HARRISON

Harrison Division
General Motors Corporation
200 Upper Mountain Road
Lockport, New York 14094

15-Apr-93

Mr. Stan Radon
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

Dear Mr. Radon:

Enclosed is the quarterly groundwater monitoring report for March 1993. The report form indicates the sample date, the groundwater elevations, and the as-analyzed concentration of certain parameters. Please note that sampling was performed on both March 10 and April 2 (wells I-2T and I-2R) because two wells were frozen on March 10.

Sample collection and on-site analyses for pH, specific conductance, and temperature were performed by GZA GeoEnvironmental of New York. All other analyses were by Free-Col Laboratories, Inc. in Meadville, Pennsylvania.

If you have any questions regarding this or subsequent monitoring reports, please contact Cathy Ver at 439-2942.

Sincerely,

R. D. Knapp
Supervisor -
Environmental Activities

cc: Mr. P. Counterman - NYSDEC, Albany
Mr. J. DeVald - NCHD

GZA
GeoEnvironmental
of New York

Engineers and Scientists

April 9, 1993
File: 5805

Ms. Catherine Ver
Harrison, Division of
General Motors Corporation
200 Upper Mountain Road
Lockport, New York 14094

364 Nagel Drive
Buffalo, New York
14225
716-685-2300
FAX 716-685-3629

Re: Long-Term Groundwater Monitoring
Field Measurements and Equipment
Calibration Records

Dear Ms. Ver:

Enclosed is a summary of groundwater field measurements, equipment calibration measurements and copies of chain of custody forms completed by GZA GeoEnvironmental of New York (GZA) during the sampling event of March 9 and 10 and April 2 of 1993.

During the initial site visit on March 9, the water in well I-2T was frozen. Water level measurements were obtained from the remaining wells included in the Long-Term Groundwater Monitoring Program and I-1T and I-7T were purged. On the following day (March 10), both I-2T and I-2R were frozen, the remaining wells were sampled in accordance with the sampling and analysis plan. GZA returned to the site on March 18, wells I-2T and I-2R still frozen. After a thaw, GZA was able to sample these wells on April 2, 1993.

The matrix spike/matrix spike duplicate sample for this round was collected from I-4R. In addition, a trip blank, prepared by Free-Col Laboratories accompanied samples collected on March 10, 1993.

Stanley Radon and Kurt Wormbrodt of the Region 9 New York State Department of Environmental Conservation accompanied GZA on March 9 and 10 to observe GZA's activities and to collect split samples. A copy of the chain of custody provided by Mr. Radon is attached.

If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Very truly yours,

GZA GEOENVIRONMENTAL OF NEW YORK

Stephen H. Blair
Project Engineer

SHB/st

Enclosures: Summary of Groundwater Field Measurements
Equipment Calibration Measurements
Copies of Chain of Custody Forms

SUMMARY OF IN-SITU FIELD MEASUREMENTS

PROJECT: Harrison Facility Groundwater Monitoring Program	GZA FILE: R5805.00
LOCATION: Lockport, New York	SAMPLE COLLECTION DATE: March 10,1993 and April 2,1993

GROUP 1: BEDROCK MONITORING WELLS

Sample Location	Sample Date	Water Elevation (feet)	Temp (ºC)	Turbidity (NTU)	pH (Standard Units)	Specific Conductance (μMHOS/cm)
I-1R	3/10/93	624.7	13	90	7.9	480
I-2R	4/2/93	625.2	11	10	7.6	990
I-3R	3/10/93	617.6	16	26	7.0	880
I-4R	3/10/93	614.0	17	6	7.0	1350
I-5R	3/10/93	613.4	12	8	7.2	1470
I-6R	3/10/93	614.9	16	6	7.3	680
I-7R	3/10/93	613.2	14	10	7.6	730

GROUP 2: TOP OF ROCK GROUNDWATER SAMPLING WELLS

Sample Location	Sample Date	Water Elevation (feet)	Temp (ºC)	Turbidity (NTU)	pH (Standard Units)	Specific Conductance (μMHOS/cm)
I-1T	3/10/93	624.1	12	49	7.5	675
I-2T	4/2/93	624.8	11	70	7.4	1200
I-3T	3/10/93	617.7	14	36	7.0	830
I-4T	3/10/93	615.2	16	7	7.0	1650
I-5T	3/10/93	614.1	12	46	7.2	2070
I-7T	3/10/93	613.2	13	14	7.5	640

GROUP 3: GROUNDWATER OBSERVATION WELLS

Sample Location	Date	Water Elevation (feet)	Sample Location	Date	Water Elevation (feet)
II-AT	3/9/93	614.5	II-CT	3/9/93	617.4
II-AR	3/9/93	617.3	II-DR	3/9/93	616.7
II-BT	3/9/93	620.0	II-DT	3/9/93	616.7

GZA GeoEnvironmental of New York

Note: Water elevations from I-2T and I-2R were measured on 4/2/93, all remaining water levels were measured on 3/9/93.

pH METER CALIBRATION WORKSHEET

PROJECT: Harrison Facility Groundwater Monitoring Program	**GZA FILE:** R5805.00
LOCATION: Lockport, New York	**SAMPLE COLLECTION DATE:** March 10,1993 and April 2,1993
pH METER MODEL: Extech pH Meter, S/N 1-1640/11D86, with Corning calomel combination electrode.	

CALIBRATION[1]

Date	Set Point(s)[2] (pH units)	Target[3] Value(s) (pH units)	Actual[4] Reading(s) (pH units)	Analyst's Initials	Remarks
3/9/93	4.00 9.99	7.00	7.10	SHB	Two point calibration at GZA laboratory prior to sampling event.
3/10/93	4.02 9.97	7.00	7.02	SHB	Two point calibration in field prior to sampling event.
4/2/93	4.10 9.95	7.00	7.03	SHB	Two point calibration in field prior to sampling event.

NOTES:

1. These calibrations were done in accordance with the NYSDOH's Environmental Laboratory Approval Program (ELAP) manual, item 231, revised as of April 1,1986.

