Electro-
Coatings
Inc.

PO Box 310
815 Marina Vista
Martinez, CA 94553
Tel: 510/372-3850
Fax: 510/372-6910

June 29, 1995

Susan L. Hugo
Alameda County Dept. of Environmental Health
Environmental Protection Division
1131 Harbor Bay Parkway, #250
Alameda, CA 94502-6577

RE: Geraghty & Miller Addendum to Groundwater Sampling Results
at 1401 and 1421 Park Avenue, Emeryville, CA
Dated 6/28/95

Dear Susan:

Enclosed is one copy of the subject addendum which addresses results of additional soil and groundwater sampling as well as the status of the underground fuel storage tank.

We will soon submit a work plan for the pilot test to assess the feasibility of insitu precipitation and fixation of chromium in groundwater. We also intend to proceed with a risk assessment as recommended in this report.

Please call if you have any questions.

Yours very truly,

Judy Garvens
Administrative Manager

cc: Gil Jensen, Alameda County District Attorney's Office
Sum Arigala, SF RWQCB
Theresa Dyer, 1421 Park Avenue Associates

HUGO3.WPS

GERAGHTY
& MILLER, INC.
Environmental Services

A Heidemij company

June 28, 1995
Project No. RC0304.001

Ms. Judy Garvens
Administrative Manager
Electro-Coatings Inc.
P.O. Box 310
815 Marina Vista
Martinez, California 94553

SUBJECT: Addendum to Groundwater Sampling Results, Electro-Coatings Facility at 1401 and 1421 Park Avenue, Emeryville, California.

Dear Ms. Garvens:

This letter presents an addendum to the previous ground water sampling report (Geraghty & Miller, May 17, 1995) and contains a summary of the additional soil and ground water sampling activities and underground tank locating services performed on behalf of Electro-Coatings, Inc. (ECI) and 1421 Park Avenue Associates at the Electro-Coatings Inc. (ECI) site referenced above. The scope of work for the groundwater sampling was presented in the Geraghty & Miller Investigation Work Plan dated February 13, 1995, as modified by subsequent discussions with Ms. Susan Hugo of the Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH), and by the requests of the ACDEH for groundwater sampling, analysis, and reporting contained in its letter to ECI dated March 24, 1995. This addendum presents the results of the recent soil and groundwater sampling activities and provides a discussion of the results and recommendations for subsequent work.

ADDITIONAL SOIL AND GROUND WATER SAMPLING ACTIVITIES AND LABORATORY ANALYSIS

FORMER CHROMIUM STORAGE AREA

The objective of the soil sampling conducted in the former chromium storage area was to determine whether the total chromium detected in the previous sampling activities (Entrix, October 28, 1994) is present in the soil as hexavalent chromium. Soil samples were collected from 2 locations near the concrete pad in the former chromium storage area (Figure 1). At each sampling location, a soil sample was collected from a depth of approximately 4 feet below the ground surface.

The borings were drilled using hand-auguring equipment and the soil samples were collected by advancing the soil sampler, equipped with a brass liner, into the undisturbed soil beyond the augured boring. The soil samples for laboratory analysis were retained in the brass liners, sealed with Teflon™ tape and plastic end caps, placed on ice, and transported to Sequoia Analytical in Redwood City, California. The soil samples were analyzed for total chromium (USEPA Method 6010) and hexavalent chromium (USEPA Method 7196). Prior to drilling each boring, all equipment was cleaned in a solution of potable water and non-phosphate detergent and triple rinsed in potable water.

The laboratory analytical results are summarized in Table 1. Copies of the laboratory analytical reports are included in Attachment 1. The concentrations of total chromium detected were 330 mg/kg and 2500 mg/kg. Hexavalent chromium was not detected. These results suggest that the chromium present in the soil in the former chromium storage area is present as primarily trivalent, rather than hexavalent chromium.

FORMER VAPOR DEGREASER

ECI was requested to assess whether activities in the former vapor degreaser area have affected the soil beneath the degreasing tank, soil samples were collected from depths of approximately 2 feet and 8 feet below the ground surface from beneath the former vapor degreaser. The samples were collected using hand auguring equipment as described above. The soil samples were analyzed for nickel (USEPA Method 6010), halogenated volatile organics (USEPA Method 8010), and pH (USEPA Method 150.1). The samples were not analyzed for chromium since chromium related activities did not occur in this area.

A summary of the laboratory analytical results is presented in Table 1. Trichloroethene was detected at concentrations of 22 mg/kg and 37 mg/kg in the soil samples collected from depths of 2 and 8 feet below ground surface respectively. Cis 1,2-dichloroethene (cis 1,2-DCE) (10 mg/kg and 2.6 mg/kg) was also detected in the 2 samples. 1,1,1-trichloroethane (1,1,1-TCA) was detected in the soil sample collected from 2 feet bgs (0.15 mg/kg). The concentrations of nickel were 58 mg/kg and 34 mg/kg and the pH of both samples was 7.9.

