethene	0.826	0.855	-3.5	97	0.04
16	C	chloroform	1.288	1.345	-4.4	97	0.04
17		bromochloromethane	0.411	0.403	1.9	93	0.04
18		1,1,1-trichloroethane	1.028	1.111	-8.1	101	0.07
19		1,1-dichloropropene	1.084	1.171	-8.0	102	0.06
20		carbon tetrachloride	0.923	0.996	-7.9	99	0.05
21	S	1,2-dichloroethane-d4	0.473	0.492	-4.0	95	0.06
22		1,2-dichloroethane	0.620	0.651	-5.0	98	0.06
23	M	benzene	2.299	2.404	-4.6	100	0.07
24	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.06
25	M	trichloroethene	0.359	0.376	-4.7	107	0.06
26	C	1,2-dichloropropane	0.415	0.400	3.6	98	0.07
27	M	bromodichloromethane	0.506	0.486	4.0	96	0.06
28		dibromomethane	0.214	0.190	11.2	89	0.07
29		2-CEVE	0.090	0.104	-15.6	97	0.08LR
30		cis-1,3-dichloropropene	0.495	0.476	3.8	96	0.08
31	S	toluene-d8	0.897	0.841	6.2	93	0.05
32	MC	toluene	0.577	0.550	4.7	97	0.06
33		trans-1,3-dichloropene	0.342	0.333	2.6	96	0.05
34		1,1,2-trichloroethane	0.211	0.200	5.2	97	0.05
35		1,3-dichloropropane	0.404	0.387	4.2	96	0.04
36		tetrachloroethene	0.397	0.400	-0.8	102	0.05
37		dibromochloromethane	0.361	0.351	2.8	96	0.05
		1,2-dibromoethane	0.313	0.309	1.3	97	0.03
39	I	chlorobenzene-d5	1.000	1.000	0.0	102	0.04
40	MP	chlorobenzene	2.876	2.790	3.0	99	0.03
41		1,1,1,2-tetrachloroethane	1.319	1.294	1.9	100	0.03
42	C	ethylbenzene	3.892	3.704	4.8	100	0.03
43		m&p-xylene	1.620	1.541	4.9	97	0.03

44		o-xylene	2.996	2.924	2.4	100	0.03
45		styrene	2.564	2.441	4.8	98	0.03
46	P	isopropylbenzene	4.153	4.022	3.2	99	0.02
47	P	bromoform	0.870	0.828	4.8	95	0.02
48	P	1,1,2,2-tetrachloroethane	1.198	1.038	13.4	87	0.03
49	S	4-bromofluorobenzene	1.949	1.847	5.2	94	0.02
50	P	1,2,3-trichloropropane	0.287	0.270	5.9	92	0.03
51		n-propylbenzene	4.452	4.423	0.7	101	0.03
52		bromobenzene	1.231	1.185	3.7	99	0.03
53		1,3,5-trimethylbenzene	2.827	2.785	1.5	98	0.02
54		2-chlorotoluene	2.935	2.835	3.4	94	0.03
55		4-chlorotoluene	3.056	3.115	-1.9	103	0.02
56		tert-butylbenzene	3.228	3.212	0.5	99	0.02
57		1,2,4-trimethylbenzene	2.798	2.751	1.7	98	0.02
58		sec-butylbenzene	4.193	4.148	1.1	97	0.02
59		4-isopropyltoluene	3.345	3.392	-1.4	100	0.02
60		1,3-dichlorobenzene	1.944	1.939	0.3	100	0.00
61	M	1,4-dichlorobenzene	1.944	1.930	0.7	98	0.02
62		n-butylbenzene	2.854	2.905	-1.8	100	0.00
63		1,2-dichlorobenzene	1.692	1.691	0.1	98	0.02
64		1,2-dibromo-3-chloropropane	0.160	0.152	5.0	93	0.01
65		1,2,4-trichlorobenzene	1.295	1.365	-5.4	98	0.00LR
66		hexachlorobutadiene	0.885	0.898	-1.5	99	0.02
67		naphthalene	1.381	1.418	-2.7	93	0.00LR
68		1,2,3-trichlorobenzene	1.043	1.123	-7.7	97	0.00LR

