HARRISON

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

30-Sep-93

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

Dear Mr. Radon:

Enclosed is the quarterly groundwater monitoring report for September 1993. The report form indicates the sample date, the groundwater elevations, and the as-analyzed concentration of certain parameters.

The parameter and sample point data have been modified to reflect the changes summarized in Harrison correspondance dated August 3, 1993 and accepted in New York State Department of Environmental Conservation correspondance dated August 18, 1993.

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,

Roy D Knapp

Roy D. Knapp
Supervisor -
Environmental Activities

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

QUARTERLY GROUNDWATER MONITORING REPORT

HARRISON DIVISION, GMC
LOCKPORT, NY 14094

SAMPLE DATE: 01-Sep-93 REPORT DATE: 30-Sep-93

BEDROCK WELL ID #	I-1R	I-2R	I-5R	I-6R	I-7R	TRIP BLANK
Water Elev. (feet)	620.4	620.4	611.7	611.7	606.9	N.A.
Specific Cond. (uMHOS/cm)	750	470	1200	730	740	N.A.
pH (standard units)	6.8	8.0	6.8	6.7	7.0	N.A.
Temperature (degree C)	17	22	22	17	17	N.A.
Chromium, Total	0.003	0.042	0.001	0.069	0.001	0.001
Zinc, Total	0.452	0.017	0.029	0.364	0.010	0.008

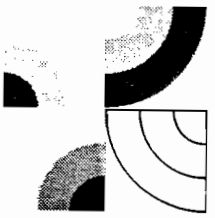
						% MATRIX RECOVERY	
TOP OF ROCK WELL ID #	I-1T	I-2T	I-5T	I-7T		SPIKE I-6R	DUPLICATE I-6R
Water Elev, (feet)	620.2	620.2	611.7	610.0		N.A.	N.A.
Specific Cond. (uMHOS/cm)	770	850	2650	670		N.A.	N.A.
pH (standard units)	6.9	6.8	6.9	7.0		N.A.	N.A.
Temperature (degree C)	18	22	22	18		N.A.	N.A.
Chromium, Total	0.001	0.001	0.013	0.006		VOID	VOID
Zinc, Total	0.036	0.020	0.065	0.030		97	95

OBSERVATION WELL ID #	II-AR	II-AT	II-BT	II-CT	II-DR	II-DT	I-3R	I-4R	I-3T	I-4T
Water Elev, (feet)	614.7	DRY	617.0	DRY	614.8	614.4	615.3	612.3	615.1	611.9

NOTES:

1) Groundwater elevation expressed in feet above mean sea level.
2) Specific conductance expressed in uMHOS/cm at 25 degrees C.
3) Metals expressed in mg/L.
4) < Denotes concentration as analyzed was below detection limit.
5) Monitoring at Wells II-AR, II-AT, II-BT, II-CT, II-DR, and II-DT is for water elevation only.
6) * Denotes erratic spike dulicate results. See lab report.
7) Wells I-3R, I-3T, I-4R, I-4T only water elevation is collected.

FREE-COL LABORATORIES, INC.
PO Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814-724-6242
FAX: Area Code 814-336-1465

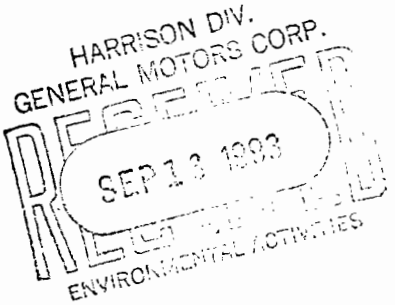


ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

HARRISON DIVISION
GENERAL MOTORS CORPORATION

GZA
ROAD 7

SAMPLE DATE: 09/01/93
P.O.# H-55864



FREE-COL LABORATORIES, INC.