PIPING MANIFOLD AREA

Soil samples were collected from depths of approximately 2 feet and 8 feet bgs from the boring drilled in the former piping manifold area (Figure 1). The boring was drilled and the soil samples were collected using had auger drilling and sampling equipment as described above. The samples were analyzed for nickel, pH, and halogenated volatile organics. Since ground water was also encountered at approximately 8 feet bgs, a water sample was collected

using a new disposable polyethylene bailer. The water sample was placed into an appropriate USEPA approved container, placed on ice and transported to the laboratory. The water sample was analyzed for nickel, pH, and halogenated volatile organics. The samples were not analyzed for chromium since chromium related activities did not occur in this area.

The soil sampling results are summarized in Table 1. Nickel was detected in the samples collected from 2 feet and 8 feet bgs at concentrations of 310 mg/kg and 150 mg/kg respectively. 1,1-DCA, cis 1,2-DCE, and vinyl chloride were detected in the halogenated volatile organic analysis. The pH of the samples were 8.5 and 8.1.

The results of the ground water sample are summarized in Table 2. Nickel (1.7 mg/L, cis 1,2-DCE (30,000 mg/L) and vinyl chloride (2,900 mg/L) were detected The pH of the water sample was 7.4.

LOCATING OF UNDERGROUND STORAGE TANKS

On May 22, 1995, the location of the two underground storage tanks in the parking lot at 1421 Park Avenue was confirmed. Subdynamic Locating Services was contracted to perform a survey of the parking lot near the former location of the above ground fuel island. The survey was performed using a Fisher TW-6 M-scope and a Radiodetection Corporation RD600 Locator which are state-of-the-art metal detectors that transmit a pulsed radio signal into the ground that induces a current in the buried metallic object. The object then re-radiates a weak secondary signal that is detected by the receiving unit.

The survey confirmed the presence of two underground storage tanks at the approximate location shown in Figure 1. In addition to the two tanks, the subsurface vent lines were traced to 2 stub-ups located adjacent to the building as shown on Figure 1. The former fill pipe was not located so no attempt was made to investigate the current status of the tanks (i.e. whether they have been abandoned in place by filling with an inert material).

DISCUSSION OF RESULTS

FORMER CHROMIUM STORAGE AREA

The soil sampling activities in the former chromium storage area were intended to provide information on whether the chromium previously detected in the soil in that area is present as trivalent or hexavalent chromium. Because hexavalent chromium was not detected in the soil samples, it appears that the chromium present in the soil near the former chromium storage area is primarily trivalent chromium rather than hexavalent chromium. The chrome plating process primarily used hexavalent chromium, and it appears that the chromium found

in the soil samples from the former chromium storage area has changed valence to trivalent chromium in the soil environment. It is interesting to note that the chromium that has been detected in the groundwater is present primarily as hexavalent chromium.

FORMER VAPOR DEGREASER

The soil samples collected from beneath the former vapor degreaser were collected from beneath the concrete collection basin. This basin served to collect the spillage from the vapor degreaser and provided containment of any spillage or leakage from the degreasing operation. The soil sampling results from the areas of both the former vapor degrease and the piping manifold area indicate that the containment basin is a localized source of TCE. Whereas TCE was detected at concentrations up to 37 mg/kg in the soil beneath the containment basin for the former vapor degreaser, TCE was not detected in the soil samples collected from the piping manifold area. These results indicate that the former vapor degreaser represents the primary source for TCE. Due to the existence and configuration of the concrete collection basin under the former vapor degreaser, it is likely that the horizontal extent of the TCE source has been restricted by the basin.

The concentration of nickel detected in the soil samples collected from beneath the former vapor degreaser are below the Preliminary Remediation Goal promulgated by USEPA Region IX. The PRG for nickel for industrial soil is 34,000 mg/kg and for residential soil is 1,500 mg/kg. California has promulgated a lower PRG for residential soil of 150 mg/kg. The concentrations of nickel detected in the soil samples collected from beneath the former vapor degreaser were below all of the above listed PRGs.

PIPING MANIFOLD AREA

Although TCE was not detected in the soil samples collected from the piping manifold area, cis 1,2-DCE was detected. The cis 1,2-DCE detected in these samples may represent the dechlorination of TCE. It is well recognized that that TCE will undergo dechlorination to DCE. The generation of DCE results from the biological degradation of TCE. The soil sampling results suggest that biological process are actively dechlorinating the TCE in the soil beneath both the former vapor degrease and the piping manifold area.

The concentrations of nickel detected in the soil samples collected from the piping manifold area did not exceed the USEPA PRGs. The sample collected from a depth of 2 feet bgs did exceed the California residential PRG of 150 mg/kg, although the site is not zoned for residential use. California has not promulgated a PRG for nickel for nonresidential use.