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

10FEB12.D 82604.M Sat Feb 13 12:06:56 1999

Response Factor Report MS-V4

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Wed Feb 10 21:28:05 1999
Response via : Initial Calibration

Calibration Files
1 =10FEB09.D 2 =10FEB11.D 3 =10FEB12.D
4 =10FEB13.D 5 =10FEB14.D

		Compound	1	2	3	4	5	Avg	%RSD
1)	I	pentafluorobenzene	----------ISTD----------						
2)		dichlorodifluorometha	0.539	0.559	0.559	0.546	0.547	0.550	1.63
3)	P	chloromethane	0.550	0.480	0.449	0.432	0.428	0.468	10.83
4)	C	vinyl chloride	0.587	0.560	0.542	0.527	0.527	0.548	4.68
5)		bromomethane	0.203	0.284	0.310	0.326	0.363	0.297	20.18LR
6)	M	chloroethane	0.445	0.400	0.377	0.361	0.348	0.386	9.90
7)		trichlorofluoromethan	0.894	0.904	0.811	0.749	0.710	0.813	10.59
8)		1,1,2-trichloro-1,2,2	1.217	1.179	1.112	1.102	1.048	1.132	5.89
9)	MC	1,1-dichloroethene	0.624	0.641	0.596	0.549	0.527	0.587	8.27
10)		methylene chloride	0.698	0.635	0.607	0.579	0.565	0.617	8.58
11)		MTBE	1.249	1.168	1.101	1.079	1.057	1.131	6.90
12)		trans-1,2-dichloroeth	0.729	0.697	0.668	0.657	0.623	0.675	5.97
13)	MP	1,1-dichloroethane	1.655	1.567	1.478	1.385	1.221	1.461	11.50
14)		2,2-dichloropropane	1.016	1.011	0.888	0.786	0.702	0.881	15.66LR
15)		cis-1,2-dichloroethen	0.892	0.854	0.818	0.807	0.757	0.826	6.17
16)	C	chloroform	1.356	1.347	1.287	1.252	1.197	1.288	5.14
17)		bromochloromethane	0.470	0.427	0.402	0.385	0.371	0.411	9.50
		1,1,1-trichloroethane	1.093	1.101	1.022	0.983	0.943	1.028	6.66
19)		1,1-dichloropropene	1.180	1.145	1.072	1.032	0.994	1.084	7.11
20)		carbon tetrachloride	0.936	0.984	0.937	0.898	0.859	0.923	5.07
21)	S	1,2-dichloroethane-d4	0.507	0.484	0.481	0.447	0.449	0.473	5.35
22)		1,2-dichloroethane	0.669	0.646	0.616	0.596	0.573	0.620	6.19
23)	M	benzene	2.585	2.390	2.228	2.173	2.120	2.299	8.23
24)	I	1,4-difluorobenzene	----------ISTD----------						
25)	M	trichloroethene	0.394	0.378	0.347	0.344	0.331	0.359	7.29
26)	C	1,2-dichloropropane	0.456	0.432	0.404	0.401	0.382	0.415	6.99
27)	M	bromodichloromethane	0.539	0.527	0.501	0.497	0.466	0.506	5.59
28)		dibromomethane	0.230	0.219	0.211	0.210	0.200	0.214	5.25
29)		2-CEVE	0.015	0.096	0.106	0.116	0.120	0.090	47.75LR
30)		cis-1,3-dichloroprope	0.512	0.511	0.491	0.492	0.468	0.495	3.59
31)	S	toluene-d8	0.899	0.890	0.890	0.900	0.904	0.897	0.70
32)	MC	toluene	0.623	0.593	0.561	0.565	0.543	0.577	5.42
33)		trans-1,3-dichloropen	0.346	0.350	0.342	0.344	0.329	0.342	2.32
34)		1,1,2-trichloroethane	0.235	0.218	0.204	0.205	0.193	0.211	7.52
35)		1,3-dichloropropane	0.436	0.417	0.398	0.394	0.376	0.404	5.64
36)		tetrachloroethene	0.429	0.410	0.387	0.388	0.368	0.397	5.97
37)		dibromochloromethane	0.369	0.377	0.363	0.359	0.338	0.361	4.02
38)		1,2-dibromoethane	0.325	0.326	0.314	0.308	0.292	0.313	4.46
39)	I	chlorobenzene-d5	----------ISTD----------						
40)	MP	chlorobenzene	2.997	3.001	2.858	2.788	2.737	2.876	4.16
		1,1,1,2-tetrachloroet	1.353	1.367	1.315	1.283	1.276	1.319	3.09
	C	ethylbenzene	4.403	4.064	3.757	3.681	3.557	3.892	8.77
43)		m&p-xylene	1.745	1.629	1.622	1.557	1.545	1.620	4.92
44)		o-xylene	3.289	3.090	2.971	2.856	2.775	2.996	6.75
45)		styrene	2.691	2.585	2.550	2.504	2.491	2.564	3.12
46)	P	isopropylbenzene	4.457	4.310	4.136	3.999	3.861	4.153	5.73
47)	P	bromoform	0.821	0.889	0.887	0.876	0.878	0.870	3.23