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

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

09/10/93

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
30902421	HR-090193-	I-1T	ACID DIGESTION PREP	COMPLETE
30902422	HR-090193-	I-1R	ACID DIGESTION PREP	COMPLETE
30902423	HR-090193-	I-2T	ACID DIGESTION PREP	COMPLETE
30902424	HR-090193-	I-2R	ACID DIGESTION PREP	COMPLETE
30902425	HR-090193-	I-5T	ACID DIGESTION PREP	COMPLETE
30902426	HR-090193-	I-5R	ACID DIGESTION PREP	COMPLETE
30902427	HR-090193-	I-6R	ACID DIGESTION PREP	COMPLETE
30902428	HR-090193-	I-7T	ACID DIGESTION PREP	COMPLETE
30902429	HR-090193-	I-7R	ACID DIGESTION PREP	COMPLETE
30902430	TRIP BLANK	08/26/93	ACID DIGESTION PREP	COMPLETE

Acid Digestion Prep - Method - 3005A

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

DATE AND ANALYST
09/07/93 MAIN

FREE-COL LABORATORIES, INC.

P.O. BOX 557,COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
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09/10/93

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LOCKPORT NY 14094

P.O. # H-55864

ACCOUNT NO. 01220

ANALYTICAL REPORT FORM

LAB ID	SAMPLE ID			PARAMETER	RESULT
30902431	HR-090193-	I-1T	DIGESTION	ZINC MG/L	0.036
30902432	HR-090193-	I-1R	DIGESTION	ZINC MG/L	0.452
30902433	HR-090193-	I-2T	DIGESTION	ZINC MG/L	0.020
30902434	HR-090193-	I-2R	DIGESTION	ZINC MG/L	0.017
30902435	HR-090193-	I-5T	DIGESTION	ZINC MG/L	0.065
30902436	HR-090193-	I-5R	DIGESTION	ZINC MG/L	0.029
30902437	HR-090193-	I-6R	DIGESTION	ZINC MG/L	0.364
30902438	HR-090193-	I-7T	DIGESTION	ZINC MG/L	0.030
30902439	HR-090193-	I-7R	DIGESTION	ZINC MG/L	0.010
30902440	TRIP BLANK	08/26/93	DIGESTION	ZINC MG/L	0.008

Zinc - Method - 7950

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

DATE AND ANALYST
09/09/93 PRUTZMAN

KEY < = LESS THAN > = GREATER THAN WF = WILL FOLLOW

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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09/10/93

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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
30902431	HR-090193-	I-1T	DIGESTION	CHROMIUM-G.F. MG/L	0.001
30902432	HR-090193-	I-1R	DIGESTION	CHROMIUM-G.F. MG/L	0.003
30902433	HR-090193-	I-2T	DIGESTION	CHROMIUM-G.F. MG/L	0.001
30902434	HR-090193-	I-2R	DIGESTION	CHROMIUM-G.F. MG/L	0.042
30902435	HR-090193-	I-5T	DIGESTION	CHROMIUM-G.F. MG/L	0.013
30902436	HR-090193-	I-5R	DIGESTION	CHROMIUM-G.F. MG/L	0.001
30902437	HR-090193-	I-6R	DIGESTION	CHROMIUM-G.F. MG/L	0.069
30902438	HR-090193-	I-7T	DIGESTION	CHROMIUM-G.F. MG/L	0.006
30902439	HR-090193-	I-7R	DIGESTION	CHROMIUM-G.F. MG/L	0.001
30902440	TRIP BLANK	08/26/93	DIGESTION	CHROMIUM-G.F. MG/L	0.001

Chromium - Method - 7191

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

DATE AND ANALYST
09/08/93 BAKER

FREE-COL LABORATORIES, INC.

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

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

09/10/93

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	RESULT
30902441	MATRIX SPK	I-6R	% RECOVERY	ACID DIGESTION PREP	COMPLETE
30902442	MATRIX DUP	I-6R	% RECOVERY	ACID DIGESTION PREP	COMPLETE

DATE AND ANALYST
09/07/93 MAIN

KEY: < =LESS THAN > =GREATER THAN w.f =WILL FOLLOW

FREE-COL LABORATORIES, INC.

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

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

09/10/93

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-6R
DIGEST AS%
LAB ID 30902443
DATE RECEIVED: 09/02/93

PARAMETER	RESULTS	UNITS	DATE AND ANALYST
Zinc	97	%	09/09/93 PRUTZMAN
Chromium (flameless)	VOID		

KEY: < =LESS THAN > =GREATER THAN w.f.=WILL FOLLOW

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

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

09/10/93

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-6R
DIGEST AS%
LAB ID 30902444
DATE RECEIVED: 09/02/93

PARAMETER	RESULTS	UNITS	DATE AND ANALYST
Zinc	95	%	09/09/93 PRUTZMAN
Chromium (flameless)	VOID		

This complete report is six pages.