RECOMMENDATIONS

As discussed with Ms. Hugo at a meeting on January 20, 1995, and in the February 13 Geraghty & Miller work plan, the results of the groundwater sampling performed during April 1995 will be used to develop a remediation pilot test work plan to assess the feasibility of insitu precipitation and fixation of chromium as the remedial option for the affected groundwater.

In addition to the pilot test, a risk assessment is recommended to determine the site-specific, health-based clean-up goals (HBGs) for the affected soil and groundwater. In addition to establishing the appropriate HBG's for the soil and groundwater, the results of the risk assessment will be used to establish parameters for any additional assessment activities that may be required. The soil sampling results presented in this report have confirmed that chlorinated organic compounds are present in the soil beneath areas of the site. The risk assessment will determine the HBG for each of the compounds. The HBG will then be used as a guide for directing future assessment efforts.

A meeting will be arranged with ACDEH and the Regional Water Quality Control Board prior to performing the risk assessment to discuss the risk assessment methodology, assumptions, and exposure scenarios that will be incorporated into the risk assessment. It is anticipated that this meeting will be scheduled during July 1995. It is anticipated that the attendees will include Ms. Susan Hugo (ACDEH), Mr. Sumadhu Arigala (RWQCB) and Dr. Ravi Arulanantham.

Geraghty & Miller appreciates the opportunity to be of service to Electro-Coatings. If you have any questions, please do not hesitate to call.

Sincerely,
GERAGHTY & MILLER, INC.

Jeffrey W. Hawkins, R.G.
Senior Geologist/Project Manager

Gary W. Keyes, P. E.
Principal Engineer/Associate
Richmond, California Office Manager

Attachments:

Table 1	Summary of Soil Sample Analytical Results
Table 2	Summary of Water Sample Analytical Results
Figure 1	Sampling Location Map
Attachment 1	Copies of Laboratory Analytical Reports and Chain-of-Custody Documentation

REFERENCES

Entrix, October 28, 1994, Summary of Site Conditions, Electro-Coatings, Inc., 1401 and 1421 Park Avenue, Emeryville, California.

Geraghty & Miller, May 17, 1995, Groundwater Sampling Results, Electro-Coatings Facility at 1401 and 1421 Park Avenue, Emeryville, California.

Table 1: Summary of Soil Sample Analytical Results
Electro-Coatings Inc.
1401 and 1421 Park Avenue, Emeryville, California

Sample ID	Depth (feet)	Total Chromium (a) (mg/kg)	Hexavalent Chromium (b) (mg/kg)	Nickel (c) (mg/kg)	pH (d)	1,1-DCA (e) (µg/kg)	cis 1,2-DCE (e) (µg/kg)	TCE (e) (µg/kg)	1,1,1-TCA (e) (µg/kg)	Vinyl Chloride (e) (µg/kg)
Piping Manifold Area										
Pit	2	N.A.	N.A.	310	8.5	860	2,900	ND (<100)	ND (<100)	200
Pit	8	N.A.	N.A.	150	8.1	180	4,100	ND (<100)	ND (<100)	ND (<200)
Former Vapor Degreaser										
Tank	2	N.A.	N.A.	58	7.9	ND (<500)	10,000	22,000	150	ND (<1,000)
Tank	8	N.A.	N.A.	34	7.9	ND (<1,000)	2,600	37,000	ND (<1,000)	ND (<2,000)
Former Chromium Storage Area										
Fence 1'	4	330	ND (<5.0)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Fence 9'	4	2,500	ND (<5.0)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Notes:

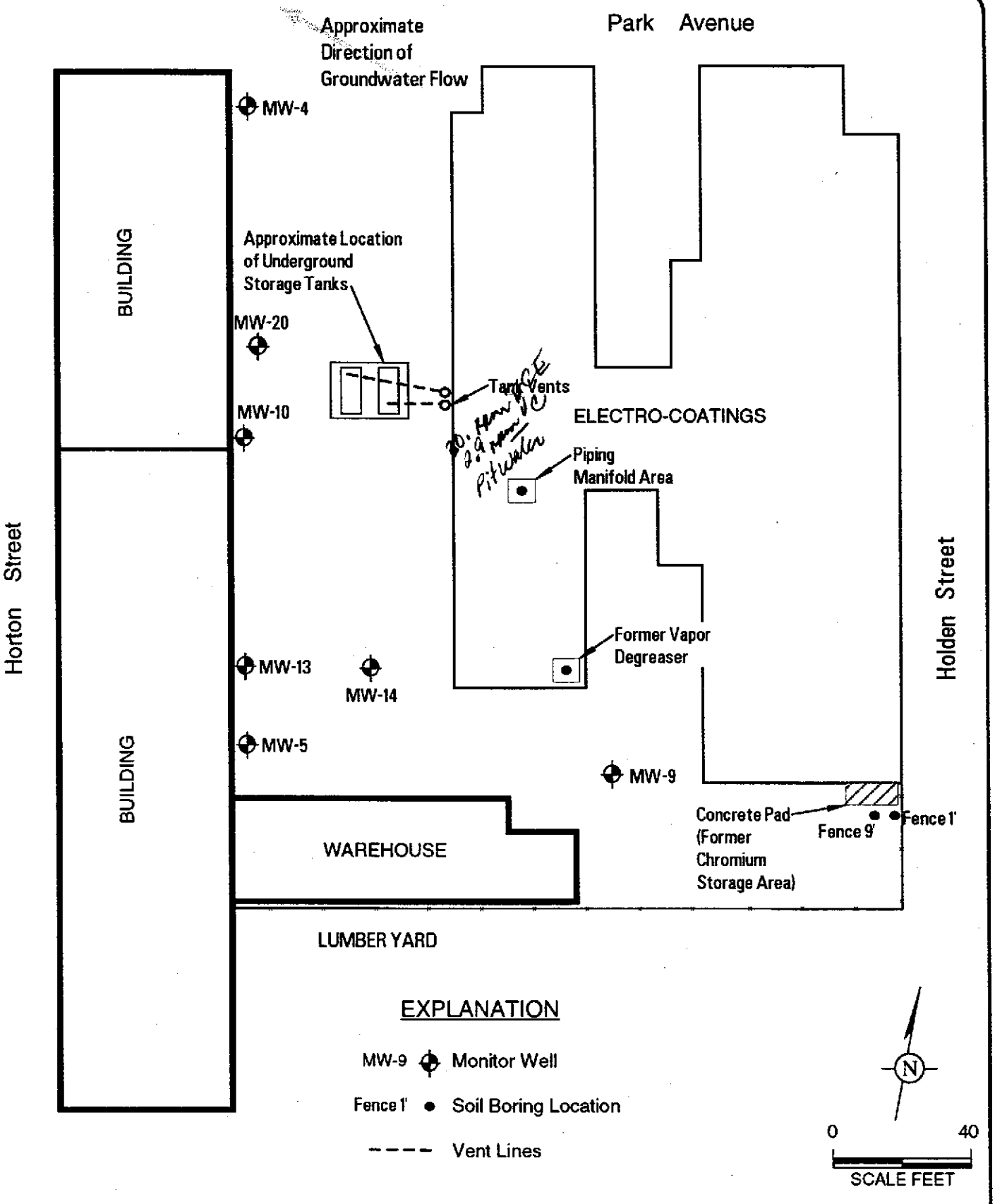
(a) Total Chromium (USEPA Method 6010).
(b) Hexavalent chromium (USEPA Method 7196).
(c) Nickel (USEPA Method 6010).
(d) pH (USEPA Method 9045)
(e) Halogenated Volatile Organics (USEPA Method 8010)

Table 2: Summary of Water Sample Analytical Results - Piping Manifold Area
Electro-Coatings Inc.
1401 and 1421 Park Avenue, Emeryville, California

Sample ID	Depth (feet)	Total Chromium (a) (mg/kg)	Hexavalent Chromium (b) (mg/kg)	Nickel (c) (mg/L)	pH (d)	1,1-DCA (e) (µg/L)	cis 1,2-DCE (e) (µg/L)	TCE (e) (µg/L)	Vinyl Chloride (e) (µg/L)
Pit - Water	---	N.A.	N.A.	1.70	7.4	ND (<500)	30,000	ND (<500)	2,900

Notes:

(a) Total Chromium (USEPA Method 6010).
(b) Hexavalent chromium (USEPA Method 7196).
(c) Nickel (USEPA Method 6010).
(d) pH (USEPA Method 9045)
(e) Halogenated Volatile Organics (USEPA Method 8010)



GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

Project No. RC0304.001

SOIL SAMPLING LOCATIONS
ELECTRO-COATINGS, INC.
1401 and 1421 Park Avenue
Emeryville, California

FIGURE
1

ATTACHMENT 1

Copies of Laboratory Analytical Reports and Chain-of-Custody Documentation

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller
1050 Marina Way South
Richmond, CA 94804