2. For a one point calibration, the set point is the pH of the standard buffer solution used to initially calibrate the pH meter. For a two point calibration, the set points are the pH of the standard buffers used to initially calibrate the slope of the pH meter.

3. For a one point calibration, the target values are the pH of the standard buffers used to check the slope of the pH meter. For a two point calibration, the target value is the pH of the standard buffer used to check the initial calibration.

4. The accepted accuracy for the actual readings using a one point calibration is $\pm$0.2 pH units of the target value. The accepted accuracy for the actual reading using a two point calibration is $\pm$0.05 pH units of the target value.

CONDUCTIVITY METER CALIBRATION WORKSHEET

PROJECT: Harrison Facility Groundwater Monitoring Program	**GZA FILE:** R5805.00
LOCATION: Lockport, New York	**SAMPLE COLLECTION DATE:** March 10,1993 and April 2,1993

CONDUCTIVITY METER MODEL: Extech Conductivity Meter S/N 1-1649/IOE86

CALIBRATION[1]

Date	Temperature (ºC)	Target[2] Value (μMHOS/cm)	Actual[3] Reading (μMHOS/cm)	Analyst's Initials	Remarks
3/10/93	4	1413	1420	SHB	Calibrated in field prior to sampling using 0.01 N KCL solution.
3/10/93	4	147	128	SHB	Calibrated in field prior to sampling using 0.001 N KCL solution.
4/2/93	10	1413	1290	SHB	Calibrated in field prior to sampling using 0.01 N KCL solution.
4/2/93	10	147	130	SHB	Calibrated in field prior to sampling using 0.001 N KCL.

NOTES:

1. These calibrations were done in accordance with the NYSDOH's Environmental Laboratory Approval Program (ELAP) manual, item 231, revised as of April 1,1986
2. Target value is the concentration of the potassium chloride (KCl) standard solutions.
3. Accepted accuracy for the actual reading is ±20 percent of the target value.

THERMOMETER CALIBRATION WORKSHEET

PROJECT: Harrison Facility Groundwater Monitoring Program	**GZA FILE:** R5805.00
LOCATION: Lockport, New York	**SAMPLE COLLECTION DATE:** March 10, 1993 and April 2, 1993
THERMOMETER MODEL: Fisher Scientific glass S/N 2005	

CALIBRATION[1]

Date	Target[2] Temperature (ºC)	Actual[3] Temperature (ºC)	Analyst's Initials	Remarks
6/2/92	3.9 20.0 40.1	4.0 20.1 40.2	GJK	See Note 4.

NOTES:

1. These calibrations were done in accordance with the NYSDOH's Environmental Laboratory Approval Program (ELAP) manual, item 231, revised as of April 1, 1986.

2. Target temperature is the temperature reading of the National Bureau of Standards (NBS) traceable thermometer. The NBS thermometer was certified on July 11, 1985 and checked at the ice point on September 19, 1988.

3. Actual temperature is the temperature of the calibrated thermometer.

4. The correction factor of the calibrated thermometer is:

$$\text{Corrected Temperature} = (1.01 \times \text{Actual Temperature}) - 0.05$$

TURBIDIMETER CALIBRATION WORKSHEET

PROJECT: Harrison Facility Groundwater Monitoring Program	**GZA FILE:** R5805
LOCATION: Lockport, New York	**SAMPLE COLLECTION DATE:** March 10,1993 and April 2,1993
TURBIDIMETER MODEL: Cole Parmer Model 8391-85	

CALIBRATION [1]

Date	Target[2] Value (NTU)	Observed Value (NTU)	Analyst`s Initials	Remarks
3/10/93	40	40	SHB	Measured in field prior to sampling event.
4/2/93	40	40	SHB	Measured in field prior to sampling event.

NOTES:

1. These calibrations were done in accordance with the NYSDOH`s Environmental Laboratory Approval Program (ELAP) manual, item 231 revised as of April 1, 1986.

2. Target value of primary AMCO-AEPA-1 standards.

ENVIRONMENTAL SAMPLE DESCRIPTION AND CHAIN OF CUSTODY RECORD

ATTACHMENT #2

PLE DATE: 3/10/93 RESULTS REQUIRED BY: GZA
VERBAL RESULTS NEEDED?

HARRISON DIVISION, GMC
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK 14094

_____ LABORATORY: Free - Col

PHONE: (716) 439-
CONTACT: (716) 685-2300
Steve Blair (GZA) or
Kathy Ver (Harrison)

PLE TYPE: (CIRCLE)
1) WASTEWATER 2) DRINKING WATER (3) MONITORING WELL 4) SOIL
5) SLUDGE 6) SOLID WASTE 7) OIL 8) INDUSTRIAL HYGIENE
9) OTHER _____

PLE DESCRIPTION: Groundwater from long-term monitoring program, Road 7.

SAMPLE #	LOCATION	TIME	PARAMETERS	SAMPLE BOTTLE LOT # (OPTIONAL)
-031093	- I - 1R	14 15	Metals - Cadmium, Copper, Chromium, Lead & Zinc	
R-031093	- I - 1T	14 30	"	
R-031093	- I - 3T	14 45	"	
R-031093	- I - 3R	14 50	"	
R-031093	- I - 4T	15 15	"	
R-031093	- I - 4R	15 05	" MS/MSD Vol	
R-031093	- I - 5R	15 30	"	

NIMUM DETECTION LEVELS REQUIRED? _____

OSSIBLE INTERFERENCES: _____

EASON FOR TEST (COMPARISON OF AREAS, BACKGROUND, ETC.) _____

OTTLES RECEIVED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL] Stephen Allen 3/11/93 13 00 (GZA)
OTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RECEIVED BY: (DATE/TIME) [LAB PERSONNEL] William F Sato 3/11/93 13 00
SAMPLE COLLECTED BY:	RECEIVED BY: [DATE, TIME, LAB SIGNATURE]

ENVIRONMENTAL SAMPLE DESCRIPTION AND CHAIN OF CUSTODY RECORD

ATTACHMENT #2

E DATE: 3/10/93

RESULTS REQUIRED BY: GZA

VERBAL RESULTS NEEDED?