Diane A. Tracy

QUALITY ASSURANCE SUPERVISOR

KEY < =LESS THAN > =GREATER THAN w.f. =WILL FOLLOW

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P.O. BOX 557,COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1486

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

TO:

ANALYTICAL REPORT FORM

CODE B: This analyte was detected in the associated blank as well as in the sample. It indicates possible/probable contamination. The data user may subtract the blank value from the sample value at his/her discretion.

CODE D: Detection limit change due to a dilution.

CODE R: The percent recovery on the spike sample associated with this sample was not within the acceptance limits of 75 - 125 percent.

CODE S: This result was obtained by Method of Standard Additions.

CODE NA: Not Applicable

CODE ND: Not Detectable

PRC: Preparation Reference Control

VOID: The sample plus spike concentration exceeded the linear range of the standard curve.

CODE Q: Values for parameters quantified in this sample have been adjusted for recoveries of the analytical matrix spike. The adjustments have been based on the matrix recoveries from this sample. Adjusted values are not given where sample values were less than the detection limit or where spike recoveries are equal to 100 percent.

CODE J: This result is an estimated value. It indicates that the compound meets the mass spectral data identification criteria. The result is less than the quantitation limit but greater than zero.

ATTACHMENT #2

ENVIRONMENTAL SAMPLE DESCRIPTION AND CHAIN OF CUSTODY RECORD

E DATE: 9/1/93

RESULTS REQUIRED BY: GZA

VERBAL RESULTS NEEDED?

LABORATORY: Free - Col

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

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: Road 7 - Quarterly Monitoring

AMPLE #	LOCATION	TIME	PARAMETERS	SAMPLE BOTTLE LOT # (OPTIONAL)
-090193-I-1T		11^05	Metals - Chromium + Zinc	
-090193-IR		11^00	"	
R-090193-I-2T		11^45		
090193-I-2R		11^50		
R-090193-I-5T		12^50		
R-090193-I-5R		13^09		
R-090193-I-6R		13^15		

IMUM DETECTION LEVELS REQUIRED?

SSIBLE INTERFERENCES:

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

Cooler Temp 2°C

TTLES RECEIVED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]
	Stephen Blair 9/2/93 16^25
ES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RECEIVED BY: (DATE/TIME) [LAB PERSONNEL]
	William F Slater 9-2-93 16^25
SAMPLE COLLECTED BY: Stephen Blair	RECEIVED BY: [DATE, TIME, LAB SIGNATURE] Joni Kearns 9-2-93

ENVIRONMENTAL SAMPLE DESCRIPTION AND CHAIN OF CUSTODY RECORD

ATTACHMENT #2

E DATE: 9/1/93

RESULTS REQUIRED BY: G-ZA

VERBAL RESULTS NEEDED?

LABORATORY: Free - Col

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

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

LE DESCRIPTION: Road 7 - Quarterly Monitoring

AMPLE #	LOCATION	TIME	PARAMETERS	SAMPLE BOTTLE LOT # (OPTIONAL)
R-090193-I-7T		1230	Metals - Chromium + Zinc	
R-090193-I-7R		1235	↓	
Trip Blank				

IMUM DETECTION LEVELS REQUIRED?

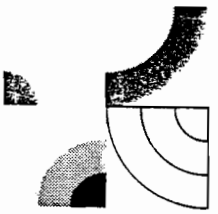
SSIBLE INTERFERENCES:

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

Cooler Temp 2 °C

TTLES RECEIVED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]
	[signature] 9/2/93 1625
ES RELINQUISHED BY: (DATE/TIME) [HRD PERSONNEL]	BOTTLES RECEIVED BY: (DATE/TIME) [LAB PERSONNEL]
	William F Slater 9-2-93 1625
SAMPLE COLLECTED BY: [signature]	RECEIVED BY: [DATE, TIME, LAB SIGNATURE] Joni Kearns 9-2-93

FREE-COL LABORATORIES, INC.
P.O. Box 557 Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814 724-1542
FAX: Area Code 814 337-4986