Attention: J. Hawkins

Client Proj. ID: RC0304-001/Electro-Coating

Lab Proj. ID: 9506007

Sampled: 05/31/95
Received: 06/01/95
Analyzed: see below

Reported: 06/14/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9506007-01				
Sample Desc : **LIQUID,Pit Water**				
Nickel	**mg/L**	**06/05/95**	**0.050**	**1.70**
pH	**pH Units**	**06/01/95**	**N/A**	**7.4**
Lab No: 9506007-02				
Sample Desc : **SOLID,Pit 2'**				
Nickel	**mg/Kg**	**06/05/95**	**2.5**	**310**
pH	**pH Units**	**06/01/95**	**N/A**	**8.5**
Lab No: 9506007-03				
Sample Desc : **SOLID,Pit 8'**				
Nickel	**mg/Kg**	**06/05/95**	**2.5**	**150**
pH	**pH Units**	**06/01/95**	**N/A**	**8.1**
Lab No: 9506007-04				
Sample Desc : **SOLID,Tank 2'**				
Nickel	**mg/Kg**	**06/05/95**	**2.5**	**58**
pH	**pH Units**	**06/01/95**	**N/A**	**7.9**
Lab No: 9506007-05				
Sample Desc : **SOLID,Tank 8'**				
Nickel	**mg/Kg**	**06/05/95**	**2.5**	**34**
pH	**pH Units**	**06/01/95**	**N/A**	**7.9**
Lab No: 9506007-06				
Sample Desc : **SOLID,Fence 1'**				
Chromium	**mg/Kg**	**06/05/95**	**0.50**	**330**
Chromium VI	mg/Kg	06/01/95	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller
1050 Marina Way South
Richmond, CA 94804

Attention: J. Hawkins

Client Proj. ID: RC0304-001/Electro-Coating

Lab Proj. ID: 9506007

Sampled: 05/31/95
Received: 06/01/95
Analyzed: see below

Reported: 06/14/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9506007-07				
Sample Desc : SOLID,Fence 9'				
Chromium	**mg/Kg**	**06/05/95**	**0.50**	**2500**
Chromium VI	mg/Kg	06/01/95	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller	Client Proj. ID: RC0304-001/Electro-Coating	Sampled: 05/31/95
1050 Marina Way South	Sample Descript: Pit Water	Received: 06/01/95
Richmond, CA 94804	Matrix: LIQUID	
	Analysis Method: EPA 8010	Analyzed: 06/12/95
Attention: J. Hawkins	Lab Number: 9506007-01	Reported: 06/14/95

QC Batch Number: GC061295801016A
Instrument ID: GCHP16

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	500	N.D.
Bromoform	500	N.D.
Bromomethane	1000	N.D.
Carbon Tetrachloride	500	N.D.
Chlorobenzene	500	N.D.
Chloroethane	1000	N.D.
2-Chloroethylvinyl ether	1000	N.D.
Chloroform	500	N.D.
Chloromethane	1000	N.D.
Dibromochloromethane	500	N.D.
1,2-Dichlorobenzene	500	N.D.
1,3-Dichlorobenzene	500	N.D.
1,4-Dichlorobenzene	500	N.D.
1,1-Dichloroethane	500	N.D.
1,2-Dichloroethane	500	N.D.
1,1-Dichloroethene	500	N.D.
cis-1,2-Dichloroethene	**500**	**30000**
trans-1,2-Dichloroethene	500	N.D.
1,2-Dichloropropane	500	N.D.
cis-1,3-Dichloropropene	500	N.D.
trans-1,3-Dichloropropene	500	N.D.
Methylene chloride	5000	N.D.
1,1,2,2-Tetrachloroethane	500	N.D.
Tetrachloroethene	500	N.D.
1,1,1-Trichloroethane	500	N.D.
1,1,2-Trichloroethane	500	N.D.
Trichloroethene	500	N.D.
Trichlorofluoromethane	500	N.D.
Vinyl chloride	**1000**	**2900**

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	70	130	82

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller	Client Proj. ID: RC0304-001/Electro-Coating	Sampled: 05/31/95
1050 Marina Way South	Sample Descript: Pit 2'	Received: 06/01/95
Richmond, CA 94804	Matrix: SOLID	Extracted: 06/05/95
	Analysis Method: EPA 8010	Analyzed: 06/06/95
Attention: J. Hawkins	Lab Number: 9506007-02	Reported: 06/14/95

QC Batch Number: GC0605958010EXA
Instrument ID: GCHP8

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	200	N.D.
Carbon Tetrachloride	100	N.D.
Chlorobenzene	100	N.D.
Chloroethane	200	N.D.
2-Chloroethylvinyl ether	200	N.D.
Chloroform	100	N.D.
Chloromethane	200	N.D.
Dibromochloromethane	100	N.D.
1,2-Dichlorobenzene	100	N.D.
1,3-Dichlorobenzene	100	N.D.
1,4-Dichlorobenzene	100	N.D.
1,1-Dichloroethane	**100**	**860**
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethene	100	N.D.
cis-1,2-Dichloroethene	**100**	**2900**
trans-1,2-Dichloroethene	100	N.D.
1,2-Dichloropropane	100	N.D.
cis-1,3-Dichloropropene	100	N.D.
trans-1,3-Dichloropropene	100	N.D.
Methylene chloride	1000	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
Trichloroethene	100	N.D.
Trichlorofluoromethane	100	N.D.
Vinyl chloride	**200**	**200**