48)	P	1,1,2,2-tetrachloroet	1.277	1.248	1.215	1.148	1.100	1.198	6.05
49)	S	4-bromofluorobenzene	1.880	1.940	1.995	1.945	1.987	1.949	2.35
50)	P	1,2,3-trichloropropan	0.277	0.292	0.298	0.286	0.282	0.287	2.89
51)		n-propylbenzene	4.649	4.582	4.483	4.350	4.197	4.452	4.09
52)		bromobenzene	1.327	1.251	1.225	1.190	1.164	1.231	5.10
53)		1,3,5-trimethylbenzen	2.960	2.918	2.897	2.740	2.621	2.827	5.03
54)		2-chlorotoluene	3.171	3.079	3.071	2.755	2.599	2.935	8.35
55)		4-chlorotoluene	3.119	3.097	3.089	3.026	2.952	3.056	2.22
56)		tert-butylbenzene	3.328	3.345	3.292	3.154	3.021	3.228	4.27
57)		1,2,4-trimethylbenzen	2.919	2.856	2.853	2.738	2.625	2.798	4.18
58)		sec-butylbenzene	4.206	4.326	4.339	4.129	3.965	4.193	3.68
59)		4-isopropyltoluene	3.314	3.443	3.471	3.323	3.172	3.345	3.57
60)		1,3-dichlorobenzene	1.980	2.020	1.975	1.908	1.836	1.944	3.74
61)	M	1,4-dichlorobenzene	2.038	1.988	2.014	1.882	1.800	1.944	5.16
62)		n-butylbenzene	2.831	2.937	2.970	2.835	2.697	2.854	3.76
63)		1,2-dichlorobenzene	1.647	1.760	1.764	1.676	1.611	1.692	4.03
64)		1,2-dibromo-3-chlorop	0.148	0.157	0.167	0.167	0.163	0.160	5.07
65)		1,2,4-trichlorobenzen	0.943	1.332	1.422	1.401	1.375	1.295	15.39LR
66)		hexachlorobutadiene	0.851	0.897	0.927	0.899	0.851	0.885	3.78
67)		naphthalene	0.840	1.401	1.559	1.552	1.553	1.381	22.42LR
68)		1,2,3-trichlorobenzen	0.639	1.118	1.185	1.150	1.121	1.043	21.77LR

(#) = Out of Range

82604.M Wed Feb 10 21:29:46 1999

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\FEB99\FEB10\10FEB17.D Vial: 11
Acq On : 10 Feb 1999 10:25 pm Operator: m. chavez
Sample : 524.2/8260 ICV A Inst : MS-V4
Misc : 25 ML ; 25 UG/L; VO--8-3119 Multiplr: 1.00
IS Integration Params: 82604.M