LABORATORY: Free Col

HARRISON DIVISION, GMC
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK 14094
PHONE: (~~716~~) ~~489~~ -
CONTACT: (716) 685-2300
Steve Blair (GZA) or Kathy Ver Charris

.E TYPE: (CIRCLE)
1) WASTEWATER 2) DRINKING WATER (3) MONITORING WELL 4) SOIL
5) SLUDGE 6) SOLID WASTE 7) OIL 8) INDUSTRIAL HYGIENE
9) OTHER

.E DESCRIPTION: Groundwater from long term monitoring program - Road 7

AMPLE #	LOCATION	TIME	PARAMETERS	SAMPLE BOTTLE LOT # (OPTIONAL)
031093-	-I-5T	15^{40}	Metals - Cadmium, Copper, Chromium, Lead & Zinc	
031093	-I-7T	15^{50}	"	
031093	-I-7R	16^{00}	"	
031093	-I-6R	16^{25}	"	

IMUM DETECTION LEVELS REQUIRED?

SSIBLE INTERFERENCES:

ASON FOR TEST (COMPARISON OF AREAS, BACKGROUND, ETC.)

TTLES RECEIVED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]
	Stephen Blair 3/11/93 13^{00} (GZA)
TTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RECEIVED BY: (DATE/TIME) [LAB PERSONNEL]
	William F Slatt 3/11/93 13^{00}
SAMPLE COLLECTED BY:	RECEIVED BY: [DATE, TIME, LAB SIGNATURE]

ENVIRONMENTAL SAMPLE DESCRIPTION
AND
CHAIN OF CUSTODY RECORD

ATTACHMENT #2

TE: 4/2/93

RESULTS REQUIRED BY: GZA
VERBAL RESULTS NEEDED?

LABORATORY: Free - Col

HARRISON DIVISION, GMC
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK 14094
PHONE: (716) ~~439~~ 685-2300
CONTACT: Steve Blair (GZA)

PE: 1) WASTEWATER 2) DRINKING WATER (3) MONITORING WELL 4) SOIL
5) SLUDGE 6) SOLID WASTE 7) OIL 8) INDUSTRIAL HYGIENE
9) OTHER

ESCRIPTION: Groundwater from long-term monitoring program, Load 7.

LE #	LOCATION	TIME	PARAMETERS	SAMPLE BOTTLE LOT # (OPTIONAL)
93-I-2T		10 55	Metals - Cadmium, Chromium, Copper, Lead & Zinc	
0293-I-2R		11 10	"	

M DETECTION LEVELS REQUIRED?

LE INTERFERENCES:

N FOR TEST (COMPARISON OF AREAS, BACKGROUND, ETC.)

ES RECEIVED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]
4/2/93 1700	4/6/93 1340
ES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RECEIVED BY: (DATE/TIME) [LAB PERSONNEL]
4/2/93 17:00	4-6-93 1:40pm
MPLE COLLECTED BY: Stephen Blair	RECEIVED BY: [DATE, TIME, LAB SIGNATURE]

RECEIPT FOR GROUND WATER SAMPLES

New York State Department of Environmental Conservation
Division of Hazardous Substances Regulation
50 Wolf Road, Room 228
Albany, NY 12233-7251

NAME OF FACILITY: HARRISON RADIATOR, GMC

SAMPLERS: (Signature)

COMPANY:

FACILITY LOCATION: LOCKPORT, NY

SPLIT SAMPLES OFFERED (X) Accepted ( ) Declined

WELL NUMBER	DATE	TIME	SPLIT SAMPLES	NUMBER OF CONTAINERS	SAMPLE I.D. NUMBER	WELL DESCRIPTION (UG/DG)	REMARKS
		1415	YES		NF99200302001	UG	CLOUDY
1 R		1505			NF99200302002	UG	[illegible]
T-4R		1530			NF99200302003	UG	CLEAR
T-5R		1550			NF99200302004	UG	
T-7R		1600			NF99200302005	UG	
		1625			NF99200302006	UG	"
		1625			NF99200302007	UG	" MS
		1625			NF99200302008	UG	MSD

RELINQUISHED BY: [signature]

TITLE: PROJ. ENGINEER

DATE:

TIME:

RECEIVED FOR DEC BY: [signature]

TITLE

DATE:

TIME: 1135

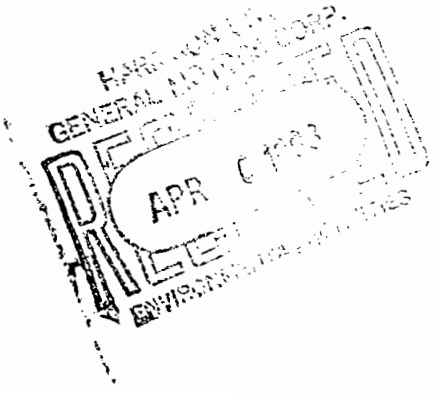
FREE-COL LABORATORIES, INC.
P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466

ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

HARRISON DIVISION
GENERAL MOTORS CORPORATION

GZA
GROUNDWATER

SAMPLE DATE: 03/10/93
P.O.# H-55864



METHODS

PARAMETER	METHOD	SOURCE
Acid Digestion Preparation	3005A	2
Zinc	7950	2
Cadmium (flameless)	7131	2
Chromium (flameless)	7191	2
Copper (flameless)	7211	2
Lead (flameless)	7421	2

SOURCE

2 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, Third Edition, U.S. Environmental Protection Agency. Revised 1986.

FREE-COL LABORATORIES, INC.