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	86

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller	Client Proj. ID: RC0304-001/Electro-Coating	Sampled: 05/31/95
1050 Marina Way South	Sample Descript: Pit 8'	Received: 06/01/95
Richmond, CA 94804	Matrix: SOLID	Extracted: 06/05/95
	Analysis Method: EPA 8010	Analyzed: 06/09/95
Attention: J. Hawkins	Lab Number: 9506007-03	Reported: 06/14/95

QC Batch Number: GC0605958010EXA
Instrument ID: GCHP8

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	200	N.D.
Carbon Tetrachloride	100	N.D.
Chlorobenzene	100	N.D.
Chloroethane	200	N.D.
2-Chloroethylvinyl ether	200	N.D.
Chloroform	100	N.D.
Chloromethane	200	N.D.
Dibromochloromethane	100	N.D.
1,2-Dichlorobenzene	100	N.D.
1,3-Dichlorobenzene	100	N.D.
1,4-Dichlorobenzene	100	N.D.
1,1-Dichloroethane	**100**	**180**
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethene	100	N.D.
cis-1,2-Dichloroethene	**100**	**4100**
trans-1,2-Dichloroethene	100	N.D.
1,2-Dichloropropane	100	N.D.
cis-1,3-Dichloropropene	100	N.D.
trans-1,3-Dichloropropene	100	N.D.
Methylene chloride	1000	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
Trichloroethene	100	N.D.
Trichlorofluoromethane	100	N.D.
Vinyl chloride	200	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	97

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller	Client Proj. ID: RC0304-001/Electro-Coating	Sampled: 05/31/95
1050 Marina Way South	Sample Descript: Tank 2'	Received: 06/01/95
Richmond, CA 94804	Matrix: SOLID	Extracted: 06/05/95
	Analysis Method: EPA 8010	Analyzed: 06/09/95
Attention: J. Hawkins	Lab Number: 9506007-04	Reported: 06/14/95

QC Batch Number: GC0605958010EXA
Instrument ID: GCHP8

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	500	N.D.
Bromoform	500	N.D.
Bromomethane	1000	N.D.
Carbon Tetrachloride	500	N.D.
Chlorobenzene	500	N.D.
Chloroethane	1000	N.D.
2-Chloroethylvinyl ether	1000	N.D.
Chloroform	500	N.D.
Chloromethane	1000	N.D.
Dibromochloromethane	500	N.D.
1,2-Dichlorobenzene	500	N.D.
1,3-Dichlorobenzene	500	N.D.
1,4-Dichlorobenzene	500	N.D.
1,1-Dichloroethane	500	N.D.
1,2-Dichloroethane	500	N.D.
1,1-Dichloroethene	500	N.D.
cis-1,2-Dichloroethene	**500**	**10000**
trans-1,2-Dichloroethene	500	N.D.
1,2-Dichloropropane	500	N.D.
cis-1,3-Dichloropropene	500	N.D.
trans-1,3-Dichloropropene	500	N.D.
Methylene chloride	5000	N.D.
1,1,2,2-Tetrachloroethane	500	N.D.
Tetrachloroethene	500	N.D.
1,1,1-Trichloroethane	**500**	**1500**
1,1,2-Trichloroethane	500	N.D.
Trichloroethene	**500**	**22000**
Trichlorofluoromethane	500	N.D.
Vinyl chloride	1000	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	92

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller	Client Proj. ID: RC0304-001/Electro-Coating	Sampled: 05/31/95
1050 Marina Way South	Sample Descript: Tank 8'	Received: 06/01/95
Richmond, CA 94804	Matrix: SOLID	Extracted: 06/05/95
	Analysis Method: EPA 8010	Analyzed: 06/09/95
Attention: J. Hawkins	Lab Number: 9506007-05	Reported: 06/14/95

QC Batch Number: GC0605958010EXA
Instrument ID: GCHP8

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	1000	N.D.
Bromoform	1000	N.D.
Bromomethane	2000	N.D.
Carbon Tetrachloride	1000	N.D.
Chlorobenzene	1000	N.D.
Chloroethane	2000	N.D.
2-Chloroethylvinyl ether	2000	N.D.
Chloroform	1000	N.D.
Chloromethane	2000	N.D.
Dibromochloromethane	1000	N.D.
1,2-Dichlorobenzene	1000	N.D.
1,3-Dichlorobenzene	1000	N.D.
1,4-Dichlorobenzene	1000	N.D.
1,1-Dichloroethane	1000	N.D.
1,2-Dichloroethane	1000	N.D.
1,1-Dichloroethene	1000	N.D.
cis-1,2-Dichloroethene	**1000**	**2600**
trans-1,2-Dichloroethene	1000	N.D.
1,2-Dichloropropane	1000	N.D.
cis-1,3-Dichloropropene	1000	N.D.
trans-1,3-Dichloropropene	1000	N.D.
Methylene chloride	10000	N.D.
1,1,2,2-Tetrachloroethane	1000	N.D.
Tetrachloroethene	1000	N.D.
1,1,1-Trichloroethane	1000	N.D.
1,1,2-Trichloroethane	1000	N.D.
Trichloroethene	**1000**	**37000**
Trichlorofluoromethane	1000	N.D.
Vinyl chloride	2000	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	92