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
AGRICULTURE

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-090193-I-1T	30902421
HR-090193-I-1R	30902422
HR-090193-I-2T	30902423
HR-090193-I-2R	30902424
HR-090193-I-5T	30902425
HR-090193-I-5R	30902426
HR-090193-I-6R	30902427
HR-090193-I-7T	30902428
HR-090193-I-7R	30902429
TRIP BLANK 08/26/93	30902430
HR-090193-I-1T DIGESTION	30902431
HR-090193-I-1R DIGESTION	30902432
HR-090193-I-2T DIGESTION	30902433
HR-090193-I-2R DIGESTION	30902434
HR-090193-I-5T DIGESTION	30902435
HR-090193-I-5R DIGESTION	30902436
HR-090193-I-6R DIGESTION	30902437
HR-090193-I-7T DIGESTION	30902438
HR-090193-I-7R DIGESTION	30902439
TRIP BLANK 08/26/93 DIGESTION	30902440

Form II

INITIAL AND CONTINUING CALIBRATION VERIFICATION

LAB NAME Free-Col Labs
SAMPLE BATCH: LAB ID 309-02-421\448

Units: mg/L

Compound	Initial Calib.[1] True Value	Found	%R	Continuing Calib.[2] True Value	Found	%R	Found	%R	Method[4]
Metals:									
Chromium	0.0300	0.0310	103	0.0300	0.0310	103			F
Zinc	0.080	0.083	104	0.080	0.084	105	0.081	101	A
	0.800	0.778	97	0.800	0.783	98	0.778	97	A

[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 309-02-421\448

Units mg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value
Chromium	0.0001	0.0003
Zinc	0.001	-0.001,-0.004,-0.001, 0.000 -0.005

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	
	Chromium	Zinc
309-02-431	94	
309-02-432	99	
309-02-433	99	
309-02-434	96	
309-02-435	94	
309-02-436	94	
309-02-437	100	
309-02-438	94	
309-02-439	96	
309-02-440	101	

* Result obtained by method of standard addition.

Zinc analysis performed by AA.

FORM VI

DUPLICATES

LAB NAME Free-Col Labs
SAMPLE BATCH: LAB ID 309-02-421\448

Units: mg/L unless noted

Lab ID	Compound	AD/RPD[1] Control Limit	Sample(S)	Duplicate(D)	RPD[2]
309-02-431	Chromium	0.002/20.1	0.001	0.001	NA
309-02-447	Chromium	0.002/20.1	<0.001	<0.001	NA
309-02-436	Zinc	0.01/3.8	0.029	0.033	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 309-02-421\448

Units mg/L

Compound	True Value	Found	% Recovery
Chromium	0.0300	0.0310	103
Zinc	0.080	0.083	104
	0.800	0.778	97

Acceptance limits are 80% - 120% recovery.

FREE-COL LABORATORIES, INC.

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MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
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5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

09/10/93

TO: FREE-COL LABORATORIES

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

P.O. # H-55864

ACCOUNT NO. 1

ANALYTICAL REPORT FORM

LAB ID	SAMPLE ID	PARAMETER	RESULT
30902445	BLANK	ACID DIGESTION PREP	COMPLETE
30902446	PRC%	ACID DIGESTION PREP	COMPLETE

DATE AND ANALYST
09/07/93 MAIN

KEY: < =LESS THAN > =GREATER THAN w.f =WILL FOLLOW

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09/10/93

TO: FREE-COL LABORATORIES

P.O. # H-55864

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

ACCOUNT NO. 1

ANALYTICAL REPORT FORM

SAMPLE ID : BLANK
DIGESTION

LAB ID 30902447
DATE RECEIVED: 09/02/93

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
Zinc	0.009	MG/L	09/09/93	PRUTZMAN
Chromium (flameless)	<0.001	MG/L	09/08/93	BAKER

FREE-COL LABORATORIES, INC.