P.O. BOX 557,COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
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5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR
MEADVILLE, PENNSYLVANIA

KENNETH G. HART
LABORATORY DIRECTOR
ROANOKE, VIRGINIA

03/23/93

TO: HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

LAB ID	SAMPLE ID		PARAMETER	RESULT
30311408	HR-031093	I-1R	ACID DIGESTION PREP	COMPLETE
30311409	HR-031093	I-1T	ACID DIGESTION PREP	COMPLETE
30311410	HR-031093	I-3T	ACID DIGESTION PREP	COMPLETE
30311411	HR-031093	I-3R	ACID DIGESTION PREP	COMPLETE
30311412	HR-031093	I-4T	ACID DIGESTION PREP	COMPLETE
30311413	HR-031093	I-4R	ACID DIGESTION PREP	COMPLETE
30311414	HR-031093	I-5R	ACID DIGESTION PREP	COMPLETE
30311415	HR-031093	I-5T	ACID DIGESTION PREP	COMPLETE
30311416	HR-031093	I-7T	ACID DIGESTION PREP	COMPLETE
30311417	HR-031093	I-7R	ACID DIGESTION PREP	COMPLETE
30311418	HR-031093	I-6R	ACID DIGESTION PREP	COMPLETE
30311419	TRIP BLANK		ACID DIGESTION PREP	COMPLETE

DATE AND	ANALYST
03/15/93	MAIN

FREE-COL LABORATORIES, INC.

P.O. BOX 557,COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
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J. RICHARD WC
LABORATORY
MEADVILLE, PEN

KENNETH G
LABORATORY D.
ROANOKE, VI

03/23/93

TO: HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

PARAMETER	SAMPLE ID / LAB ID / DATE RECEIVED:	HR-031093 I-1R DIGESTION 30311420 03/11/93	HR-031093 I-1T DIGESTION 30311421 03/11/93	HR-031093 I-3T DIGESTION 30311422 03/11/93	HR-031093 I-3R DIGESTION 30311423 03/11/93
ZINC MG/L		1.17	0.046	0.036	0.058
CADMIUM G.F. MG/L		0.0006	0.0009	0.0004	0.0008
CHROMIUM-G.F. MG/L		0.002	0.002	0.001	<0.001
COPPER-G.F. MG/L		0.023	0.021	0.014	0.005
LEAD G.F. MG/L		0.010	0.005	0.002	0.006

Please reference the following page(s) for date and analyst.

FREE-COL LABORATORIES, INC.

P.O. BOX 557,COTTON ROAD
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J. RICHA
LABC
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LABC
ROA

03/23/93

TO:
HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

PARAMETER	SAMPLE ID :	HR-031093 I-4T DIGESTION	HR-031093 I-4R DIGESTION	HR-031093 I-5R DIGESTION	HI I- DI
	LAB ID	30311424	30311425	30311426	3(
	DATE RECEIVED:	03/11/93	03/11/93	03/11/93	0:
ZINC MG/L		0.206	0.098	0.056	0
CADMIUM G.F. MG/L		0.0002	0.0005	0.0009	0.
CHROMIUM-G.F. MG/L		0.001	0.001	<0.001	0
COPPER-G.F. MG/L		0.004	0.005	0.005	0
LEAD G.F. MG/L		<0.001	0.002	0.001	<(

Please reference the following page(s) for date and analyst.

FREE-COL LABORATORIES, INC.

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J. RIC
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03/23/93

TO: HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

PARAMETER	SAMPLE ID / LAB ID / DATE RECEIVED:	HR-031093 I-7T DIGESTION 30311428 03/11/93	HR-031093 I-7R DIGESTION 30311429 03/11/93	HR-031093 I-6R DIGESTION 30311430 03/11/93
ZINC MG/L		0.040	0.029	0.228
CADMIUM G.F. MG/L		0.0004	0.0002	0.0010
CHROMIUM-G.F. MG/L		<0.001	0.002	0.037
COPPER-G.F. MG/L		0.002	0.002	0.036
LEAD G.F. MG/L		<0.001	0.001	0.002

Please reference the following page(s) for date and analyst.

FREE-COL LABORATORIES, INC.

P.O. BOX 557,COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
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PHONE: (703) 265-2544
FAX: (703) 362-1663

J. RICHARL
LABORA
MEADVILLE

KENNE
LABORAT
ROANOK

04/01/93

TO: HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

SAMPLE ID : TRIP BLANK
DIGESTION

LAB ID 30311431
DATE RECEIVED: 03/11/93

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
Zinc	<0.005	MG/L	04/01/93	PRUTZMAN
Cadmium (flameless)	<0.0001	MG/L	03/16/93	BAKER/ LIM
Chromium (flameless)	0.002	MG/L	03/16/93	BAKER
Copper (flameless)	<0.001	MG/L	04/01/93	BAKER
Lead (flameless)	0.001	MG/L	03/15/93	BAKER/ LIM

FREE-COL LABORATORIES, INC.

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5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

J. RICH
LA
MEAD

KE
LA
RC

03/23/93

TO: HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094-1896

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

LAB ID	SAMPLE ID			PARAMETER
30311432	MATRIX SPK	I-4R	% RECOVERY	ACID DIGESTION PREP
30311433	MATRIX DUP	I-4R	% RECOVERY	ACID DIGESTION PREP

DATE AND ANALYST
03/15/93 MAIN

FREE-COL LABORATORIES, INC.

P.O. BOX 557,COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

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J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR
MEADVILLE, PENNSYLVANIA

KENNETH G. HART
LABORATORY DIRECTOR
ROANOKE, VIRGINIA

03/23/93

TO: HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094-1896

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

SAMPLE ID : MATRIX SPK
I-4R
DIGEST AS%
LAB ID 30311434
DATE RECEIVED: 03/11/93

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
Zinc	107	%	03/18/93	LIM
Cadmium (flameless)	110	%	03/16/93	BAKER/ LIM
Chromium (flameless)	89	%	03/16/93	BAKER
Copper (flameless)	108	%	03/17/93	BAKER
Lead (flameless)	99	%	03/15/93	BAKER/ LIM

FREE-COL LABORATORIES, INC.

P.O. BOX 557,COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
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03/23/93

TO: HARRISON DIVISION GMC
ATTN: MS. CATHERINE VER
200 UPPER MOUNTAIN RD.
LOCKPORT NY 14094-1896

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

SAMPLE ID : MATRIX DUP
I-4R
DIGEST AS%
LAB ID 30311435
DATE RECEIVED: 03/11/93

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
Zinc	85	%	03/18/93	LIM
Cadmium (flameless)	100	%	03/16/93	BAKER/ LIM
Chromium (flameless)	90	%	03/16/93	BAKER
Copper (flameless)	109	%	03/17/93	BAKER
Lead (flameless)	96	%	03/15/93	BAKER/ LIM

Andrew K. Ecklund
ASST. LABORATORY DIRECTOR

This complete report is eight pages.