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller	Client Project ID:	RC0304-001/Electro-Coating	
1050 Marina Way, South	Matrix:	Liquid	
Richmond, CA 94804			
Attention: J. Hawkins	Work Order #:	9506007 -01	Reported: Jun 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	pH
QC Batch:	IN0601951501000A
Analy. Method:	EPA 150.1
Prep Method:	N.A.
Analyst:	S. Lee
Duplicate Sample #:	950560031
Prepared Date:	6/1/95
Analyzed Date:	6/1/95
Instrument I.D.#:	MANUAL
Sample Concentration:	7.5
Dup. Sample Concentration:	7.5
RPD:	0.0
RPD Limit:	0-30

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller	Client Project ID:	RC0304-001/Electro-Coating	
1050 Marina Way, South	Matrix:	Solid	
Richmond, CA 94804			
Attention: J. Hawkins	Work Order #:	9506007-02-05	Reported: Jun 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	pH
QC Batch:	IN0601959045000A
Analy. Method:	EPA 9045
Prep Method:	N.A.
Analyst:	S. Lee
Duplicate Sample #:	9505K6501
Prepared Date:	6/1/95
Analyzed Date:	6/1/95
Instrument I.D.#:	MANUAL
Sample Concentration:	8.6
Dup. Sample Concentration:	8.6
RPD:	0.0
RPD Limit:	0-30

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller
1050 Marina Way, South
Richmond, CA 94804
Attention: J. Hawkins

Client Project ID: RC0304-001/Electro-Coating
Matrix: Solid
Work Order #: 9506007-06, 07

Reported: Jun 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Hexavalent Chromium
QC Batch#:	IN0601957196000A
Analy. Method:	EPA 7196
Prep. Method:	N.A.

Analyst:	D. Lawrence
MS/MSD #:	950600706
Sample Conc.:	N.D.
Prepared Date:	6/1/95
Analyzed Date:	6/1/95
Instrument I.D.#:	MANUAL
Conc. Spiked:	500 mg/L
Result:	490
MS % Recovery:	98
Dup. Result:	480
MSD % Recov.:	96
RPD:	2.1
RPD Limit:	0-40

LCS #:	
Prepared Date:	
Analyzed Date:	
Instrument I.D.#:	
Conc. Spiked:	
LCS Result:	
LCS % Recov.:	

MS/MSD LCS Control Limits	60-140

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller
1050 Marina Way, South
Richmond, CA 94804
Attention: J. Hawkins

Client Project ID: RC0304-001/Electro-Coating
Matrix: Liquid
Work Order #: 9506007-01

Reported: Jun 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
QC Batch#:	GC061295801016A	GC061295801016A	GC061295801016A
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Nelson	D. Nelson	D. Nelson
MS/MSD #:	950647101	950647101	950647101
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	6/12/95	6/12/95	6/12/95
Analyzed Date:	6/12/95	6/12/95	6/12/95
Instrument I.D.#:	GCHP16	GCHP16	GCHP16
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
Result:	27	23	23
MS % Recovery:	108	92	92
Dup. Result:	27	24	25
MSD % Recov.:	108	96	100
RPD:	0.0	4.3	8.3
RPD Limit:	0-50	0-50	0-50
LCS #:	BLK061295	BLK061295	BLK061295
Prepared Date:	6/12/95	6/12/95	6/12/95
Analyzed Date:	6/12/95	6/12/95	6/12/95
Instrument I.D.#:	GCHP16	GCHP16	GCHP16
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
LCS Result:	26	23	25
LCS % Recov.:	104	92	100
MS/MSD LCS Control Limits	28-167	35-146	38-150

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller
1050 Marina Way, South
Richmond, CA 94804
Attention: J. Hawkins

Client Project ID: RC0304-001/Electro-Coating
Matrix: Solid
Work Order #: 9506007-02- 05

Reported: Jun 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
QC Batch#:	GC0605958010EXA	GC0605958010EXA	GC0605958010EXA
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Nelson	D. Nelson	D. Nelson
MS/MSD #:	950600702	950600702	950600702
Sample Conc.:	41	38	N.D.
Prepared Date:	6/5/95	6/5/95	6/5/95
Analyzed Date:	6/6/95	6/6/95	6/6/95
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/Kg	25 µg/Kg	25 µg/Kg
Result:	66	56	8.7
MS % Recovery:	100	72	35
Dup. Result:	59	57	9.2
MSD % Recov.:	72	76	37
RPD:	11	1.8	5.6
RPD Limit:	0-50	0-50	0-50