Method : C:\HPCHEM\1\METHODS\82604.M (RTE Integrator)
Title : EPA 8260\524.2
Last Update : Wed Feb 10 21:28:05 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	99	0.01
2		dichlorodifluoromethane	0.550	0.555	-0.9	99	0.00
3	P	chloromethane	0.468	0.430	8.1	95	-0.02
4	C	vinyl chloride	0.548	0.564	-2.9	104	0.00
5		bromomethane	0.297	0.338	-13.8	108	-0.01LR
6	M	chloroethane	0.386	0.376	2.6	99	0.01
7		trichlorofluoromethane	0.813	0.885	-8.9	109	0.00
8		1,1,2-trichloro-1,2,2-trifl	1.132	1.144	-1.1	102	0.00
9	MC	1,1-dichloroethene	0.587	0.594	-1.2	99	0.00
10		methylene chloride	0.617	0.611	1.0	100	0.00
11		MTBE	1.131	1.176	-4.0	106	0.00
12		trans-1,2-dichloroethene	0.675	0.736	-9.0	110	0.00
[illegible]	MP	1,1-dichloroethane	1.461	1.455	0.4	98	0.00
		2,2-dichloropropane	0.881	0.808	8.3	90	0.00LR
[illegible]		cis-1,2-dichloroethene	0.826	0.779	5.7	95	0.00
16	C	chloroform	1.288	1.292	-0.3	100	0.00
17		bromochloromethane	0.411	0.410	0.2	101	0.00
18		1,1,1-trichloroethane	1.028	1.020	0.8	99	0.02
19		1,1-dichloropropene	1.084	1.086	-0.2	101	0.01
20		carbon tetrachloride	0.923	0.932	-1.0	99	0.00
21	S	1,2-dichloroethane-d4	0.473	0.478	-1.1	99	0.01
22		1,2-dichloroethane	0.620	0.627	-1.1	101	0.01
23	M	benzene	2.299	2.321	-1.0	104	0.01
24	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.01
25	M	trichloroethene	0.359	0.351	2.2	100	0.00
26	C	1,2-dichloropropane	0.415	0.403	2.9	99	0.01
27	M	bromodichloromethane	0.506	0.506	0.0	100	0.00
28		dibromomethane	0.214	0.216	-0.9	101	0.01
29		2-CEVE	0.090	0.106	-17.8	99	0.00LR
30		cis-1,3-dichloropropene	0.495	0.494	0.2	100	0.01
31	S	toluene-d8	0.897	0.900	-0.3	100	0.00
32	MC	toluene	0.577	0.590	-2.3	104	0.01
33		trans-1,3-dichloropene	0.342	0.350	-2.3	102	0.00
34		1,1,2-trichloroethane	0.211	0.210	0.5	102	0.01
35		1,3-dichloropropane	0.404	0.403	0.2	100	0.01
36		tetrachloroethene	0.397	0.397	0.0	102	0.00
37		dibromochloromethane	0.361	0.377	-4.4	103	0.00
		1,2-dibromoethane	0.313	0.321	-2.6	101	0.00
39	I	chlorobenzene-d5	1.000	1.000	0.0	100	0.00
40	MP	chlorobenzene	2.876	2.949	-2.5	103	0.00
41		1,1,1,2-tetrachloroethane	1.319	1.333	-1.1	102	0.00
42	C	ethylbenzene	3.892	3.926	-0.9	105	0.00
43		m&p-xylene	1.620	1.644	-1.5	101	0.00