ENVIRONMENTAL SAMPLE DESCRIPTION AND CHAIN OF CUSTODY RECORD

ATTACHMENT #2

SAMPLE DATE: 3/10/93 RESULTS REQUIRED BY: GZA
VERBAL RESULTS NEEDED?

HARRISON DIVISION, GMC
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK 14094

P.O. # LABORATORY: Free - Col

PHONE: ~~(716) 439 -~~
CONTACT: (716) 685-2300 Steve Blair (GZA, or Kathy Ver (Harrison

SAMPLE TYPE: (PLEASE CIRCLE)
1) WASTEWATER 2) DRINKING WATER (3) MONITORING WELL 4) SOIL
5) SLUDGE 6) SOLID WASTE 7) OIL 8) INDUSTRIAL HYGIENE
9) OTHER

SAMPLE DESCRIPTION: Groundwater from long-term monitoring program, Road 7.

SAMPLE #	LOCATION	TIME	PARAMETERS	SAMPLE BOTTLE LOT # (OPTIONAL)
HR-031093	- I - 2R	14 15	Metals - Cadmium, Copper, Chromium, Lead & Zinc	
HR-031093	- I - 1T	14 30	"	
HR-031093	- I - 3T	14 45	"	
HR-031093	- I - 3R	14 50	"	
HR-031093	- I - 4T	15 15	"	
HR-031093	- I - 4R	15 05	" MS/MSD Vol	
HR-031093	- I - 5R	15 30	"	

MINIMUM DETECTION LEVELS REQUIRED? Cooler Temp 1°C

POSSIBLE INTERFERENCES:

REASON FOR TEST (COMPARISON OF AREAS, BACKGROUND, ETC.)

BOTTLES RECEIVED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]
	3/11/93 13 00 (GZA)
BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RECEIVED BY: (DATE/TIME) [LAB PERSONNEL]
	3/11/93 13 00
SAMPLE COLLECTED BY:	RECEIVED BY: [DATE, TIME, LAB SIGNATURE] Darlene K. Nelson 3/11/93 16:30

ENVIRONMENTAL SAMPLE DESCRIPTION AND CHAIN OF CUSTODY RECORD

ATTACHMENT #2

SAMPLE DATE: 3/10/93

RESULTS REQUIRED BY: GZA

VERBAL RESULTS NEEDED?

P.O. # _____

LABORATORY: Free Col

HARRISON DIVISION, GMC
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK 14094
PHONE: (~~716~~) ~~489~~ -
CONTACT: (716) 685-2300
Steve Blair GZA or Kathy Ver Charl

SAMPLE TYPE: (PLEASE CIRCLE)
1) WASTEWATER 2) DRINKING WATER (3) MONITORING WELL 4) SOIL
5) SLUDGE 6) SOLID WASTE 7) OIL 8) INDUSTRIAL HYGIENE
9) OTHER _____

SAMPLE DESCRIPTION: Groundwater from long term monitoring program - Road 7

SAMPLE #	LOCATION	TIME	PARAMETERS	SAMPLE BOTTLE LOT # (OPTIONAL)
HR-031093	- I - 5T	15^40	Metals - Cadmium, Copper, Chromium, Lead & Zinc	
HR-031093	- I - 7T	15^50	"	
HR-031093	- I - 7R	16^00	"	
HR-031093	- I - 6R	16^25	"	

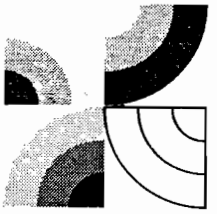
MINIMUM DETECTION LEVELS REQUIRED? Cooler Temp 1°C

POSSIBLE INTERFERENCES: _____

REASON FOR TEST (COMPARISON OF AREAS, BACKGROUND, ETC.) _____

BOTTLES RECEIVED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]
	Heather Blair 3/11/93 13^00 (GZA)
BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RECEIVED BY: (DATE/TIME) [LAB PERSONNEL]
	William F Stotz 3/11/93 13^00
SAMPLE COLLECTED BY:	RECEIVED BY: [DATE, TIME, LAB SIGNATURE]
	Darlene K. Nelson 3/11/93 16:30

FREE-COL LABORATORIES, INC.
P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

QUALITY CONTROL INFORMATION

Free-Col Laboratories analyzes control samples at specified frequencies during the analysis of samples submitted by clients in order to evaluate and document the precision and accuracy of the results which are reported. The attached quality control data records, prepared by the analytical staff at the time of analysis, show the results obtained for different types of control samples during the analysis of the batch of samples described as follows:

General Motors Sample Identification	Free-Col ID
HR-031093 I-1R	30311408
HR-031093 I-1T	30311409
HR-031093 I-3T	30311410
HR-031093 I-3R	30311411
HR-031093 I-4T	30311412
HR-031093 I-4R	30311413
HR-031093 I-5R	30311414
HR-031093 I-5T	30311415
HR-031093 I-7T	30311416
HR-031093 I-7R	30311417
HR-031093 I-6R	30311418
TRIP BLANK	30311419
HR-031093 I-1R DIGESTION	30311420
HR-031093 I-1T DIGESTION	30311421
HR-031093 I-3T DIGESTION	30311422
HR-031093 I-3R DIGESTION	30311423
HR-031093 I-4T DIGESTION	30311424
HR-031093 I-4R DIGESTION	30311425
HR-031093 I-5R DIGESTION	30311426
HR-031093 I-5T DIGESTION	30311427
HR-031093 I-7T DIGESTION	30311428
HR-031093 I-7R DIGESTION	30311429
HR-031093 I-6R DIGESTION	30311430
TRIP BLANK DIGESTION	30311431