LCS #:	BLK060595	BLK060595	BLK060595
Prepared Date:	6/5/95	6/5/95	6/5/95
Analyzed Date:	6/6/95	6/6/95	6/6/95
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/Kg	25 µg/Kg	25 µg/Kg
LCS Result:	22	25	23
LCS % Recov.:	88	100	92

MS/MSD LCS Control Limits	28-167	35-146	38-150

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller
1050 Marina Way, South
Richmond, CA 94804
Attention: J. Hawkins

Client Project ID: RC0304-001/Electro-Coating
Matrix: Liquid
Work Order #: 9506007-01

Reported: Jun 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0605956010MDA	ME0605956010MDA	ME0605956010MDA	ME0605956010MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3010	EPA 3010	EPA 3010	EPA 3010
Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	9505K5101	9505K5101	9505K5101	9505K5101
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/5/95	6/5/95	6/5/95	6/5/95
Analyzed Date:	6/6/95	6/6/95	6/6/95	6/6/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
Result:	1.0	1.0	0.98	0.98
MS % Recovery:	100	100	98	98
Dup. Result:	0.99	0.99	0.97	0.97
MSD % Recov.:	99	99	97	97
RPD:	1.0	1.0	1.0	1.0
RPD Limit:	0-30	0-30	0-30	0-30
LCS #:	BLK060595	BLK060595	BLK060595	BLK060595
Prepared Date:	6/5/95	6/5/95	6/5/95	6/5/95
Analyzed Date:	6/6/95	6/6/95	6/6/95	6/6/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	1.0 mg/L	1.0 mg/L	1.0 mg/L	1.0 mg/L
LCS Result:	1.0	1.0	0.99	1.0
LCS % Recov.:	100	100	99	100
MS/MSD LCS Control Limits	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Geraghty & Miller
1050 Marina Way, South
Richmond, CA 94804
Attention: J. Hawkins

Client Project ID: RC0304-001/Electro-Coating
Matrix: Solid
Work Order #: 9506007-02- 07

Reported: Jun 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0602956010MDC	ME0602956010MDC	ME0602956010MDC	ME0602956010MDC
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050
Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	950608501	950608501	950608501	950608501
Sample Conc.:	N.D.	N.D.	55	91
Prepared Date:	6/2/95	6/2/95	6/2/95	6/2/95
Analyzed Date:	6/3/95	6/3/95	6/3/95	6/3/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	97	98	140	170
MS % Recovery:	97	98	85	79
Dup. Result:	95	96	150	180
MSD % Recov.:	95	96	95	89
RPD:	2.1	2.1	6.9	5.7
RPD Limit:	0-30	0-30	0-30	0-30
LCS #:	BLK060295	BLK060295	BLK060295	BLK060295
Prepared Date:	6/2/95	6/2/95	6/2/95	6/2/95
Analyzed Date:	6/3/95	6/3/95	6/3/95	6/3/95
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
LCS Result:	100	100	100	100
LCS % Recov.:	100	100	100	100
MS/MSD LCS Control Limits	75-125	75-125	75-125	75-125

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. _____

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number RC0804-001
Project Location Electro-Coating
Laboratory Sequoia Lab.
Sampler(s)/Affiliation Geraghty & Miller
G Crowley

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	SAMPLE BOTTLE / CONTAINER DESCRIPTION: Nickel	pH	8010	TCE	Chromium	Chromium VI	9506007	TOTAL
										01 A-E	5
Pit Water	L	5/31 10:45		X	X	X	X			02 A	1
Pit 2'	S	5/31 10:00		X	X	X	X			03	1
Pit 8'	S	5/31 10:30		X	X	X	X			04	1
Tank 2'	S	5/31 11:15		X	X	X	X			06	1
Tank 8'	S	5/31 11:30		X	X	X	X			06	1
Fence 1'	S	5/31 8:45						X	X	07	1
Fence 9'	S	5/31 9:30						X	X		
										Total No. of Bottles/ Containers	11

Sample Code: L = Liquid; S = Solid; A = Air

				Seal Intact?
Relinquished by:	Organization: GSM	Date 6/01/95	Time 11:50	
Received by:	Organization: Sequoia	Date 6/01/95	Time 11:50 AM	Yes No N/A
Relinquished by:	Organization:	Date 6/1/95	Time	Seal Intact?
Received by:	Organization:	Date 6/1/95	Time 1302	Yes No N/A

Special Instructions/Remarks: Standard Turn-around - Contact J. Hawkins

Delivery Method: ☐ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other _____ SPECIFY