44		o-xylene	2.996	3.045	-1.6	103	0.00
45		styrene	2.564	2.644	-3.1	104	0.00
46	P	isopropylbenzene	4.153	4.248	-2.3	103	0.00
47	P	bromoform	0.870	0.897	-3.1	101	0.00
48	P	1,1,2,2-tetrachloroethane	1.198	1.219	-1.8	100	0.00
49	S	4-bromofluorobenzene	1.949	1.918	1.6	96	0.00
50	P	1,2,3-trichloropropane	0.287	0.297	-3.5	100	0.00
51		n-propylbenzene	4.452	4.660	-4.7	104	0.00
52		bromobenzene	1.231	1.288	-4.6	105	0.00
53		1,3,5-trimethylbenzene	2.827	2.959	-4.7	102	0.00
54		2-chlorotoluene	2.935	2.985	-1.7	97	0.00
55		4-chlorotoluene	3.056	3.265	-6.8	106	0.00
56		tert-butylbenzene	3.228	3.391	-5.0	103	0.00
57		1,2,4-trimethylbenzene	2.798	2.946	-5.3	103	0.00
58		sec-butylbenzene	4.193	4.363	-4.1	101	0.00
59		4-isopropyltoluene	3.345	3.596	-7.5	104	0.00
60		1,3-dichlorobenzene	1.944	2.051	-5.5	104	-0.01
61	M	1,4-dichlorobenzene	1.944	2.031	-4.5	101	0.00
62		n-butylbenzene	2.854	3.086	-8.1	104	0.00
63		1,2-dichlorobenzene	1.692	1.804	-6.6	102	0.00
64		1,2-dibromo-3-chloropropane	0.160	0.173	-8.1	104	0.00
65		1,2,4-trichlorobenzene	1.295	1.466	-13.2	103	0.00LR
66		hexachlorobutadiene	0.885	0.940	-6.2	101	0.00
67		naphthalene	1.381	1.574	-14.0	101	-0.01LR
68		1,2,3-trichlorobenzene	1.043	1.217	-16.7	103	0.00LR

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

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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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

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	1616-1	< 0.5	26.19	26.36	25.00	25.00	µg/L	1.	20	105.	105.	80 - 120
Bromodichloromethane	1616-1	< 0.5	24.36	24.22	25.00	25.00	µg/L	1.	20	97.	97.	80 - 120
Chlorobenzene	1616-1	< 0.5	26.35	25.91	25.00	25.00	µg/L	2.	20	105.	104.	80 - 120
Chloroethane	1616-1	< 0.5	27.98	27.74	25.00	25.00	µg/L	1.	20	112.	111.	80 - 120
1,4-Dichlorobenzene	1616-1	< 0.5	26.87	26.29	25.00	25.00	µg/L	2.	20	107.	105.	80 - 120
1,1-Dichloroethane	1616-1	< 0.5	26.53	26.50	25.00	25.00	µg/L	0.	20	106.	106.	80 - 120
1,1-Dichloroethene	1616-1	< 0.5	26.41	26.25	25.00	25.00	µg/L	1.	20	106.	105.	80 - 120
Toluene	1616-1	< 0.5	24.94	24.83	25.00	25.00	µg/L	0.	20	100.	99.	80 - 120
Trichloroethene	1616-1	< 0.5	25.81	25.82	25.00	25.00	µg/L	0.	20	103.	103.	80 - 120
1,2-Dichloroethane-d4	MS/MSD									102.	104.	76 - 114
Toluene-d8	MS/MSD									94.	94.	88 - 110
4-Bromofluorobenzene	MS/MSD									100.	99.	85 - 115

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

Quality Control Officer

Anthony Bonanno

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BOE-C6-0234452

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
DERRICK WILLIS

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

Samples Affected: 99-01616-1, 99-01616-2

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Benzene	CCV4	25.4	25.0	µg/L	102.	80 - 120
Bromodichloromethane	CCV4	24.6	25.0	µg/L	98.	80 - 120
Chlorobenzene	CCV4	24.8	25.0	µg/L	99.	80 - 120
Chloroethane	CCV4	26.5	25.0	µg/L	106.	80 - 120
1,4-Dichlorobenzene	CCV4	25.5	25.0	µg/L	102.	80 - 120
1,1-Dichloroethane	CCV4	25.1	25.0	µg/L	100.	80 - 120
1,1-Dichloroethene	CCV4	24.7	25.0	µg/L	99.	80 - 120
Toluene	CCV4	24.0	25.0	µg/L	96.	80 - 120
Trichloroethene	CCV4	24.8	25.0	µg/L	99.	80 - 120
1,2-Dichloroethane-d4	CCV4				103.	76 - 114
Toluene-d8	CCV4				95.	88 - 110
4-Bromofluorobenzene	CCV4				97.	85 - 116