Form II

INITIAL AND CONTINUING CALIBRATION VERIFICATION

LAB NAME Free-Col Labs
SAMPLE BATCH: LAB ID 303-11-408\439

Units: mg/L

Compound	Initial Calib.[1] True Value	Found	%R	Continuing Calib.[2] True Value	Found	%R	Found	%R	Method[4]
Metals:									
Cadmium	0.0050	0.0048	96	0.0050	0.0049	98	0.0042	84	F
Chromium	0.0300	0.0270	90	0.0300	0.0320	107	0.0330	110	F
	0.0300	0.0280	93						
Copper	0.0300	0.0320	107	0.0300	0.0340	113	0.0320	107	F
Lead	0.0500	0.0480	96	0.0500	0.0460	92	0.0430	86	F
	0.0500	0.0510	102	0.0500	0.0500	100	0.0500	100	F
Zinc	0.080	0.075	94	0.080	0.074	92	0.085	106	A
	0.080	0.083	104						
	0.800	0.804	100	0.800	0.801	100	0.805	101	A
	0.800	0.793	99						

[1]Initial Calibration
Source Fisher Scientific

[2]Continuing Calibration
Source Fisher Scientific

[4]Indicate Analytical Method Used: P - ICP; A - Flame AA;
F - Furnace AA; CV-Cold Vapor

Form III

BLANKS

LAB NAME Free-Col Labs

SAMPLE BATCH: LAB ID 303-11-408\439

Units mg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value
Cadmium	0.0000	0.0000, 0.0001,-0.0001 -0.0001,-0.0001,0.0000
Chromium	0.0007	0.0006, 0.0007, 0.0003
Copper	0.0002	-0.0002, 0.0013, 0.0011 -0.0001, 0.0011, 0.0010 0.0019
Lead	-0.0001	0.0001,-0.0001,-0.0005 0.0000, 0.0000
Zinc	-0.001	-0.002, 0.001, 0.003 0.002, 0.003,-0.001

Form V

SPIKE SAMPLE RECOVERY

LAB NAME Free-Col Labs

Free-Col Laboratories spikes each sample digested for metals run by graphite furnace AFTER the sample has been digested. If the recovery is not between 90-110%, the method of standard additions is performed in order to obtain the result (see Form VIII).

Lab ID	Percent Recovery				
	Cadmium	Chromium	Copper	Lead	Zinc
303-11-420	110	91	93	91	
303-11-421	108	92	95	92	
303-11-422	110	97	94	91	
303-11-423	110	100	92	90	
303-11-424	95	91	95	102	
303-11-425	103	100	94	91	
303-11-426	105	102	95	98	
303-11-427	103	94	101	101	
303-11-428	105	98	90	102	
303-11-429	100	95	93	94	
303-11-430	103	94	90	90	
303-11-431	103	100	108	95	

* Result obtained by method of standard addition.

Zinc analysis performed by AA.

FORM VI

DUPLICATES

LAB NAME Free-Col Labs
SAMPLE BATCH: LAB ID 303-11-408\439

Units: mg/L unless noted

Lab ID	Compound	AD/RPD[1] Control Limit	Sample(S)	Duplicate(D)	RPD[2]
303-11-429	Cadmium	0.0002/18.7	0.0002	<0.0001	NA
303-11-420	Chromium	0.002/20.3	0.002	0.002	NA
303-11-430	Chromium	0.002/20.3	0.019	0.019	NA
303-11-426	Copper	0.002/27.5	0.005	0.006	NA
303-11-421	Lead	0.002/16.1	0.005	0.004	NA
303-11-431	Lead	0.002/16.1	0.001	<0.001	NA
303-11-421	Zinc	0.01/3.8	0.046	0.053	NA
303-11-430	Zinc	0.01/3.8	0.228	0.226	NA

[1] AD = Absolute Difference Control Limit which is established by plus or minus two times the detection limit. The RPD Control Limit is statistically established based on past data. Data must be acceptable according to one of the limits.

[2] RPD = [abs(S-D)/((S+D)/2)] x 100

NC = Non calculable RPD due to value(s) less than detection limit

NA = Not Applicable because acceptability is determined by meeting the AD limit (see footnote 1).

FORM VII

LABORATORY REFERENCE CONTROL SAMPLE

LAB NAME Free-Col Labs

SAMPLE BATCH: LAB ID 303-11-408\439

Units mg/L

Compound	True Value	Found	% Recovery
Cadmium	0.0050	0.0048	96
Chromium	0.0300	0.0270	90
Copper	0.0300	0.0320	107
Lead	0.0500	0.0480	96
Zinc	0.080	0.075	94
	0.800	0.804	100

Acceptance limits are 80% - 120% recovery.

FREE-COL LABORATORIES, INC.

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ROANOKE, VIRGINIA

03/23/93

TO: FREE-COL LABORATORIES

P.O. BOX 557, COTTON RD.
MEADVILLE PA 16335-0557

P.O. #

ACCOUNT NO. 1

ANALYTICAL REPORT FORM

LAB ID	SAMPLE ID	PARAMETER	RESULT
30311436	BLANK	ACID DIGESTION PREP	COMPLETE
30311437	PRC%	ACID DIGESTION PREP	COMPLETE

DATE AND ANALYST
03/15/93 MAIN

FREE-COL LABORATORIES, INC.

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ROANOKE, VIRGINIA

04/01/93

TO: FREE-COL LABORATORIES

P.O. #

P.O. BOX 557, COTTON RD.
MEADVILLE PA 16335-0557

ACCOUNT NO. 1

ANALYTICAL REPORT FORM

SAMPLE ID : BLANK
DIGESTION

LAB ID 30311438
DATE RECEIVED: 03/11/93

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
Zinc	<0.005	MG/L	04/01/93	PRUTZMAN
Cadmium (flameless)	<0.0001	MG/L	03/16/93	BAKER/ LIM
Chromium (flameless)	<0.001	MG/L	03/16/93	BAKER
Copper (flameless)	0.002	MG/L	03/17/93	BAKER
Lead (flameless)	<0.001	MG/L	03/15/93	BAKER/ LIM

FREE-COL LABORATORIES, INC.