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ROANOKE, VIRGINIA 24012
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FAX: (703) 362-1663

09/10/93

TO: FREE-COL LABORATORIES

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

P.O. # H-55864

ACCOUNT NO. 1

ANALYTICAL REPORT FORM

SAMPLE ID : PRC%
DIGESTION

LAB ID 30902448
DATE RECEIVED: 09/02/93

PARAMETER	RESULTS	UNITS	DATE AND ANALYST	
Zinc	103	%	09/09/93	PRUTZMAN
Chromium (flameless)	100	%	09/08/93	BAKER

KEY: < =LESS THAN > =GREATER THAN w.f =WILL FOLLOW

QUALITY CONTROL DATA I

PARAMETER: Chromium - GF ANALYST: BAKer DATE: 9-8-93

FERENCE CONTROL UNITS: ug/L

Target	Acceptance Limits					
30	27 to 35	31	31			
	to					
	to					

REPARATION REFERENCE CONTROL Units:

Target	Acceptance Limits	Assayed Value:		
	to	30		
	to	Date Prepped: 309-07-PRC		

EPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference
nits: mg/L Acceptable AD: 0.002 Acceptable RPD: 20.1 %

Sample I.D.	Sample Result	Repeat Result	AD	RPD
309-02-431	0.001	0.001	—	— %
309-02-447	<0.001	<0.001	—	— %
				%
				%
				%
				%

SPIKE CONTROL Units: MCdL
Acceptable Limits for Percent Recovery: 90 % to 110 %

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
309-02-431	0.0245	0.0241	0.0010	94 %
432		0.0272	0.0030	99 %
433		0.0254	0.0012	99 %
434 2+		0.0446	0.0211	96 %

BLANK Units: mg/L Lab Blank 0.0002

Result: 0.0001, 0.0003, , Date Prepped 309-07-BL

DETECTION LIMIT Units: mg/L

Limit Value: 0.001 Assayed Value: 0.0011, ,

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

QUALITY CONTROL DATA

PARAMETER: Cr GF ANALYST: BAKer DATE: 9-8-93

SPIKE CONTROL UNITS: MG/L

Acceptable Limits for Percent Recovery; 90% to 110 %

Sample I.D.	Spike Added	Spiked Result	Sample Result	% Recovery
309-02-435	0.0245	0.0359	0.0129	94
436		0.0241	0.0011	94
437 3x		0.0473	0.0228	100 ~~96~~
438		0.0287	0.0056	94
439		0.0249	0.0014	96
440		0.0258	0.0010	101
447	↓	0.0247	0.0003	100

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

QUALITY CONTROL DATA I

RAMETER: Zinc ANALYST: Kurtzman DATE: 9-9-911

FERENCE CONTROL UNITS: mg/L

get	Acceptance Limits						
0.08	0.063	to	0.095	0.083	0.084	0.081	
0.8	0.716	to	0.874	0.778	0.783	0.778	
		to					

EPARATION REFERENCE CONTROL Units: mg/L

Target	Acceptance Limits			Assayed Value:			
0.500		to		0.503	0.520	0.516	0.515
				Date Prepped:	9/2	9/3	9/7	9/8

EPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference

nits: mg/L Acceptable AD: 0.01 Acceptable RPD: 3.8 %

ample I.D.	Sample Result	Repeat Result	AD	RPD
309-02-078	0.112	0.114	0.002	— %
309-02-436	0.029	0.033	0.004	— %
309-02-454(30x)	0.789	0.772	0.017	2.2 %
309-03-042(10x)	0.766	0.758	0.008	— %
				%
				%

SPIKE CONTROL Units: mg/L

Acceptable Limits for Percent Recovery: 76 % to 120 %

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
309-02-435	0.506 (+0.500)	0.588	0.065	103 %
309-02-447	0.506	0.528	0.019	160 %
				%
				%

BLANK Units: mg/L -0.005 Lab Blank <0.005 <0.005 <0.005

Result: 0.001, -0.001, -0.004, 0.001, 0.000 Date Prepped 9/2 9/3 9/7

DETECTION LIMIT Units: mg/L

' imit Value: 0.005 Assayed Value: 0.004, 0.005,

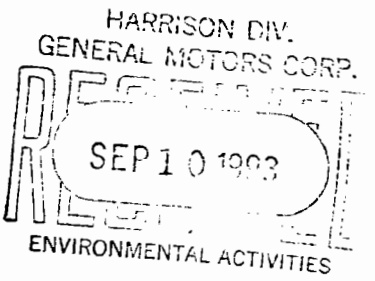
FREE-COL LABORATORIES, INC.
P.O. Box 557, Cotton Road
Meadville, PA 16335
(814)-724-6242