Quality Control Officer

Anthony Bonanno

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BC Laboratories, Inc

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

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

Date of Report: 05/11/99
Sample Matrix: Miscellaneou

Samples Affected: 99-01616-4, 99-01616-5

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-1965-13-X2	< 10.	< 10.	44.45	45.25	98.04	98.04	mg/kg	<PQL	2.	20	45.	46.	75 - 125
Arsenic	HP-1965-13-X2	3.559	3.833	8.245	8.412	4.902	4.902	mg/kg	<PQL	2.	20	96.	99.	75 - 125
Barium	HP-1965-13-X2	108.2	110.5	213.9	203.1	98.04	98.04	mg/kg	2.	5.	20	108.	97.	75 - 125
Beryllium	HP-1965-13-X2	0.5588	0.5784	10.3	10.38	9.804	9.804	mg/kg	<PQL	1.	20	99.	100.	75 - 125
Cadmium	HP-1965-13-X2	< 1.	< 1.	9.52	9.627	9.804	9.804	mg/kg	<PQL	1.	20	98.	99.	75 - 125
Chromium	HP-1965-13-X2	16.88	16.79	114.1	114.5	98.04	98.04	mg/kg	1.	0.	20	99.	100.	75 - 125
Cobalt	HP-1965-13-X2	6.078	6.02	102.5	103.	98.04	98.04	mg/kg	<PQL	0.	20	98.	99.	75 - 125
Copper	HP-1965-13-X2	18.	17.32	123.1	123.3	98.04	98.04	mg/kg	4.	0.	20	107.	107.	75 - 125
Lead	HP-1965-13-X2	3.951	3.941	91.32	92.22	98.04	98.04	mg/kg	<PQL	1.	20	89.	90.	75 - 125
Mercury	01965-12	< 0.2	< 0.2	0.8238	0.8975	0.8065	0.8333	mg/kg	<PQL	9.	20	98.	104.	75 - 125
Molybdenum	HP-1965-13-X2	< 5.	< 5.	93.53	93.65	98.04	98.04	mg/kg	<PQL	0.	20	95.	95.	75 - 125
Nickel	HP-1965-13-X2	12.14	12.27	110.7	111.8	98.04	98.04	mg/kg	<PQL	1.	20	101.	102.	75 - 125
Selenium	HP-1965-13-X2	< 1.	< 1.	3.559	3.804	4.902	4.902	mg/kg	<PQL	7.	20	85.	90.	75 - 125
Silver	HP-1965-13-X2	< 2.	< 2.	8.196	8.245	9.804	9.804	mg/kg	<PQL	1.	20	85.	85.	75 - 125
Thallium	HP-1965-13-X2	< 10.	< 10.	91.48	92.24	98.04	98.04	mg/kg	<PQL	1.	20	93.	93.	75 - 125
Vanadium	HP-1965-13-X2	39.46	39.56	144.6	144.	98.04	98.04	mg/kg	0.	0.	20	107.	107.	75 - 125
Zinc	HP-1965-13-X2	45.16	43.61	141.1	142.	98.04	98.04	mg/kg	3.	1.	20	98.	99.	75 - 125
Aluminum	HP-1965-13-X2	13490.	13390.	14780.	14580.	490.2	490.2	mg/kg	1.	1.	20	H MEAN	H MEAN	75 - 125
Titanium	HP-1965-13-X2	824.5	815.7	1308.	1285.	490.2	490.2	mg/kg	1.	2.	20	99.	94.	75 - 125

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

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

Date of Report: 05/11/99
Sample Matrix: Miscellaneou

Samples Affected: 99-01616-4, 99-01616-5

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 are outside QC limits.
The sample reports are flagged accordingly.

Quality Control Officer

Anthony Bonanno

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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
DERRICK WILLIS