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ROANOKE, VIRGINIA

03/23/93

TO: FREE-COL LABORATORIES

P.O. BOX 557, COTTON RD.
MEADVILLE PA 16335-0557

P.O. #

ACCOUNT NO. 1

ANALYTICAL REPORT FORM

SAMPLE ID : PRC%
DIGESTION

LAB ID 30311439
DATE RECEIVED: 03/11/93

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
Zinc	102	%	03/18/93	LIM
Cadmium (flameless)	102	%	03/16/93	BAKER/ LIM
Chromium (flameless)	100	%	03/16/93	BAKER
Copper (flameless)	101	%	03/17/93	BAKER
Lead (flameless)	102	%	03/15/93	BAKER/ LIM

Andrew K. Ecklund

ASST. LABORATORY DIRECTOR

QUALITY CONTROL DATA I

PARAMETER: Zinc ANALYST: Lim DATE: 3.18 93

REFERENCE CONTROL UNITS: mg/L

Target	Acceptance Limits					
0.08	0.060	to 0.098	0.075,	0.074,	0.085,	0.083
0.8	0.696	to 0.884	0.804,	0.801,	0.805,	0.793
		to	,	,	,	

PREPARATION REFERENCE CONTROL Units: mg/L

Target	Acceptance Limits		Assayed Value:			
0.500		to	0.512/0.525,	0.512,	0.519	
			Date Prepped:	3.15/3.16,	3.17.93,	3.18-93

REPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference
Units: mg/L Acceptable AD: 0.01 Acceptable RPD: 3.8 %

Sample I.D.	Sample Result	Repeat Result	AD	RPD
303-11-421	0.046	0.053	0.007	- %
303-11-430	0.228	0.226	0.002	- %
303-11-150	0.015	0.010	0.005	- %
303-16-042	0.234	0.233	0.001	- %
303-17-090	0.064	0.067	0.003	%
				%

SPIKE CONTROL Units: mg/L
Acceptable Limits for Percent Recovery: 76 % to 120 %

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
303-11-425	0.502 (+0.500)	0.617	0.098	103 %
303-11-409	0.502	0.555	0.054	100 %
				%
				%

BLANK Units: mg/L -0.001

Result: -0.001, -0.002, 0.001, 0.003, 0.002, 0.003

DETECTION LIMIT Units: mg/L

Limit Value: 0.005 Assayed Value: 0.005, ,

FREE-COL LABORATORIES, INC.
P.O. Box 557, Cotton Road
Meadville, PA 16335
(814) 724-6242

Lab Bl: 303-15-BL - 0.006
303-16-BL - 0.010
303-17-BL - 0.00
303-18-BL 0.010

LIMITS IN EFFECT AS OF JANUARY 23, 1992

QUALITY CONTROL DATA I

PARAMETER: Cadmium - GF ANALYST: Baker/Lim DATE: 3-16-93

REFERENCE CONTROL UNITS: ug/L

Target	Acceptance Limits					
5	4.1	to 6.3	4.8,	4.9,	4.2,	
		to	,	,	,	
		to	,	,	,	

PREPARATION REFERENCE CONTROL Units: ug/L

Target	Acceptance Limits		Assayed Value:		
5		to	52,	55,	52

Date Prepped: 303-11-PRC, 303-12-PRC, 303-15-PRC

REPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference

Units: mg/L Acceptable AD: 0.0002 Acceptable RPD: 18.7 %

Sample I.D.	Sample Result	Repeat Result	AD	RPD
303-10-141	0.0001	<0.0001	—	— %
✓303-11-429	0.0002	<0.0001	—	— %
303-16-014	<0.0001	<0.0001	—	— %
				%
				%
				%

SPIKE CONTROL Units:

Acceptable Limits for Percent Recovery: % to %

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
				%
				%
				%
				%

BLANK Units: mg/L Lab Blank

Result: 0.0000, 0.0000, 0.0001, -0.0001 Date Prepped See below

DETECTION LIMIT Units: mg/L

Limit Value: 0.0001 Assayed Value: 0.0001, ,

FREE-COL LABORATORIES, INC.
P.O. Box 557, Cotton Road
Meadville, PA 16335
(814) 724-6242

303-11-BL -0.0000
303-12-BL -0.0001
303-15-BL -0.0000

QUALITY CONTROL DATA

PARAMETER: Cd GF ANALYST: Baker/Lim DATE: 3-16-93

SPIKE CONTROL UNITS: mg/L

Acceptable Limits for Percent Recovery; 90 % to 110 %

Sample I.D.	Spike Added	Spiked Result	Sample Result	% Recovery
✓303-11-420	0.0038	0.0048	0.0006	110
✓ 421	0.0038	0.0050	0.0009	108
✓ 422	0.0038	0.0046	0.0004	110
✓ 423	0.0038	0.0050	0.0008	110
✓ 424	0.0038	0.0038	0.0002	95
✓ 425	0.0038	0.0044	0.0005	103
✓ 426	0.0038	0.0049	0.0009	105
✓ 427	0.0038	0.0048	0.0009	103
✓ 428	0.0038	0.0044	0.0004	105
✓ 429	0.0038	0.0040	0.0002	100
✓ 430	0.0038	0.0049	0.0010	103
✓ 431	0.0038	0.0039	0.0000	103
✓ 438	0.0038	0.0037	0.0000	97
1				

Free-Col Laboratories, Inc.
P.O. Box 557, Cotton Road
Meadville, Pa. 16335-0557

QUALITY CONTROL DATA I

PARAMETER: Chromium - GF ANALYST: BAKer DATE: 3-16-93

REFERENCE CONTROL UNITS: ug/L

Target	Acceptance Limits					
30	27	to 34	27	32	33	28
		to				
		to				

PREPARATION REFERENCE CONTROL Units:

Target	Acceptance Limits	Assayed Value:		
30	to	Date Prepped:	303-12-PRC	303-15-PRC

REPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference
Units: mg/L Acceptable AD: 0.002 Acceptable RPD: 20.3 %

Sample I.D.	Sample Result	Repeat Result	AD	RPD
✓303-4-420	0.002	0.002	0	— %
✓303-11-430 2X	0.019	0.019	0	— %
				%
				%
				%
				%