LIMITS IN EFFECT AS OF MAY 17, 1993

GZA
GeoEnvironmental
of New York

Engineers and
Scientists

September 9, 1993
File: 5805



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

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

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

Dear Ms. Ver:

Enclosed is a summary of groundwater field measurements, equipment calibration measurements and a copy of the chain-of-custody form completed by GZA GeoEnvironmental of New York (GZA) during the sampling event of August 31 and September 1, 1993. As per your letter dated August 23, 1993, New York State Department of Environmental Conservation modifications were incorporated during this sample round. Nine wells were sampled as part of the monitoring program including I-1T, I-1R, E-2T, I-2R, I-5T, I-5R, R-6R, R-7T and I-7R. Each sample was submitted to Free-Col Laboratories, Inc. for sampling of chromium and zinc.

The water levels in all I- and II-series wells were measured and I-1T, I-2T and I-7T were purged on August 31, 1993. The remaining wells included in the monitoring program were purged and the nine wells specified above were sampled on September 1, 1993.

The matrix spike/matrix spike duplicate sample for this round was collected from I-6R. Additionally, a trip blank was prepared by Free-Col Laboratories and accompanied the samples during the sample round.

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

for Stephen H. Blair
Project Engineer

Enclosure

SUMMARY OF IN-SITU FIELD MEASUREMENTS

PROJECT: Harrison Facility Groundwater Monitoring Program	GZA FILE: R5805.00
LOCATION: Lockport, New York	SAMPLE COLLECTION DATE: September 1, 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	9/1/93	620.4	17	14	6.8	750
I-2R	9/1/93	620.4	22	4	8.0	470
I-3R	8/31/93	615.3	NT	NT	NT	NT
I-4R	8/31/93	612.3	NT	NT	NT	NT
I-5R	9/1/93	611.7	22	5	6.5	1200
I-6R	9/1/93	611.1	17	4	6.7	730
I-7R	9/1/93	608.9	17	3	7.0	740

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	9/1/93	620.2	18	19	6.9	770
I-2T	9/1/93	620.2	22	12	6.8	850
I-3T	8/31/93	615.1	NT	NT	NT	NT
I-4T	8/31/93	611.9	NT	NT	NT	NT
I-5T	9/1/93	611.7	22	8	6.9	2650
I-7T	9/1/93	610.0	18	11	7.0	670

GROUP 3: GROUNDWATER OBSERVATION WELLS

Sample Location	Date	Water Elevation (feet)	Sample Location	Date	Water Elevation (feet)
II-AT	8/31/93	DRY	II-CT	8/31/93	DRY
II-AR	"	614.7	II-DR	"	614.8
II-BT	"	617.0	II-DT	"	614.4

GZA GeoEnvironmental of New York

NOTE: Groundwater elevations in the I series wells were measured on 8/31/93.

TURBIDIMETER CALIBRATION WORKSHEET

PROJECT: Harrison Facility Groundwater Monitoring Program	**GZA FILE:** R5805
LOCATION: Lockport, New York	**SAMPLE COLLECTION DATE:** September 1, 1993
TURBIDIMETER MODEL: Cole Parmer Model 8391-85	

CALIBRATION [1]

Date	Target[2] Value (NTU)	Observed Value (NTU)	Analyst's Initials	Remarks
9/1/93	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.

THERMOMETER CALIBRATION WORKSHEET

PROJECT: Harrison Facility Groundwater Monitoring Program	**GZA FILE:** R5805.00
LOCATION: Lockport, New York	**SAMPLE COLLECTION DATE:** June 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
8/31/93	13.3 27.6 40.6	13.3 27.6 40.7	SHB	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:

   Corrected Temperature = Actual Temperature, for T < 27.6

pH METER CALIBRATION WORKSHEET

PROJECT: Harrison Facility Groundwater Monitoring Program

GZA FILE: R5805.00

LOCATION: Lockport, New York

SAMPLE COLLECTION DATE: September 1, 1993

pH METER MODEL: Corning pH meter, Model 103, S/N 2005, 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
8/31/93	4.00 10.02	7.00	7.05	SHB	Two point calibration in GZA laboratory prior to sampling event.
9/1/93	4.01 10.00	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.