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

Samples Affected: 99-01616-4, 99-01616-5

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Antimony	HP-LCSW#1-	2.	2.	mg/L	100.	80 - 120
Arsenic	HP-LCSW#1-	0.0976	0.1000	mg/L	98.	80 - 120
Barium	HP-LCSW#1-	2.01	2.00	mg/L	101.	80 - 120
Beryllium	HP-LCSW#1-	0.211	0.2000	mg/L	106.	80 - 120
Cadmium	HP-LCSW#1-	0.21	0.2000	mg/L	105.	80 - 120
Chromium	HP-LCSW#1-	2.11	2.	mg/L	105.	80 - 120
Cobalt	HP-LCSW#1-	2.13	2.	mg/L	107.	80 - 120
Copper	HP-LCSW#1-	2.22	2.	mg/L	111.	80 - 120
Lead	HP-LCSW#1-	1.91	2.	mg/L	95.	80 - 120
Mercury	LCSW1-02-2	0.00538	0.005	mg/L	108.	85 - 115
Molybdenum	HP-LCSW#1-	2.12	2.	mg/L	106.	80 - 120
Nickel	HP-LCSW#1-	2.17	2.	mg/L	109.	80 - 120
Selenium	HP-LCSW#1-	0.0951	0.1000	mg/L	95.	80 - 120
Silver	HP-LCSW#1-	0.18	0.2000	mg/L	90.	80 - 120
Thallium	HP-LCSW#1-	1.98	2.	mg/L	99.	80 - 120
Vanadium	HP-LCSW#1-	2.25	2.	mg/L	112.	80 - 120
Zinc	HP-LCSW#1-	2.15	2.	mg/L	107.	80 - 120
Aluminum	HP-LCSW#1-	10.6	10.	mg/L	106.	80 - 120
Titanium	HP-LCSW#1-	10.5	10.	mg/L	105.	80 - 120

Quality Control Officer

Anthony Bonanno

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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
DERRICK WILLIS

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

Samples Affected: 99-01616-4, 99-01616-5

Constituents	Preparation Method	Preparation Date	Preparation Technician	Analytical Method	Run Date	Analyst
Antimony	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Arsenic	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Barium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Beryllium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Cadmium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Chromium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Cobalt	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Copper	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Lead	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Mercury	SW-7471	02/22/99	JSL	SW-7471	02/23/99	DIW
Molybdenum	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Nickel	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Selenium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Silver	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Thallium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Vanadium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Zinc	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Aluminum	SW-3050	02/18/99	VBA	SW-6010	02/18/99	JCC
Titanium	SW-3050	02/18/99	VBA	SW-6010	02/18/99	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
DERRICK WILLIS

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

Samples Affected: 99-01616-4, 99-01616-5

Constituents	ICV % Found	CCV % Found Before	CCV % Found After	% Found Control Limits	CCB Readings Before	CCB Readings After	Units	Method Blank Readings	Units
Antimony	100.	98.	100.	90 - 110	< 0.1	< 0.1	mg/L	< 0.5	mg/kg
Arsenic	104.	102.	103.	90 - 110	< 0.01	< 0.01	mg/L	< 2.5	mg/kg
Barium	101.	102.	102.	90 - 110	< 0.01	< 0.01	mg/L	< 5.0	mg/kg
Beryllium	103.	106.	106.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Cadmium	103.	104.	104.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Chromium	103.	106.	106.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Cobalt	102.	105.	105.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Copper	97.	99.	99.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Lead	101.	100.	102.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Mercury	101.	99.	97.	80 - 120	< 0.0002	< 0.0002	mg/L	< 0.2	mg/kg
Molybdenum	100.	102.	102.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Nickel	103.	104.	104.	90 - 110	< 0.05	< 0.05	mg/L	< 2.5	mg/kg
Selenium	100.	98.	100.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Silver	99.	98.	99.	90 - 110	< 0.02	< 0.02	mg/L	< 1.0	mg/kg
Thallium	100.	100.	101.	90 - 110	< 0.1	< 0.1	mg/L	< 5.0	mg/kg
Vanadium	102.	104.	104.	90 - 110	< 0.01	< 0.01	mg/L	< 0.5	mg/kg
Zinc	103.	106.	107.	90 - 110	< 0.05	< 0.05	mg/L	< 1.0	mg/kg
Aluminum	100.	103.	101.	90 - 110	< 0.1	< 0.1	mg/L	< 2.5	mg/kg
Titanium	99.	101.	100.	90 - 110	< 0.01	< 0.01	mg/L	< 2.5	mg/kg

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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
DERRICK WILLIS

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

Samples Affected: 99-01616-4, 99-01616-5

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

Quality Control Officer

Anthony Bonanno

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