SPIKE CONTROL Units:
Acceptable Limits for Percent Recovery: % to %

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
				%
				%
				%
				%

BLANK Units: mg/L Lab Blank 0.0003 0.00

Result: 0.0007, 0.0006, 0.0007, Date Prepped 303112-11

DETECTION LIMIT Units: mg/L

Limit Value: 0.001 Assayed Value: 0.0010,

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QUALITY CONTROL DATA

PARAMETER: Cr GF **ANALYST:** Baker **DATE:** 3-16-93

SPIKE CONTROL **UNITS:** mg/L

Acceptable Limits for Percent Recovery; 90 % to 110 %

Sample I.D.	Spike Added	Spiked Result	Sample Result	% Recovery
303-11-420	0.0264	0.0260	0.0019	91
421		0.0264	0.0020	92
422		0.0271	0.0014	97
423		0.0271	0.0008	100
424		0.0250	0.0010	91
425		0.0276	0.0013	100
426		0.0277	0.0009	102
427		0.0303	0.0054	94
428		0.0266	0.0008	98
429		0.0267	0.0015	95
430 2X		0.0435	0.0186	94
431		0.0285	0.0021	100
438	✓	0.0275	0.0008	101

Free-Col Laboratories, Inc.
P.O. Box 557, Cotton Road
Meadville, Pa. 16335-0557

QUALITY CONTROL DATA I

PARAMETER: Copper - GF ANALYST: BAKER DATE: 3-17-93

REFERENCE CONTROL UNITS: ug/L

Target	Acceptance Limits			
30	25 to 36	32, 34, 32,		
	to			
	to			

PREPARATION REFERENCE CONTROL Units:

Target	Acceptance Limits	Assayed Value:	
30	to	35 37, 36,	
		Date Prepped: 303- 9\10, \12\15, \16	

REPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference
Units: mg/L Acceptable AD: 0.002 Acceptable RPD: 27.5 %

Sample I.D.	Sample Result	Repeat Result	AD	RPD
303-09-097	0.006	0.006	0	— %
✓303-11-426	0.005	0.006	0.001	— %
✓303-11-438	0.002	0.002	0	— %
				%
				%
				%

SPIKE CONTROL Units: MG/L
Acceptable Limits for Percent Recovery: 90% to 110%

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
303-11-401	0.0213	0.0307	0.0091	102 %
				%
				%
				%

BLANK Units: mg/L Lab Blank 0.0011

Result: 0.0002, -0.0002, 0.0013, Date Prepped 303-16-1

DETECTION LIMIT Units: mg/L

Limit Value: 0.001 Assayed Value: 0.0013,

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303-09-BL -0.0001
303-10-BL 0.0011
303-12-BL 0.0010

QUALITY CONTROL DATA

PARAMETER: Cu gfb **ANALYST:** BAKER **DATE:** 3-17-93

SPIKE CONTROL **UNITS:** mg/L

Acceptable Limits for Percent Recovery; 90 % to 110 %

Sample I.D.	Spike Added	Spiked Result	Sample Result	% Recovery
303-11-420	0.0213	0.0430	0.0231	93
421		0.0413	0.0211	95
422		0.0339	0.0139	94
423		0.0241	0.0046	92
424		0.0243	0.0040	95
425		0.0246	0.0046	94
426		0.0254	0.0052	95
427 2X		0.0464	0.0249	101
428		0.0213	0.0022	90
429		0.0219	0.0021	93
430		0.0556	0.0365	90
431		0.0312	0.0083	108
438	↓	0.0256	0.0025	108

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QUALITY CONTROL DATA I

PARAMETER: Lead - GF ANALYST: Baker DATE: 3-15-93

REFERENCE CONTROL UNITS: ug/L

Target	Acceptance Limits					
50	31	to 64	48	46	43	51
		to	50	50		
		to				

PREPARATION REFERENCE CONTROL Units:

Target	Acceptance Limits	Assayed Value:		
50	to	55	56	58
		Date Prepped:	302-10-PRC	302-11-PRC	302-12-PRC

REPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference
Units: mg/L Acceptable AD: 0.002 Acceptable RPD: ~~16.1~~ %

Sample I.D.	Sample Result	Repeat Result	AD	RPD
303-10-127 SX	<0.001	<0.001	—	—
303-10-166	<0.001	<0.001	—	—
303-11-421	0.005	0.004	0.001	—
√303-11-431	0.0010	<0.001	—	—
303-11-079	0.001	0.001	0.000	—
303-11-090	0.005	0.005	0.000	—

SPIKE CONTROL Units: MG/L
Acceptable Limits for Percent Recovery: 90 % to 110 %

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
303-11-401	0.0304	STANDARD	ADDITIONS	%
				%
				%
				%

BLANK Units: mg/L 0.0000, 0.0000 Lab Blank @ 007 0.0009 acc

Result: -0.0001, 0.0001, -0.0001, -0.0005 Date Prepped 10/11/1 302-

DETECTION LIMIT Units: mg/L

Limit Value: 0.001 Assayed Value: 0.0014, ,

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QUALITY CONTROL DATA

PARAMETER: Pb GF ANALYST: Baker DATE: 3-15-93

SPIKE CONTROL UNITS: mg/L

Acceptable Limits for Percent Recovery; 90 % to 110 %

Sample I.D.	Spike Added	Spiked Result	Sample Result	% Recovery
✓303-11-420	0.0285	0.0356	0.0097	91
✓ 421	0.0282	0.0306	0.0046	92
✓ 422	"	0.0281	0.0025	91
✓ 423	"	0.0315	0.0060	90
✓ 424	"	0.0296	0.0007	102
✓ 425	"	0.0277	0.0019	91
✓ 426	"	0.0287	0.0012	98
✓ 427	"	0.0291	0.0006	101
✓ 428	"	0.0295	0.0006	102
✓ 429	"	0.0277	0.0013	94
✓ 430	"	0.0278	0.0025	90
✓ 431	0.0301	0.0295	0.0010	95
✓ 438	"	0.0307	0.0003	101

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